

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2023

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission File Number: 001-40209

Heliogen, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

130 West Union Street, Pasadena, California

(Address of Principal Executive Offices)

85-4204953

(I.R.S. Employer
Identification No.)

91103

(Zip Code)

Registrant's telephone number, including area code: (626) 720-4530

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, \$0.0001 par value per share	HLGN	New York Stock Exchange*
Warrants, each 35 warrants exercisable for one share of common stock at an exercise price of \$402.50 per share	HLGN.W	New York Stock Exchange*
Preferred Share Purchase Rights	N/A	New York Stock Exchange*

* The registrant's common stock and warrants began trading exclusively on the over-the-counter market on November 8, 2023 under the symbols "HLGN" and "HLGNW", respectively.

Securities registered pursuant to section 12(g) of the Act: None.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports); and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer

Non-accelerated filer

Accelerated filer

Smaller reporting company

Emerging growth company

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

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

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

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

As of June 30, 2023, the last trading day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the common stock held by non-affiliates of the registrant was approximately \$31.1 million based on the closing price of the registrant's common stock on that date.

As of March 20, 2024, there were 5,970,373 shares of common stock, par value \$0.0001 per share outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

None.

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Cautionary Note Regarding Forward-Looking Statements

This Annual Report on Form 10-K (“Annual Report”) contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). We have based these forward-looking statements on our current expectations and projections about future events. All statements, other than statements of present or historical fact included in this Annual Report regarding our future financial performance, as well as our strategy, future operations, financial position, estimated revenues, losses, projected costs, prospects, plans and objectives of management are forward-looking statements. Any statements that refer to projections, forecasts or other characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “forecast,” “intends,” “may,” “might,” “plan,” “possible,” “potential,” “predict,” “project,” “should,” “target,” “will,” “would” or the negative of such terms or other similar expressions. These forward-looking statements are based on management’s current expectations, assumptions, hopes, beliefs, intentions and strategies regarding future events and are based on currently available information as to the outcome and timing of future events. Although we believe such expectations and assumptions to be reasonable, they are inherently uncertain and involve a number of risks and uncertainties that are beyond our control. In addition, management’s assumptions about future events may prove to be inaccurate. All readers are cautioned that the forward-looking statements contained in this Annual Report are not guarantees of future performance and we cannot assure any reader that such statements will be realized or that the forward-looking events and circumstances will occur.

As a result of a number of known and unknown risks and uncertainties, our actual results or performance may be materially different from those expressed or implied by these forward-looking statements. Some factors that could cause actual results to differ include:

- our ability to fund our future cash obligations and continue as a going concern;
- our ability to access sources of capital to finance our operations and future capital requirements;
- our financial and business performance, including risk of uncertainty in our financial projections and business metrics and any underlying assumptions thereunder;
- the suspension of trading of our common stock, and the commencement of delisting proceedings, on the New York Stock Exchange (the “NYSE”) and the commencement of trading of our common stock in the over-the-counter (“OTC”) market;
- changes in our business and strategy, future operations, financial position, estimated revenues and losses, projected costs, prospects and plans;
- our ability to execute our business model, including market acceptance of our planned products and services and achieving sufficient production volumes at acceptable quality levels and prices;
- changes in domestic and foreign business, market, financial, political, legal conditions and applicable laws and regulations;
- our ability to grow market share in our existing markets or any new markets we may enter;
- our ability to achieve and maintain profitability in the future;
- our ability to maintain and enhance our products and brand, and to attract and retain customers;
- our ability to find new partners for product offerings;
- the success of strategic relationships with third parties;
- our ability to scale in a cost-effective manner;
- developments and projections relating to our competitors and industry;
- supply chain disruptions;
- our ability to protect our intellectual property (“IP”);

- the actions of stockholders and the related impact on the price of our common stock;
- expectations regarding the time during which we will be an emerging growth company under the Jumpstart Our Business Startups Act of 2012 (the “JOBS Act”), as amended;
- our ability to find and retain critical employee talent and key personnel;
- our ability to successfully manage changes in our executive team;
- the possibility that we may be adversely impacted by other economic, business, and/or competitive factors;
- future exchange and interest rates;
- the outcome of any known and unknown litigation and regulatory proceedings; and
- other risks and uncertainties, including those disclosed under “Item 1A. Risk Factors” contained in Part I of this Annual Report, and the risk factors and other cautionary statements contained in other filings that have been made or will be made with the Securities and Exchange Commission (“SEC”) by the Company.

Given these risks and uncertainties, you should not place undue reliance on these forward-looking statements. Should one or more of the risks or uncertainties described in this Annual Report, or should underlying assumptions prove incorrect, actual results and plans could differ materially from those expressed in any forward-looking statements. Our SEC filings are available publicly on the SEC’s website at www.sec.gov.

You should read this Annual Report with the understanding that our actual future results, levels of activity and performance as well as other events and circumstances may be materially different from what we expect. We qualify all of our forward-looking statements by these cautionary statements.

Summary Risk Factors

The following is a summary of some of the risks and uncertainties that could materially adversely affect our business, financial condition and results of operations. This summary should be read together with the more detailed description of each risk factor disclosed under “Item 1A Risk Factors” contained in Part I of this Annual Report.

Risks Related to our Business

- We have identified conditions that raise substantial doubt about our ability to continue as a going concern.
- Our operations require substantial ongoing expenditures, and we may not have adequate capital resources to fund all of our expected operating and capital expenditures.
- If demand for our concentrated solar energy solutions does not develop as we expect or our estimates of market opportunity and forecasts of market growth prove to be inaccurate, our revenues may suffer, and our business may be harmed.
- If we fail to win new contracts and purchase orders, our business operations and financial results may be adversely affected.
- Our engagements involve complex projects that could be impacted by a number of factors, some of which are outside of our control, and therefore may result in significant losses on the projects.
- Our modular, artificial intelligence (“AI”)-enabled, concentrated solar energy plants may not generate expected output levels.
- We may not be able to develop technologies and products to satisfy changes in customer demand or industry standards, and our competitors could develop products that decrease the demand for our products.
- We may be unable to complete or operate our projects on a profitable basis or as we have committed to our customers.
- An increase in the prices or changes in the supply and demand of certain materials and commodities used in our business could adversely affect our business.
- The development of our modular, AI-enabled, concentrated solar energy plants will require significant capital, which our customers may finance through third parties, and such financing may not be available to our customers on favorable terms, if at all.
- Project development or construction activities may not be successful, and we may make significant investments without first obtaining project financing, which could increase our costs and impair our ability to recover our investments.
- Our revenue, expenses and operating results may fluctuate significantly.
- Our business could be negatively affected as a result of stockholder actions and such actions could adversely affect our business and relationships with our customers, suppliers and employees and divert time from our management.
- Failure of third parties to manufacture quality products or provide reliable services in a timely manner could cause delays in the delivery of our services and completion of our projects, which could damage our reputation, have a negative impact on our relationships with our customers and adversely affect our growth.
- If we are unable to attract and retain qualified management, our ability to compete and successfully grow our business could be harmed.
- Our business depends on experienced and skilled personnel and specialty subcontractor resources, and if we lose key personnel or if we are unable to attract and integrate additional skilled personnel, it will be more difficult for us to manage our business and complete projects.

- We have identified material weaknesses in our internal control over financial reporting and any failure to maintain effective internal control over financial reporting may have a material and adverse effect on our business, operating results, financial condition and prospects.
- Our ability to utilize our net operating loss carryforwards and other certain tax attributes may be limited.
- Changes in tax laws or regulations that are applied adversely to us or our customers may have a material adverse effect on our business, cash flow, financial condition or results of operations.
- Certain of our facilities are or may be located in regions that may be affected by extreme weather conditions and natural disasters.

Risks Related to our Technology and Intellectual Property

- An inability to protect our IP could negatively affect our ability to compete, our business and our results of operations.
- If our information technology systems or those of third parties upon which we rely, or our data are or were compromised, we could experience adverse consequences resulting from such compromise, including but not limited to regulatory investigations or actions; litigation; fines and penalties; disruptions of our business operations; reputational harm; loss of revenue or profits; and other adverse consequences.
- Our mirror cleaning technology may perform below our expectations.

Regulatory Risks

- We are subject to stringent and evolving United States (“U.S.”) laws, regulations, and rules, contractual obligations, industry standards, policies and other obligations related to data privacy and security.
- Our business benefits in part from federal, state, provincial and local government support for renewable energy, and a decline in such support could harm our business.
- Opportunities associated with government contracts could lead to increased governmental regulation applicable to us.

Risks Related to Ownership of Shares and Warrants

- Our common stock and Public Warrants have been suspended from trading on, and may be delisted from, the NYSE and are not listed on any other national securities exchange.
- Our stock price is subject to volatility, which could have a material adverse impact on investors and employee retention.

Part I

Item 1. Business

Overview

Heliogen, Inc. and its subsidiaries (collectively, “Heliogen,” the “Company,” “we,” “us,” or “our”) is a leader in next-generation concentrated solar energy. We are developing a modular, AI-enabled, concentrated solar energy plant that will use an array of mirrors to reflect sunlight and capture, concentrate, store and convert it into cost-effective energy on demand. Our product offering will deliver industrial process steam around the clock using thermal energy storage based on proven technology. This steam can also be used to produce electricity when paired with a steam turbine and green hydrogen when coupled with a solid oxide electrolyzer. Our next-generation system will be able to cost-effectively generate and store thermal energy at very high temperatures, enabling more cost-effective production of electricity at a smaller scale. The inclusion of a thermal energy storage system distinguishes our solution from clean energy provided by typical photovoltaic (“PV”) and wind installations which do not produce thermal energy and are only able to produce energy intermittently unless battery storage is added. The system will be configurable for several applications, including carbon-free industrial-grade heat and steam (for use in industrial processes), clean power (electricity), and generation of green hydrogen, based on a customer’s needs.

We have developed innovations in the process of concentrating sunlight which we believe fundamentally improve the potential to efficiently and cost-effectively collect and deliver energy to industrial processes. We believe we will be one of the first technology providers with the ability to deliver cost-effective renewable energy capable of replacing fossil fuels used in industrial processes that require high-temperature heat and/or nearly 24/7 operation. In addition, we believe our disruptive, patented design and AI technology will address intermittency, a fundamental problem confronted by many renewable sources of energy. An intermittent power supply does not match the continuous power demand of industry and the grid. Without storage, wind and PV-based renewable energy generation may rapidly fluctuate between over-supply and under-supply based on resource availability. As the grid penetration of intermittent resources increases, these fluctuations may become increasingly extreme. We believe our technology will contribute to solving this problem. Our next-generation solar plants will have the ability to store very high-temperature energy in solid media. This energy will then be dispatchable, including during times without sunlight, to cost-effectively deliver near 24/7 carbon-free energy in the form of heat and steam, electric power, or green hydrogen fuel.

The three use categories will be configured as follows:

Carbon-Free Steam Production — This baseline system efficiently produces heat or steam for use in industrial processes, eliminating carbon emissions through innovative technology.

Net Zero Power Generation System — Integrating a turbine generator with the baseline system as the foundation, achieves net-zero emissions in electricity production, combining sustainability with practicality.

Green Hydrogen Production — The addition of an electrolyzer with the baseline system as the foundation, produces green hydrogen fuel, offering a sustainable alternative in the renewable energy landscape.

For the hydrogen and power systems, Heliogen is developing a supercritical CO₂ Brayton cycle power block to enhance production efficiency. Using supercritical CO₂ is a promising research and development priority of the U.S. Department of Energy (the “DOE”) because it may significantly lower capital costs compared with equivalent steam-cycle equipment due to their compact footprint stemming from the higher energy density of the supercritical fluid.

Products & Services

Heliogen’s business focuses on the development and deployment of our innovative concentrated solar energy technology. The main components of our concentrated solar energy technology include heliostat fields and associated control systems, solar receivers, thermal energy storage and heat engines. A heliostat is a mirror affixed to a two-axis tracking mechanism which allows it to move in a trajectory that places its reflected beam of sunlight onto a desired point. A heliostat field is a large array of many heliostats, all operating in coordination to focus their reflected beams on a common location atop a tower located near or within the field. The solar receiver is the device mounted at that focal point which absorbs the highly concentrated solar energy and converts it to thermal energy in a heat transfer

medium. The heat transfer medium then carries that thermal energy to the thermal energy storage system, where a large mass of material is brought to very high temperatures inside an insulated enclosure, acting as a thermal battery. When energy is needed, the heat transfer medium transfers thermal energy from the thermal energy storage system and delivers it to the thermal process being powered or for use in generating electricity or hydrogen.

For near-term projects in development, the use of molten salt as a heat transfer and thermal energy storage medium in concentrated solar plants has been demonstrated at many locations around the world, and is considered by Heliogen to be mature, commercially deployable technology. We improve upon this state of the art in two ways. First, we utilize a modular architecture, deploying multiple smaller solar fields and towers to each project rather than the traditional approach of a single, very large tower. This streamlines the project engineering process as the module design can be reused for multiple projects, while leading to higher efficiencies and better land utilization, and creates redundancy for improved operational reliability and uptime. Second, we implement a tightly-integrated concentrated solar power+PV hybrid plant, allowing us to take advantage of both the low cost of PV-generated electricity during daytime hours and the low cost of long-duration thermal energy storage for dispatchable, near continuous operation.

Because Heliogen's technology is fundamentally a thermal energy source, we believe our products are particularly well-suited to meeting the thermal energy demand of industrial processes. As one example, many industrial facilities use steam to supply energy to their process. Heliogen's technology, in the form of a steam plant, can supply steam nearly 24/7 by collecting thermal energy while the sun is shining, storing it in a thermal energy storage system, and using that thermal energy to supply heat to a boiler when the industrial process needs steam. Our technological innovations will enable the delivery of our carbon-free heat, steam, power and green hydrogen solutions to customers. Our concentrating solar plants will produce carbon-free heat (e.g. process steam) to support industrial processes. Hybrid power plants will deliver solar thermal energy to a heat engine to produce electrical power. Green hydrogen plants will couple steam and power technology with an electrolyzer to produce green hydrogen fuel. All three solutions will be enabled by Heliogen's proprietary heliostat design and AI technology and will integrate thermal energy storage to enable operation nearly 24/7, overcoming the intermittency of other solar energy technologies.

We are offering multiple support models to customers looking to deploy Heliogen's technology:

- Contracting with owner-operators to build turnkey facilities that deploy Heliogen's technology (Heliogen will contract with engineering, procurement and construction ("EPC") partners for constructing the facility);
- Selling heliostats (and associated software control systems) to owner-operators and/or EPC contractors;
- Providing asset maintenance support services during operation for completed facilities that use Heliogen's technology and;
- Providing project development support services to help customers advance readiness to break ground in advance of final investment decisions.

Longer term, we expect our primary business model to include a combination of Heliogen's IP licensing and engineering support to third parties interested in manufacturing and installing the hardware.

Raw Materials

The most important raw materials required for our concentrated solar energy systems are steel (sheet, tube, bar, extrusions), stainless steel (pipe), glass (float glass), copper (wiring), aluminum (die castings, extrusions), commodity electrical & electronics components, ceramics & ceramic fibers, thermal insulation materials, bauxite particles and/or silica sand and concrete. Our components are produced by suppliers both domestically and internationally where most raw materials are readily available. Many major equipment and systems components are procured on a single or sole-source basis, but where multiple sources exist, we work to qualify multiple suppliers to minimize supply chain risk. We also mitigate risk by maintaining safety stock for key parts and assemblies with lengthy procurement lead times. We use a variety of agreements with suppliers to protect our IP and processes to monitor and mitigate risks of the supply base causing a business disruption. The risks monitored include supplier financial viability, the ability to increase or decrease production levels, business continuity, quality and delivery.

Growth and Market Opportunity

Growth

Heliogen's growth is tied to the global phenomenon commonly described as "the energy transition" — that is, the shift in energy supply from burning fossil fuels to harnessing low-carbon and renewable sources of energy. Data linking the role of carbon emissions in accelerating climate change has led to stockholders and activists applying pressure to companies and governments to take action. This trend has been on the rise since the signing of the Paris Agreement in 2015, led largely by Europe. As a result, the energy transition has become a major focus of both private and public sector leaders around the world. Companies and governments have begun setting ambitious goals to reduce greenhouse gas ("GHG") emissions and to use renewable resources to sustainably power their operations.

Heliogen's growth strategy is to harness the significant demand by delivering technology that enables scalable solar-thermal energy plants that can create heat, steam, power and "clean" hydrogen — i.e., without the carbon emissions produced by fossil fuel energy sources. Our solutions target the end markets with a need for heat, electric power and hydrogen. Such markets include the oil & gas, power, cement, steel and mining industries.

Heliogen's technology platform will allow modular plants for heat, steam, power and/or hydrogen to be built at customer locations. Our strategy to achieve scale is through modularity and repeatability, with minimal custom re-engineering compared to prior iterations of this technology.

Leveraging the modularity of the system and repeatability of its implementation, in the near to medium term, Heliogen will partner with contractors and other supply chain participants to execute projects. In the long term, we expect to license our core, patent-protected technology to owner-operators and EPC companies who can each deploy many plants, to achieve a scale and growth trajectory that can take advantage of the size of the market opportunity. Licensing could enable Heliogen to improve the pace of our deployments, as well as increase our profit margins, beyond what could be achieved solely through our direct implementation.

In order to support Heliogen's growth as described above, we will continue our dedication to research and development ("R&D") with a focus on iterating on our novel combination and integration of hardware and software. We are working to harness our specialty of using software, automation, robotics and algorithms to reduce the quantity of materials, the amount of human labor and the duration of time required to deliver our projects at scale.

We are geographically focused on the U.S, Mexico, Australia and South America, which are areas with high energy demand and strong solar resources. According to the U.S. Energy Information Administration, global energy demand is expected to increase nearly 50% over the next 30 years, due to an increase in population and the economic growth of developing countries. We expect that demand for carbon-free replacements for current energy sources will further increase the demand for Heliogen's products.

Renewables Growth

Governments, corporations and investors are making concerted efforts and setting aggressive targets to reduce GHG emissions and phase out fossil fuel use. Such initiatives include setting timelines for zero-emission targets, establishing caps on CO₂ emissions and instituting certain other environmental sustainability initiatives. For example, in the U.S., in 2021 the Biden Administration declared the following key environmental targets: (i) a carbon pollution-free power sector by 2035, (ii) a net-zero (i.e., carbon reduction is equal to or greater than carbon emissions) economy by 2050 and (iii) to achieve in 2030 a 50-52% reduction from 2005 levels in economy-wide net GHG pollution. In the private sector, companies have also committed to environmental sustainability initiatives. Leading financial and corporate institutions have requested that all boards of directors prepare and disclose a plan to be compatible with a net-zero economy and to commit to launching investment products aligned to a net-zero pathway. Individually and collectively, these initiatives support the increased demand for renewable fuels, transportation, energy storage, renewable power, low-carbon process heat and energy efficiency.

The key driver for renewable energy generation and storage will be increased reliance on intermittent renewable energy resources like solar PV and wind. As penetration of these renewable sources increases, the intermittency of these resources can put strain on the grid if the operator is unable to fully match supply with demand. This strain can lead to an inability to supply power when it is needed and increased costs to consumers.

Energy storage is crucial in alleviating strain on the grid. However, as renewable energy penetration increases, conventional energy storage solutions like batteries become insufficient for ensuring grid reliability. According to the U.S. Department of Energy's Long Duration Storage Shot initiative, which aims to slash grid-scale energy storage costs by 90% for systems providing over 10 hours of duration within the decade, longer duration storage options are imperative for achieving full decarbonization of the electric grid. While current shorter duration storage supports existing levels of renewable energy generation, the deployment of longer duration storage technologies becomes essential with the expansion of renewable sources on the grid. Cheaper and more efficient storage solutions will facilitate the capture and storage of renewable energy for use during periods of low generation or high demand. This includes scenarios such as using solar-generated power during peak demand periods. We anticipate that technologies like Heliogen's will emerge as vital contributors to fulfilling the pressing need for effective energy storage solutions to maintain grid reliability amidst escalating renewable energy integration.

Woodside Energy (USA) Inc.

In March 2022, we entered into a series of commercial agreements with Woodside Energy (USA) Inc. ("Woodside") for the commercial-scale demonstration and deployment of our AI-enabled concentrated solar energy technology (the "Capella Project"). We also entered into a collaboration agreement with Woodside to jointly market our technology (the "Collaboration Agreement") with the objective to deploy further commercial-scale modules of our carbon-free heat, steam, power and green hydrogen solutions. Under this arrangement, the parties expect to define product offerings that use Heliogen's modular technology for potential customers (including Woodside) and are establishing a roadmap to identify and engage with those customers.

Public Sector Strategy

We are committed to matching our renewable energy solutions with the customers who will derive the most benefit from them. In particular, access to energy — particularly green power — is especially challenging for rural and disadvantaged communities and the city or county public sector organizations that govern them. Moreover, green power solutions that are reliable and dispatchable are particularly lacking. Heliogen is actively pursuing this market — the local public sector. Heliogen's capability to store and dispatch green power over long durations (i.e., > 8 to 10 hours) represents a strong fit for local public sector pursuits and partnerships. Specifically, dispatchable power is critical to supplying affordable, green, and peak-demand power for existing and new commercial and industrial off-takers within a municipality.

As discussed more below, Heliogen's power solutions will need to operate in accordance with federal and regional reliability standards and regulations promulgated by the North American Electric Reliability Corporation ("NERC") for the Federal Energy Regulatory Commission ("FERC") within the DOE. A critical element of compliance is ensuring NERC, FERC and the DOE understand Heliogen's technical designs and solutions as well as our value propositions. Our compliance with NERC standards will also positively support our collaboration with future owners of our generating facilities.

Competition

We have experienced, and expect to continue to experience, strong competition from a number of alternative providers of energy technology, particularly as the economy increasingly shifts towards low-emission, zero-emission or carbon neutral solutions. As a result, we expect competition to intensify in the future as existing competitors and new market entrants introduce new products into our markets.

The traditional energy technology provider market is highly competitive. The declining cost of renewable energy is also contributing to the shift in customer demand as customers seek carbon-free solutions to replace their fossil fuel-based consumption, causing the industry to evolve and expand. The main competitive factors include, but are not limited to:

- Upfront and ongoing cost;
- Safety and reliability;
- Duration;
- Performance and uptime;

- Operational flexibility;
- Asset life length and cyclability;
- Ease of integration;
- Operability in extreme weather conditions;
- Environmental sustainability;
- Historical track record; and
- Field-proven technology.

With the rising demand for clean energy solutions with lower GHG emissions, there has been a transition to renewable energy sources. This industry transformation has created an opportunity for an increased role for thermal energy and long-duration energy storage solutions. As a pioneer of solar energy technology solutions that are well-suited for long duration applications, we believe we have a significant edge over our competition in this rapidly evolving environment. Our competitors include traditional fossil-fueled alternatives; providers of solutions combining solar PV with battery storage; and other forms of renewable energy. Our competitors may have longer operating histories and greater financial, marketing, personnel and other resources than we do and could focus their substantial financial resources to develop a competitive advantage. Our current and potential competitors may also establish cooperative relationships among themselves or with third parties that may further enhance their resources. Although we are small and at an earlier stage of commercial maturity compared to many of our competitors, we believe we are well-positioned to compete successfully in the market — based on our innovative closed loop tracking system, our carbon-free heat, steam, power and green hydrogen solutions, our strategic partnerships and our experienced leadership team.

New technologies may enter the market that may have additional or superior advantages to our future offerings. A variety of newer and emerging companies have announced plans to develop heat, power, hydrogen and energy storage products using a variety of technologies, including compressed air, thermal energy and solid-state batteries among others. Although many of these companies are not in commercial production today, they may in the future offer solutions that become competitive with our expected offerings. We intend to continuously improve our product offerings and maintain robust R&D efforts in order to stay ahead of existing and emerging competitors.

Competitive Strengths and Differentiation

As a result of factors described below, we believe that we are positioned to become a market leader in renewable energy technology.

- *Significant Head Start with Proprietary Technology and Ongoing Research & Development.* We believe we have a first-mover advantage over other industry competitors as we have been committed since our founding in 2013 to the development of solar energy solutions that enable decarbonization of our economy, which is evidenced by our rich portfolio of IP. We have demonstrated capability to concentrate sunlight to produce heat at temperatures ranging from 150 to 1,000 degrees centigrade, made possible by our proprietary closed-loop heliostat tracking control system. We have patented the most valuable parts of our technology at each stage of development where appropriate. Beyond our patents, our journey as a company and the bench of experience across our leadership team has provided invaluable learnings and technical know-how that we believe will be difficult to rival. We continue to develop and maintain our knowledge base, which we believe provides us with a substantial strategic head start and competitive advantage against competition in the concentrated solar energy and energy storage spaces. We also continue to target incremental and transformational improvements across all aspects of our technology in order to reduce costs and improve performance.
- *High-Temperature Thermal Energy Enabled by Closed-Loop Tracking System.* Fundamental to Heliogen's offering is our proprietary heliostat design and AI technology. We use proprietary advanced computer vision software technology — a form of AI — to measure and precisely align an array of mirrors to reflect sunlight to a target on the top of a tower, creating high-temperature, carbon-free thermal energy. Our tracking system makes automatic micro-adjustments of the mirrors over the course of the day to account for the movement of the sun in the sky. These automatic adjustments, using a unique closed-loop feedback

system, maximize optical accuracy and energy capture, resulting in higher temperature heat and higher efficiencies than what has previously been provided by other approaches to concentrated solar energy technology. This opens up new opportunities to provide industrial process heat across a greater range of temperatures, as well as flexibility for a broader duration range of thermal energy storage. This system also enables the elimination of the expensive slew drive gearbox used in similar applications, eliminates time consuming and costly calibration processes, as well as a host of other benefits.

- *Near Always-Available Renewable Energy.* At current renewables penetration across the U.S. energy market, most of the energy storage solutions on the market provide 2 to 4-hour energy storage. Without efficient and scalable energy storage that can exceed such 2 to 4-hour energy storage timeframes, renewable energy generation cannot meet continuous power demands of industrial customers and the grid. The peak demand curve is essentially the opposite of the solar peak curve, which leads to curtailment during the middle of the day. Heliogen expects to be able to generate, store and provide renewable energy to match the existing demand curve. By integrating thermal energy storage, we believe our solution will be able to provide near constant energy throughout the day to produce steam, electrical power or green hydrogen. Initially, molten salts will be used as the thermal energy storage medium, similar to projects deployed to-date by other companies. Heliogen's technology is designed to store the energy generated from concentrating the sun's rays into solid media — such as granular sintered bauxite — in the form of heat. This type of storage is expected to be a lower cost form of storage compared to what other solar energy companies use, and it will be made possible by the high temperatures enabled by Heliogen's technology. Heliogen will store that energy, and then when it is needed, use a heat exchanger to bring that energy either to an engine, an industrial facility, or to an electrolyzer to make green hydrogen.
- *Modular and Scalable Plant Design.* Heliogen's modular and scalable plant design accommodates growth to compete with large scale renewable projects. Depending on application, our modules can be sized to as small as a few megawatts for thermal applications. For large projects, our modules can be sized to tens of megawatts and can additionally be installed in multiples. As an example of modularity, one of Heliogen's 5 MW modules can be replicated to meet larger customer demands to supply electricity for the production of hydrogen. Depending on location, we expect to design each 5 MW module to high-capacity factor renewable power, with a future target of achieving less than 5 cents per kW-hour power cost, which would have the ability to ultimately generate over 850,000 kilograms of hydrogen year. The plant's small footprint allows it to be sited alongside energy-hungry industrial facilities rather than in remote deserts.

This modular system is also designed to utilize mirrors (heliostats) smaller than traditional concentrated solar energy mirrors, enabling our heliostats to be manufactured at scale in a repeatable process. By building modularly and shifting more assembly work from the construction field into the controlled conditions of a manufacturing facility, we expect to be able to scale more quickly and efficiently, while reducing overall costs compared to alternative approaches.

- *Competitive Forecast Economics.* Historically, concentrated solar energy companies have struggled to compete with solar PV due to high costs. However, while the cost of solar PV has decreased dramatically in the last decade, the issue of intermittency remains unresolved. In addition, PV does not offer an efficient solution for generating heat. As a result, solar PV may be uneconomical for many industrial processes that require heat and/or reliable delivery.

We believe our projected economics will be competitive with other prevalent sources of clean energy that include storage. For example, on a forward-looking basis, our future targets estimate a cost of less than 5 cents per kW-hour for power, which is highly competitive with alternative sources. Additionally, these projections are based on expected cost reductions associated with manufacturing production efficiencies, module-enabled economies of scale and mechanical improvements such as elimination of an expensive slew-drive gearbox that is enabled by the closed-loop tracking system.

- *International Expansion.* After our initial projects, we forecast international expansion, focusing on capital efficiency enabled by our proprietary applications and agile heliostat manufacturing approach. We are in various stages of discussions with numerous companies in Australia, Chile, Mexico and elsewhere. We also intend to leverage our strategic and commercial relationships with international footprints to cross-sell to foreign markets.

- *Highly Experienced Management Team.* We have built a world-class team composed of industry leaders with decades of experience from some of the most well-known and highly regarded companies in the energy, solar, technology, manufacturing and construction industries. Our committed, entrepreneurial team has decades of industry leading technical, operational, development and commercial experience which has positioned us to disrupt the current energy industry paradigms.

Intellectual Property

Our ability to protect our material IP is important to our business. We rely upon a combination of foreign, federal, state and common law protections afforded to owners of patents, copyrights, trade secrets and trademarks, along with employee and third-party non-disclosure agreements and other contractual restrictions to establish and protect our IP rights. In particular, unpatented trade secrets in the fields of research, development and engineering are an important aspect of our business by ensuring that our technology remains confidential. We also pursue patent protection when we believe we have developed a patentable invention and the benefits of obtaining a patent outweigh the risks of making the invention public through patent filings.

We hold a strong portfolio of patents and numerous trademarks covering key aspects of our plant and process, including our closed-loop tracking system, tracking based on radiance maps, intensity and polarization tracking, and receiver for capturing solar energy. As of December 31, 2023, we had a portfolio of 12 issued U.S. patents, 9 issued non-U.S. patents, 12 pending U.S. patent applications and 18 pending patent applications in other countries, as well as numerous trademarks. However, our portfolio of patents is expected to evolve as new patents are issued, older patents expire, and we continue to innovate. Our U.S. issued patents are expected to expire between 2029 and 2041. We regularly review our development efforts to assess the existence and patentability of new inventions, and we are prepared to file additional patent applications when we determine it would benefit our business to do so.

Government, Programs, Incentives and Regulations

We operate in the heavily regulated energy sector, which is subject to a variety of federal, state and local regulations and agencies that impact our operations. As a participant in the renewable energy sector specifically, there are additional regulations, tax incentives and support mechanisms in place to promote growth.

U.S. federal tax credits are currently in place that incentivize the deployment of renewable energy. These credits and incentives have been made available through a variety of recent legislation, including the Inflation Reduction Act of 2022 (“IRA”). The IRA was signed into law on August 16, 2022. The IRA contains many provisions intended to incentivize domestic clean energy investment, clean energy production and manufacturing of necessary components, specifically: (a) the extension and enhancement of the Investment Tax Credit (“ITC”) program, which the IRA extends to thermal energy storage equipment; (b) the addition of Production Tax Credits (“PTC”) up to \$3.00 per kilogram for clean hydrogen and a three-year extension and modification of PTCs for facilities that begin construction before December 31, 2024; (c) the creation of the Advanced Manufacturing Production Credit which provides certain specified benefits for solar modules and solar module components manufactured in the U.S. and sold to third parties; (d) the creation of a new tax credit for sustainable aviation fuel up to \$1.75 per gallon, depending on the lifecycle carbon emissions reduction of the fuel; and (e) the increase in total funds available for the DOE’s Title 17 loan guarantee program by \$3.6 billion, bringing the total to \$40 billion. The ITC and PTC amount can be increased if certain domestic content requirements are satisfied or if a project is located in (i) an “energy community” or (ii) low-income community, each as defined in the IRA. Heliogen is continuing to evaluate the IRA to understand the full impact of these provisions and additional potential benefits and believes many of these provisions will drive increased demand for its renewable energy technology and related products.

Certain projects generating renewable energy are eligible for investment tax credits that, with proper structuring, lower the capital requirements for renewables projects to be developed and open a new source of funding for these projects. The value of the tax credit varies depending on the year in which construction is deemed to begin as well as several other factors including meeting prevailing wage requirements. Under the current legislative framework, solar projects that started construction in 2023 qualify for a tax credit equal to 22% of the project’s cost. The value of the credit drops to a permanent 10% level for projects that begin construction in 2024 or later. Projects that began construction before 2024 but are not placed in service until 2026 or later, are also limited to the 10% credit. There are additional relevant credits for renewable energy companies including a production tax credit that can be utilized by many producers of renewable power and hydrogen.

The possibility of additional federal incentives and investment from the Biden Administration and Congress has garnered enthusiasm among renewable energy developers. In 2021, the Biden Administration announced goals of decarbonizing the electricity sector entirely by 2035, a goal that would necessitate billions of dollars in additional investment. Some of this money is likely to be invested in solar, hydrogen and storage technologies, potentially a benefit for a company like Heliogen. For example, the Bipartisan Infrastructure Law includes \$9.5 billion in funding for clean hydrogen, some of which will be applicable to companies which develop and install technology for clean hydrogen production.

In addition, over the past year, the DOE has announced additional funding for innovative R&D and commercially ready projects to accelerate the large-scale development of solar technologies that can deliver high-temperature solar heat and power on demand. The DOE has also released roadmaps that directly point to changes and technologies needed to make changes in certain sectors, including hydrogen and industrial decarbonization.

State-level incentives have also driven growth in the deployment of renewable energy. According to the U.S. Energy Information Administration, as of November 2022, 36 states and the District of Columbia have established a renewable portfolio standard or a renewable energy goal, which mandates that a certain portion of electricity delivered to customers come from eligible renewable energy resources. In 12 of those states (and the District of Columbia), the requirement is for 100% clean electricity by 2050 or earlier. States have created these standards to diversify their energy resources, promote domestic energy production and encourage economic development.

Other Public Policy Considerations

Different public policy mechanisms have been used by governments to accelerate the adoption and use of solar power and energy storage. Examples of customer-focused financial mechanisms include capital cost rebates, performance-based incentives, feed-in tariffs, tax credits and net energy metering. Some of these government mandates and economic incentives are scheduled to be reduced or to expire, or could be eliminated altogether, while others are scheduled to be extended or expanded. Capital cost rebates provide funds to customers based on the cost and size of a customer's solar power or energy storage system. Performance-based incentives provide funding to a customer based on the energy produced by their solar power system or stored by their energy storage system. Feed-in tariffs pay customers for solar power system generation based on energy produced, at a rate generally guaranteed for a period of time. Tax credits reduce a customer's taxes at the time the taxes are due. Net energy metering allows customers to deliver to the electric grid any excess electricity produced by their on-site solar power systems, and to be credited for that excess electricity at or near the full retail price of electricity. New market development mechanisms to encourage the use of renewable energy sources continue to emerge, as well as climate disclosure regulations that may encourage companies to adopt emissions reduction strategies. Recently adopted California legislation will require new climate disclosures commencing in 2026 for companies that qualify as "doing business" in the state. SB 253 (the Climate Corporate Data Accountability Act) will require companies with total annual revenues exceeding \$1 billion to annually disclose their Scopes 1, 2 and 3 greenhouse gas emissions and SB 261 (the Climate-Related Financial Risk Act) will require companies with total annual revenues exceeding \$500 million to publish a biennial climate-related financial risk report.

For more information about how we avail ourselves of the benefits of public policies and their risks, please see the risk factors set forth under the caption "Item 1A. Risk Factors."

Environmental and Other Regulations

We are subject to extensive environmental regulations that govern vehicle emissions and the storage, handling, treatment, transportation and disposal of hazardous materials and the remediation of environmental contamination, among other items. These laws and regulations have become more stringent over time. Compliance with such laws and regulations at an international, regional, national, provincial and local level is an important aspect of our ability to continue our operations.

Environmental standards applicable to Heliogen are established by the laws and regulations of the countries in which we operate, standards adopted by regulatory agencies and the permits and licenses issued to us. Each of these sources is subject to periodic modifications and what we anticipate will be increasingly stringent requirements. Violations of these laws, regulations or permits and licenses may result in substantial administrative, civil or even criminal fines, penalties and possibly orders to cease any violating operations or to conduct or pay for corrective works. In some instances, violations may also result in the suspension or revocation of permits or licenses.

We use, generate and discharge toxic, volatile, or otherwise hazardous chemicals and wastes in our R&D and construction activities. We are subject to a variety of U.S. federal and state laws and regulations related to the purchase, storage, use and disposal of hazardous materials. We believe that we have all environmental permits necessary to conduct our business and expect to obtain all necessary environmental permits for future activities. We believe that we have properly handled our hazardous materials and wastes and have appropriately remediated any contamination at any of our premises. We are currently not subject to any litigation pertaining to environmental regulations and cost of compliance with applicable regulations is expected to be commensurate with our historical spend and other companies in the industry.

In addition to our existing environmental compliance initiatives, we will also be engaging additional resources to focus on a broader Environmental, Social and Governance (“ESG”) program across our business. As part of our commitment to energy sustainability, we completed an ESG assessment during 2022 to develop a baseline against which to prioritize our ESG strategies.

Finally, we are subject to federal, state and local requirements on health, safety and employment. We are subject to the requirements of the Occupational Safety and Health Act, local wage regulations and rigorous health and safety regulations in the State of California.

Human Capital

We take pride in our innovative technology and consider our employees to be the foundation for our growth and continued success. More than 70% of our employees have extensive experience or backgrounds in engineering, energy, or manufacturing. More than half of our employees are involved in product development and manufacturing. As of December 31, 2023, we employed 144 full-time employees, based primarily in Southern California.

Our high-performance culture is based on our commitment to results and our values, which we expect everyone to model in their daily conduct:

- *We are improving the world.* We will deliver affordable renewable energy, more economically than fossil fuels, benefiting the entire global community.
- *We are bold.* We are bold, persistent and challenge the status quo in order to achieve technological breakthroughs and a profitable business.
- *We treat everyone respectfully.* We are respectful, transparent and collaborative. We maintain a safe environment for the well-being and inclusion of everyone.
- *We value diversity.* We value and pursue diversity in all its forms, and welcome ideas and input from everyone.
- *We welcome feedback.* We are committed to feedback, continuous improvement and learning, so everyone can contribute their best work with passion and enjoyment.

We believe that an equitable and inclusive environment with diverse teams is crucial to our efforts to attract and retain key talent, produce more creative solutions and innovative products and services, and foster a work culture that reflects our core values. We have established a Diversity, Equity and Inclusion program, with the goal of developing a multi-year action plan to improve the diversity of our team and ensure every employee feels included and valued.

Emerging Growth Company Status

We are an “emerging growth company” as defined in Section 2(a) of the Securities Act, as modified by the JOBS Act, and we may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002 (“SOX”), reduced disclosure obligations regarding executive compensation in its periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. Further, we have elected not to use the extended transition period for complying with any new or revised financial accounting standards, and as such, we are required to adopt new or revised standards at the same time as other public companies.

We will remain an emerging growth company until the earliest of (i) the last day of our fiscal year (a) following March 19, 2026, the fifth anniversary of our initial public offering; (b) in which we have total annual gross revenue of at least \$1.235 billion; or (c) in which we are deemed to be a “large accelerated filer”, which means the market value of our common stock that is held by non-affiliates exceeds \$700 million as of the prior June 30th, or (ii) the date on which we have issued more than \$1.0 billion in non-convertible debt during the prior three-year period.

Available Information

Our website address is www.heliogen.com. We make available on our website, free of charge, our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K and any amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. The SEC maintains a website that contains reports, proxy and information statements and other information regarding our filings at www.sec.gov. The information found on our website is not incorporated by reference into this Annual Report or any other report we file with or furnish to the SEC.

Item 1A. Risk Factors

Investing in our securities involves a high degree of risk. You should carefully consider the risks and uncertainties described below together with all of the other information contained in this Annual Report. If any of the events or developments described below were to occur, our business, operating results and financial condition could suffer materially, the trading price of our common stock could decline, and you could lose all or part of your investment. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial may also adversely affect our business.

Risks Related to our Business

We have identified conditions that raise substantial doubt about our ability to continue as a going concern.

As of December 31, 2023, we had liquidity of \$75.1 million, consisting of \$62.7 million of cash and cash equivalents and \$12.4 million of investments and no debt. During the year ended December 31, 2023, we incurred a net loss of \$129.6 million and used cash in operations of \$71.6 million. As of December 31, 2023, we had an accumulated deficit of \$438.2 million. We are an early-stage company and have a history of operating losses and negative operating cash flows. We expect to continue to generate operating losses and have significant cash outflows from operating activities for at least the next few years. The amount of future losses and when, if ever, we will achieve profitability are uncertain. In addition, even if we achieve profitability, there can be no assurance that we will be able to maintain profitability in the future. Based on our liquidity position as of December 31, 2023 and our current forecast of operating results and cash flows, we anticipate that we may not have sufficient resources to fund our cash obligations for the next 12 months after the issuance date of this Annual Report. These factors raise substantial doubt about our ability to continue as a going concern.

We are exploring various cost saving opportunities and intend to continue seeking opportunities to generate additional revenue through our commercialization of engineering services. We have also engaged a financial advisor and we are actively assessing various avenues to secure additional capital, including, but not limited to, the issuance of debt, equity or both. There can be no assurance that we will be successful in our plans described above or in attracting future financing on acceptable terms, or if at all. If we are unable to effectively implement additional cost reductions, generate additional revenue or raise additional funding, we may be forced to delay, reduce or eliminate some or all of our commercialization efforts, product expansion or R&D programs and our business, financial condition and results of operations could be materially and adversely affected. If we cannot continue as a going concern, our stockholders would likely lose most or all of their investment in us.

Our operations require substantial ongoing expenditures, and we may not have adequate capital resources to fund all of our expected operating and capital expenditures.

The growth of our business will depend on substantial amounts of additional capital for marketing and development of our carbon-free heat, steam, power and green hydrogen solutions. For the year ended December 31, 2023, we used cash in operations of \$71.6 million and had capital expenditures of \$1.3 million. Our capital requirements will depend on many factors, including the rate of our enhancements to our existing solutions, our expansion of sales and marketing

and product development activities and customer demand for our solutions. As noted above, based on our liquidity position as of December 31, 2023 and our current forecast of operating results and cash flows, we anticipate that we may not have sufficient resources to fund our cash obligations for the next 12 months after the issuance date of this Annual Report, which raises substantial doubt about our ability to continue as a going concern. We will likely need to seek equity or debt financing to finance a portion of our capital expenditures. Such financing might not be available to us in a timely manner or on terms that are acceptable, or at all. The sale of additional equity or equity-linked securities could dilute our stockholders. The incurrence of indebtedness would result in increased debt service obligations and could result in operating and financing covenants that may restrict our operations or our ability to pay dividends to our stockholders.

Our ability to obtain the necessary financing to carry out our business plan is subject to a number of factors, including general market conditions and investor acceptance of our business model. These factors may make the timing, amount, terms and conditions of such financing unattractive or unavailable to us. If we are unable to raise sufficient funds when we need or want them, we will have to significantly reduce our spending, delay or cancel our planned activities or substantially change our corporate structure and our operations and prospects could be negatively affected. We might not be able to obtain any funding, and we might not have sufficient resources to conduct our business as projected, both of which could mean that we would be forced to curtail or discontinue our operations.

If demand for our concentrated solar energy solutions does not develop as we expect or our estimates of market opportunity and forecasts of market growth prove to be inaccurate, our revenues may suffer, and our business may be harmed.

We believe, and our growth plans assume, that the market for solar energy solutions will continue to grow and that we will increase our penetration of this market. However, market opportunity estimates and growth and demand forecasts, whether obtained from third-party sources or developed internally, are subject to significant uncertainty and are based on assumptions and estimates that may prove to be inaccurate. The estimated addressable market may not materialize in the timeframe we expect, if ever, and even if the market meets the predicted size and growth estimates, our business could fail to grow at similar rates. If our expectations as to the size of this market or our ability to sell our products and services in this market are not correct, our revenues will suffer, and our business will be harmed.

If we fail to win new contracts and purchase orders, our business operations and financial results may be adversely affected.

Our business depends on our ability to win contracts and purchase orders with customers. To date we have signed contracts for one material project — our commercial agreements with Woodside related to the Capella Project. We have also signed smaller contracts and purchase orders with other customers for projects and engineering services. Refer to Note 3 — Revenue to our consolidated financial statements in Part II, Item 8 of this Annual Report, for additional information. Contract proposals and negotiations are complex and frequently involve a lengthy bidding and selection process, which is affected by a number of factors. These factors may include market conditions, financing arrangements and required governmental approvals. For example, a client may require us to provide a bond or letter of credit to protect the client should we fail to perform under the terms of the contract. If challenging market conditions continue, or if we fail to secure adequate financial arrangements or the required government approvals, we may not be able to pursue particular projects, which could adversely affect our profitability. If we fail to complete a project in a timely manner, miss a required performance standard, or otherwise fail to adequately perform on a project, we may incur a loss on that project, which may reduce or eliminate our overall profitability.

Our engagements involve complex projects that could be impacted by a number of factors, some of which are outside of our control, and therefore may result in significant losses on the projects.

Our engagements will involve complex projects. The quality of our performance on such projects depends in large part upon our ability to manage the relationship with our clients and our ability to effectively manage the project and deploy appropriate resources, including third-party contractors and our own personnel, in a timely manner. If a project is not completed by the scheduled date or fails to meet required performance standards, we may either incur significant additional costs or be held responsible for the costs incurred by the client to rectify damages due to late completion or failure to achieve the required performance standards. The performance of projects can be affected by a number of factors including delays outside of our control, such as from suppliers and subcontractors, government inaction, public opposition, inability to obtain financing, weather conditions, unavailability of vendor materials, changes in the project

scope of services requested by our clients, industrial accidents, environmental hazards, labor disruptions and financial market instability or disruptions to the banking system due to bank failures, such as that which occurred with respect to Silicon Valley Bank. To the extent these events occur, the total costs of the project could exceed our estimates and we could experience reduced profits or, in some cases, incur a loss on a project, which may reduce or eliminate our overall profitability. Further, any defects or errors, or failures to meet our clients' expectations, could result in claims for damages against us.

During the years ended December 31, 2023 and 2022, we recognized a total provision for contract losses of \$52.9 million and \$33.8 million, respectively, primarily related to the Capella Project, which reflected our best estimate of the full expected loss on the project at the respective times given the consideration expected to be realized under the commercial-scale demonstration agreement ("CSDA") and the award from the DOE (the "DOE Award") relative to the total estimated cost at completion. Our current cost estimates for the Capella Project are subject to further refinement as we continue value engineering, exploring additional cost savings opportunities and continue to progress and negotiate an executable EPC contract. As a result, the actual cost for the Capella Project could vary from our current estimate.

Our modular, AI-enabled, concentrated solar energy plants may not generate expected output levels.

The modular, AI-enabled, concentrated solar energy plants that we plan to construct will be subject to various operating risks that may cause them to generate less than expected amounts of output. These risks include a failure or degradation of our equipment, the equipment of our customers or that of our vendors; an inability to find suitable replacement equipment or parts; or a less than expected supply of solar insolation. Any extended interruption in a plant's operation, or the failure of a plant for any reason to generate the expected amount of output, could have a material adverse effect on our business and operating results due to the damage to our reputation and the resulting dissatisfaction of the owner-operator.

We may not be able to develop technologies and products to satisfy changes in customer demand or industry standards, and our competitors could develop products that decrease the demand for our products.

Rapidly changing technologies and industry standards, along with frequent new product introductions, characterize the industries of many of our customers and potential customers. Our financial performance depends, in part, on our ability to design, develop, manufacture, assemble, test, market and support new products and technology enhancements on a timely and cost-effective basis.

Our principal focus has been on R&D activities to improve our technology and make our product offerings more attractive to potential customers. These activities are subject to various risks and uncertainties we are not able to fully control, including changes in customer demand or industry standards and the introduction of new or superior technologies by others. Moreover, any failure by us in the future to develop new technologies or to timely react to changes in existing technologies could materially delay our development of new products, which could result in product obsolescence, decreased revenues and a loss of our market share to our competitors. In addition, products or technologies developed by others may render our products or technologies obsolete or non-competitive. Further, if our products are not in compliance with prevailing industry standards, such non-compliance could materially and adversely affect our financial condition, cash flows and results of operations.

We may be unable to complete or operate our projects on a profitable basis or as we have committed to our customers.

Development, installation, construction, and commissioning of our concentrated solar energy plants, and maintenance support of our concentrated solar energy plants, entails many risks, including:

- failure to receive critical components and equipment that meet our design specifications and can be delivered on schedule,
- failure to obtain all necessary rights to access and use land and water,
- failure to receive quality and timely performance of third-party services,
- increases in the cost of labor, equipment and commodities needed to construct or maintain projects,
- permitting and other regulatory issues, license revocation and changes in legal requirements,

- shortages of equipment or skilled labor,
- unforeseen engineering problems,
- credit risk of our customers,
- weather interferences, catastrophic events including fires, explosions, earthquakes, droughts and acts of terrorism,
- accidents involving personal injury or the loss of life,
- health or similar issues, such as a pandemic or epidemic,
- labor disputes and work stoppages,
- mishandling of hazardous substances and waste, and
- other events outside of our control.

Any of these factors could give rise to construction delays and costs in excess of our expectations. This could prevent us from completing construction of our projects, cause defaults under any then-existing financing agreements or under contracts that require completion of project construction by a certain time, cause projects to be unprofitable for us, or otherwise negatively impact our business, financial condition and operating results.

If we are not able to successfully manage our growth strategy, our business operations and financial results may be adversely affected.

Our expected future growth presents numerous managerial, administrative and operational challenges. Our ability to manage the growth of our operations will require us to continue to improve our management information systems and other internal systems and controls. In addition, our growth will increase our need to attract, develop, motivate, and retain both our management and professional employees. We appointed a new Chief Executive Officer and Chief Financial Officer in 2023 and we currently have an Interim Chief Financial Officer after the departure of our former Chief Financial Officer in January 2024. A lack of continuity of management and personnel may make it difficult to implement our business strategy and growth plan. The inability of our management to effectively manage our growth or the inability of our employees to achieve anticipated performance could have a material adverse effect on our business operations and financial results.

An increase in the prices or changes in the supply and demand of certain materials and commodities used in our business could adversely affect our business.

For certain contracts, we are exposed to market risk of increases in certain commodity prices of materials. We are dependent on the availability of essential materials, parts and subassemblies from our suppliers and subcontractors. The most important raw materials required for our concentrated solar energy systems are steel, stainless steel, glass, copper, aluminum, commodity electrical & electronics components, ceramics & ceramic fibers, thermal insulation materials, bauxite particles and/or silica sand and concrete. Prices and availability of these raw materials are subject to substantial fluctuations that are beyond our control due to factors such as supply and demand trends, energy costs, transportation costs, inflation, government regulations, global trade relationships, duties and tariffs, changes in currency exchange rates, price controls, general economic conditions and other unforeseen circumstances.

Our components are produced by third-party suppliers both domestically and internationally where most raw materials are readily available and purchased by those independent contractors and suppliers in the country of manufacture. Many major equipment and systems components are procured on a single or sole-source basis, but where multiple sources exist, we work to qualify multiple suppliers to minimize supply chain risk. If existing vendors are unable to supply the raw materials we require, we cannot predict if we will be able to obtain alternative vendors within the time frames that we require and at a comparable cost. Shortages, price increases and/or delays in shipments of our raw materials and purchased component parts, may occur in the future which may have a material adverse effect on our results of operations.

In addition, our customers' capital budgets may be impacted by the prices of certain materials, and reduced customer spending could lead to fewer project awards and more competition. These prices could be materially impacted by increases in inflation, interest rates, general market conditions and other factors, including U.S. trade relationships

with other countries, the imposition of tariffs, or political conditions. While we believe we can increase our prices to adjust for some price increases in commodities, there can be no assurance that price increases of commodities, if they were to occur, would be recoverable or that any increase in our prices will not negatively impact demand. Additionally, we expect many of our contracts to be fixed price, which would not allow us to adjust our prices and, as a result, increases in material costs could reduce our profitability with respect to such projects.

The development of our modular, AI-enabled, concentrated solar energy plants will require significant capital, which our customers may finance through third parties, and such financing may not be available to our customers on favorable terms, if at all.

We expect that our projects for customers will typically be financed by third parties. For the modular, AI-enabled, concentrated solar energy plants that we develop, we expect our customers to rely on a combination of their balance sheets and project-finance debt to fund construction costs. Increased interest rates may cause our customers to be unable to raise funds on acceptable terms when needed. Due to this, we may be unable to secure customer contracts, the size of contracts we do obtain may be smaller or we could be required to delay the development and construction of projects, reduce the scope of those projects or otherwise restrict our operations. Any inability by our customers to raise the funds necessary to finance our projects could negatively impact our business, financial condition and operating results.

Project development or construction activities may not be successful, and we may make significant investments without first obtaining project financing, which could increase our costs and impair our ability to recover our investments.

The development and construction of modular, AI-enabled, concentrated solar energy plants involves numerous risks. We may be required to spend significant sums for preliminary engineering, permitting, legal and other expenses before we can determine whether a project is feasible, economically attractive or capable of being built. In addition, we may choose to bear the costs of such efforts prior to obtaining project financing, prior to getting final regulatory approval and/or prior to the final sale to a customer, if any.

Successful completion of a particular project may be adversely affected by numerous factors, including: failures or delays in obtaining desired or necessary land rights, including ownership, leases and/or easements; failures or delays in obtaining necessary water rights, permits, licenses or other governmental support or approvals, or in overcoming objections from members of the public or adjoining land owners; uncertainties relating to land costs for projects; unforeseen engineering problems; access to available transmission for energy generated by our modular, AI-enabled, concentrated solar energy plants; construction delays and contractor performance shortfalls; work stoppages or labor disruptions and compliance with labor regulations; cost over-runs; availability of products and components from suppliers; adverse weather conditions; environmental, archaeological and geological conditions; and availability of construction and permanent financing.

If we are unable to complete the development of one or more of our modular, AI-enabled, concentrated solar energy plants or fail to meet one or more agreed target construction milestone dates, we may incur losses or be liable for damages or penalties that we may not be able to offset, which would have an adverse impact on our net income in the period in which the loss is recognized. We expect that some projects will require working capital to develop and/or build projects. If we are unable to complete a project, the associated working capital would also be an exposure that may need to be written off, which would have an adverse impact on our net income in the period in which the loss is recognized.

Our revenue, expenses and operating results may fluctuate significantly.

Our revenue, expenses and operating results may fluctuate significantly because of numerous factors. In addition to the other risks described in this “Risk Factors” section, the following factors could cause our operating results to fluctuate:

- the number and significance of client contracts commenced and completed during a quarter,
- delays, increased costs, or other unanticipated changes in contract performance that may affect profitability, particularly with lumpsum contracts or contracts that have funding limits,
- reductions in the prices of products or services offered by our competitors,

- spending patterns of our private and public sector clients,
- weather conditions,
- budget constraints experienced by our federal, state and local government clients,
- our ability to integrate any companies that we acquire,
- the continuing creditworthiness and solvency of clients and
- legislative and regulatory enforcement policy changes that may affect demand for our products or services.

As a consequence, operating results for a particular future period are difficult to predict and, therefore, prior results are not necessarily indicative of results to be expected in future periods. Any of the foregoing factors, or any other factors discussed elsewhere in this “Risk Factors” section, could have a material adverse effect on our business, results of operations and financial condition that could adversely affect our stock price.

Our business could be negatively affected as a result of stockholder actions and such actions could adversely affect our business and relationships with our customers, suppliers and employees and divert time from our management.

Stockholders may from time to time attempt to effect changes in our business, engage in proxy solicitations or advance stockholder proposals in a manner that is not in the best interests of our Company and all of its stockholders. Certain stockholders have made, or have indicated they may make, public and private strategic proposals related to our business, strategy, management or operations and have requested, or have indicated they may request, changes to the composition of our Board of Directors (the “Board”).

For example, on April 13, 2023, we received an unsolicited, non-binding proposal from Continuum Renewables, Inc. (“CRI”) to acquire all of our outstanding capital stock for a purchase price of \$0.40 per share of common stock (unadjusted for the subsequent reverse stock split) in cash. CRI was co-founded by our former Chief Executive Officer, Bill Gross, who was terminated by us in February 2023. The non-binding proposal was subject to various contingencies, including CRI obtaining financing. On April 24, 2023, we announced that after careful consideration and consultation with legal and financial advisors, our Board determined that the offer significantly undervalued our company and would result in an implied equity value for our common stockholders that is materially below our available liquidity. Accordingly, our Board determined that the proposal was not in the best interests of our stockholders and the proposal was rejected.

We cannot predict, and no assurances can be given as to, the outcome or timing of any such matters. Proposals can divert the attention of our Board and management from executing on our strategic plans, create uncertainty for our employees, and create additional risks and uncertainties with respect to our financial position and operations, which could impact our relationships with our suppliers, customers and employees. In addition, while we have rejected the unsolicited proposal if it is followed by a proxy contest or other stockholder actions, we would most likely be required to incur significant legal fees and proxy solicitation expenses and significant additional time and attention by management and our Board. This could interfere with our ability to execute our strategic plan, give rise to perceived uncertainties as to our future direction, result in the loss of potential business opportunities or make it more difficult to attract and retain qualified personnel, any of which could materially and adversely affect our business and operating results. Any perceived uncertainties as to our future direction also may adversely affect the market price and volatility of our securities.

Stockholders engaged in such activities may have interests that differ from those of other stockholders. Further, perceived uncertainties as to our future direction, including uncertainties related to the composition of our Board, may lead to the perception of instability or a change in the direction of our business, which may be exploited by our competitors, cause concern to current or potential customers, result in the loss of potential business opportunities, make it more difficult to attract and retain qualified personnel and/or affect our relationships with vendors, customers and other third parties. Moreover, a proxy contest could cause significant fluctuations in the price of our common stock based on temporary or speculative market perceptions or other factors that do not necessarily reflect the underlying fundamentals and prospects of our business.

Failure of third parties to manufacture quality products or provide reliable services in a timely manner could cause delays in the delivery of our services and completion of our projects, which could damage our reputation, have a negative impact on our relationships with our customers and adversely affect our growth.

Our success depends on our ability to provide services and complete projects in a timely manner, which in part depends on the ability of third parties to provide us with timely and reliable products and services. In providing our services and completing our projects, we rely on products that meet our design specifications and components manufactured and supplied by third parties, as well as on services performed by subcontractors.

We will also rely on subcontractors to perform the majority of the construction work related to our projects; and we may need to engage subcontractors with whom we have no experience for our projects.

If any of our subcontractors are unable to provide services that meet or exceed our customers' expectations or satisfy our contractual commitments, our reputation, business and operating results could be harmed. In addition, if we are unable to avail ourselves of warranty and other contractual protections with providers of products and services, we may incur liability to our customers or additional costs related to the affected products and components, which could have a material adverse effect on our business, financial condition and operating results. Moreover, any delays, malfunctions, inefficiencies or interruptions in these products or services could adversely affect the quality and performance of our solutions and require considerable expense to establish alternate sources for such products and services. This could cause us to experience difficulty retaining current customers and attracting new customers, and could harm our brand, reputation and growth.

If we are unable to attract and retain qualified management our ability to compete and successfully grow our business could be harmed.

Our success depends, in part, on the effectiveness of our executive team. The Chief Executive Officer is critical to executing on and achieving our vision, strategic direction, culture, products and technology. We appointed Christiana Obiaya, previously our Chief Financial Officer, as Chief Executive Officer in February 2023. The loss of the services of any of our executives could disrupt our operations, delay the development and introduction of our products and services, including with respect to our prototype products, and negatively impact our business, prospects and operating results.

As noted above, we appointed a new Chief Executive Officer and Chief Financial Officer in 2023 and we currently have an Interim Chief Financial Officer after the departure of our former Chief Financial Officer in January 2024. Management transitions may create uncertainty, divert resources and management attention, or impact public or market perception, any of which could negatively impact the company's ability to operate effectively or execute its strategies and result in an adverse impact on its business. Further, these new executives may have different backgrounds, experiences and perspectives from those individuals who previously served in these roles and thus may have different views on the issues that will determine the company's future, potentially resulting in employee, customer and supplier uncertainty. The employment agreements of our executive officers are each at will, and there is no assurance that we will be able to successfully retain senior leadership necessary to grow our business. Our failure to attract and retain our executive officers could adversely impact our business, prospects, financial condition, and operating results. A lack of continuity of management may harm our ability to effectively manage our operations and implement our strategy and our business may suffer.

Our business depends on experienced and skilled personnel and specialty subcontractor resources, and if we lose key personnel or if we are unable to attract and integrate additional skilled personnel, it will be more difficult for us to manage our business and complete projects.

The success of our business and construction projects will depend in large part on the skill of our personnel and on trade labor resources, including those with certain specialty subcontractor skills. Competition for personnel, particularly those with expertise in the energy services and renewable energy industries, is high. In the event we are unable to attract, hire and retain the requisite personnel and subcontractors, we may experience delays in completing projects in accordance with project schedules and budgets.

Further, any increase in demand for personnel and specialty subcontractors may result in higher costs, causing us to exceed the budget on a project. Either of these circumstances may have an adverse effect on our business, financial condition and operating results, harm our reputation among and relationships with our customers, and cause us to curtail our pursuit of new projects.

We have identified material weaknesses in our internal control over financial reporting and any failure to maintain effective internal control over financial reporting may have a material and adverse effect on our business, operating results, financial condition and prospects.

In connection with the preparation and audit of our financial statements as of and for the fiscal year ended December 31, 2021, we identified material weaknesses, as described below, in our internal control over financial reporting, which is an integral component of our disclosure controls and procedures, and such material weaknesses continue to exist as of December 31, 2023. If we are unable to remediate these material weaknesses, or if we identify additional material weaknesses in the future or otherwise fail to maintain an effective system of internal controls, we may not be able to accurately or timely report our financial condition or results of operations, which may adversely affect investor confidence in us and, as a result, our stock price.

Our material weaknesses relate to Heliogen not designing or maintaining an effective control environment specific to the areas of financial reporting and our close process, including effective review of technical accounting matters, proper segregation of duties, including separate review and approval of journal entries and access within our accounting system.

We are currently taking actions to remediate the deficiencies in our internal control over financial reporting and are implementing additional processes and controls designed to address the underlying root causes associated with the above-mentioned deficiencies.

Although we have made significant progress in remediating the aforementioned deficiencies outlined above, the material weaknesses continued to exist as of December 31, 2023.

Our ability to utilize our net operating loss carryforwards and other certain tax attributes may be limited.

As of December 31, 2023, we had federal net operating loss carryforwards of \$218.2 million and state net operating loss carryforwards of \$228.1 million. The federal and state net operating losses will expire starting with 2033 and a portion of the federal net operating losses may be carried forward indefinitely. As of December 31, 2023, we had foreign net operating losses carryforwards of \$2.7 million, which may be carried forward indefinitely. It is uncertain if and to what extent various states will conform to federal tax law.

In addition, under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (the “Code”), and corresponding provisions of state law, if a corporation undergoes an “ownership change,” which is generally defined as a greater than 50 percentage point change (by value) in its equity ownership over a rolling three-year period, the corporation’s ability to use its pre-change NOL carryforwards and certain other tax attributes to offset its post-change income or taxes may be limited. This could limit the amount of NOLs or other applicable tax attributes that we can utilize annually to offset future taxable income or tax liabilities. We have not undertaken a Section 382 study, and it is possible that we have previously undergone one or more ownership changes so that our use of net operating losses is subject to limitation. We may experience ownership changes in the future as a result of subsequent shifts in our stock ownership. As a result, if we earn net taxable income, our ability to use our pre-change NOLs to offset U.S. federal taxable income may be subject to limitations, which could potentially result in increased future tax liability to us. In addition, at the state level, there may be periods during which the use of NOLs is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed. As a result, we may be unable to use all or a material portion of our NOL carryforwards and other tax attributes, which could adversely affect our future cash flows.

Changes in tax laws or regulations that are applied adversely to us or our customers may have a material adverse effect on our business, cash flow, financial condition or results of operations.

New income, sales, use, or other tax laws, statutes, rules, regulations or ordinances could be enacted at any time, which could adversely affect our business operations and financial performance. Further, existing tax laws, statutes, rules, regulations, or ordinances could be interpreted, changed, modified, or applied adversely to us. For example, the Tax Cuts and Jobs Act of 2017, the Coronavirus Aid, Relief, and Economic Security Act and the IRA enacted many

significant changes to the U.S. tax laws. Future guidance from the Internal Revenue Service and other tax authorities with respect to such legislation may affect us, and certain aspects of such legislation could be repealed or modified in future legislation. In addition, it is uncertain if and to what extent various states will conform to federal tax laws. Future tax reform legislation could have a material impact on the value of our deferred tax assets, could result in significant one-time charges, and could increase our future U.S. tax expense.

If we fail to introduce or acquire new products or services that achieve broad market acceptance on a timely basis, or if our products or services are not adopted as expected, we will not be able to compete effectively.

We operate in a highly competitive, quickly changing environment and our future success depends on our ability to develop or acquire and market products and services that are recognized and accepted as reliable, cost-effective and that achieve broad market acceptance. Some of our potential customers may already use products or services similar to what we currently offer or what we may offer in the future and may be reluctant to replace those products or services. Market acceptance of our products, services and technology will depend on many factors, including, but not limited to, market demand costs, timely completion and introduction of these products, prompt resolution of any defects or bugs in these products, our ability to support these products, market acceptance of these products, delays and quality issues in releasing new products and services and our ability to convince potential customers that our products, services and technology are an attractive alternative to existing products, services and technology. Prior to adopting our products, services and technology, some potential customers may need to devote time and effort to testing and validating our systems. Any failure of our systems to meet these customer benchmarks could result in potential customers choosing to retain their existing systems or to purchase systems other than ours. The occurrence of one or more of the foregoing factors may result in lower revenue than expected, and we may in the future experience product or service introductions that fall short of their projected rates of market adoption.

Our ability to successfully introduce and market new products is unproven. Because we have a limited operating history and the market for our products, including newly acquired or developed products, is rapidly evolving, it is difficult to predict our operating results, particularly with respect to any new products that we may introduce. Our future success will depend in large part upon our ability to identify demand trends in the market in which we operate and quickly develop or acquire, and design, manufacture and sell, products and services that satisfy these demands in a cost-effective manner. Also, we may not be able to respond effectively to new product or service announcements by competitors by quickly introducing competitive products and services.

In order to differentiate our products and services from competitors' products, we will need to focus on our R&D efforts, including software development. If any products currently sold by, and services offered by, us do not continue, or if our new products or services fail to achieve widespread market acceptance, or if we are unsuccessful in capitalizing on opportunities in the market in which we operate, our future growth may be slowed and our business, results of operations and financial condition could be materially adversely affected.

International expansion is one of our growth strategies, and our potential expansion into international markets may expose our business and operations to additional risks that we do not or will not face in the U.S., which could have an adverse effect on our operating results.

As part of our business strategy, we intend to continue to consider the expansion of our addressable market by pursuing opportunities to provide our carbon-free heat, steam, power and green hydrogen solutions in international markets, and we expect to generate a material portion of our revenues from operations outside of the U.S. in the future. Operations in international markets may require us to respond to new and unanticipated regulatory, marketing, sales and other challenges. These efforts may be time-consuming and costly, and there can be no assurance that we will be successful in responding to these and other challenges we may face as we enter and attempt to expand in international markets, including:

- building and managing a highly experienced foreign workforce and overseeing and ensuring the performance of foreign subcontractors,
- difficulties in developing, staffing and simultaneously managing a large number of varying foreign operations as a result of distance, language and cultural differences,
- increased travel, infrastructure and legal and compliance costs associated with multiple international locations,

- additional withholding taxes or other taxes on our foreign income and tariffs or other restrictions on foreign trade or investment,
- imposition of, or unexpected adverse changes in, foreign laws or regulatory requirements, many of which differ from those in the U.S.,
- increased exposure to foreign currency exchange rate risk,
- longer payment cycles for sales in some foreign countries and potential difficulties in enforcing contracts and collecting accounts receivable,
- difficulties in repatriating overseas earnings,
- compliance with numerous legislative, regulatory or market requirements of foreign countries,
- compliance with U.S. laws, such as the U.S. Foreign Corrupt Practices Act (“FCPA”) and local laws prohibiting bribery and corrupt payments to government officials,
- laws and business practices that favor local competitors or prohibit foreign ownership of certain businesses,
- potentially adverse tax consequences,
- compliance with laws of foreign countries, international organizations, such as the European Commission, treaties and other international laws,
- the inability to continue to benefit from local subsidies due to change in control,
- unfavorable labor regulations and
- general economic conditions in the countries in which we operate.

Our future international operations will also be subject to general geopolitical risks, such as political, social and economic instability, war (including the repercussions of Russia’s invasion of Ukraine, and the war between Israel and Hamas), incidents of terrorism, changes in diplomatic and trade relations, or responses to such events. One or more of these factors could adversely affect any of our international operations and result in lower revenue and/or greater operating expenses than we expect and could significantly affect our results of operations and financial condition.

Our overall success in international markets will depend, in part, on our ability to succeed in differing legal, regulatory, economic, social and political conditions. We may not be successful in developing and implementing policies and strategies that will be effective in managing these risks in each country where we do business. Our failure to manage these risks successfully could harm our international operations, reduce our international sales and increase our costs, thus adversely affecting our business, financial condition and operating results.

Certain of our facilities are or may be located in regions that may be affected by extreme weather conditions and natural disasters.

Our business is headquartered in southern California and we expect to have multiple facilities in California. Historically, California has been susceptible to natural disasters, such as earthquakes, drought, floods and wildfires. In addition, we are currently constructing a steam plant in west Texas, which is susceptible to severe weather events, including tornados, hurricanes, thunderstorms, hail storms, straight-line winds, blizzards, floods and dust storms. Although we intend to maintain loss insurance where necessary, an earthquake, wildfire, extreme weather event or other natural disaster in the geographic regions in which we operate could result in significant damage to our facilities, destruction or disruption of our critical business or information technology systems, recovery costs and interruption to certain of our operations. In addition, a catastrophic event could interrupt our operations or those of our customers and suppliers, which could result in delays or cancellation of customer orders, the loss of customers and impediments to the manufacture or shipment of products or execution of projects, which could result in loss of business or an increase in expense, both of which may have a material adverse effect on our business. Delays and other weather impacts could adversely affect our ability to meet project deadlines and may increase a project’s cost and decrease its profitability. In the specific case of wildfires, an accusation or ultimate determination that our operations were the cause of a wildfire may also have a material adverse effect on our business. Moreover, we expect to have multiple facilities in other domestic and international markets, which may be subject to similar risks as southern California and west Texas.

Risks Related to our Technology and Intellectual Property

An inability to protect our IP could negatively affect our ability to compete, our business and our results of operations.

Our ability to compete effectively depends in part upon the maintenance and protection of the IP related to our carbon-free heat, steam, power and green hydrogen solutions. As of December 31, 2023, we had a portfolio of 12 issued U.S. patents, 9 issued non-U.S. patents, 12 pending U.S. patent applications and 18 pending patent applications in other countries, as well as numerous trademarks. However, our portfolio of patents is expected to evolve as new patents are issued and older patents expire, and the expiration of patents could have a negative effect on our ability to prevent competitors from duplicating certain or all of our products. Our U.S. issued patents are expected to expire between 2029 and 2041.

We might not succeed in obtaining patents from any of our pending applications. Even if we are awarded patents, they may not provide any meaningful protection or commercial advantage to us, as they may not be of sufficient scope or strength or may not be issued in all countries where our products can be sold. Patent protection is unavailable for certain aspects of the technology and operational processes that are important to our business. Any patent held by us or to be issued to us, or any of our pending patent applications, could be challenged, invalidated, unenforceable or circumvented. In addition, our competitors may be able to design around our patents. To date, we have relied principally on patent, copyright, trademark and trade secret laws, as well as confidentiality and proprietary information agreements and licensing arrangements, to establish and protect our IP. However, we have not obtained confidentiality and proprietary information agreements from our targeted customers and vendors, and although we have entered into confidentiality and proprietary information agreements with all of our employees, we cannot be certain that these agreements will be honored. Some customers are subject to laws and regulations that require them to disclose information that we would otherwise seek to keep confidential. Policing unauthorized use of our IP is difficult and expensive, as is enforcing our rights against unauthorized use.

The steps that we have taken or may take may not prevent misappropriation of the IP on which we rely. In addition, effective protection may be unavailable or limited in jurisdictions outside the U.S., as the IP laws of foreign countries sometimes offer less protection or have onerous filing requirements. From time to time, third parties may infringe our IP rights. Litigation may be necessary to enforce or protect our rights or to determine the validity and scope of the rights of others. Any litigation could be unsuccessful, cause us to incur substantial costs, divert resources away from our daily operations and result in the impairment of our IP. Failure to adequately enforce our rights could cause us to lose rights in our IP and may negatively affect our business.

In addition to patent protection, we rely significantly upon trade secret laws to protect our proprietary technologies. We regularly enter into confidentiality agreements with our key employees, customers, potential customers and other third parties and limit access to and distribution of our trade secrets and other proprietary information. However, these measures may not be adequate to prevent misappropriation of our technologies or to assure that our competitors will not independently develop technologies that are substantially equivalent or superior to our technologies. In addition, the laws of other countries in which we operate may not protect our proprietary rights to the same extent as the laws of the U.S. We are also subject to the risk of adverse claims and litigation alleging infringement of IP rights.

If our information technology systems or those of third parties upon which we rely, or our data are or were compromised, we could experience adverse consequences resulting from such compromise, including but not limited to regulatory investigations or actions; litigation; fines and penalties; disruptions of our business operations; reputational harm; loss of revenue or profits; and other adverse consequences.

In the ordinary course of our business, we and the third parties upon which we rely process sensitive data, and, as a result, we and such third parties face a variety of evolving threats that could cause security incidents. Cyber-attacks, malicious internet-based activity, online and offline fraud, and other similar activities threaten the confidentiality, integrity, and availability of our sensitive data and information technology systems, and those of the third parties upon which we rely. Such threats are prevalent and continue to rise, are increasingly difficult to detect, and come from a variety of sources, including traditional computer “hackers,” threat actors, “hacktivists,” organized criminal threat actors, personnel (such as through theft or misuse), sophisticated nation states and nation-state-supported actors.

Some actors now engage and are expected to continue to engage in cyber-attacks, including without limitation nation-state actors for geopolitical reasons and in conjunction with military conflicts and defense activities. During times of war and other major conflicts, we and the third parties we rely on may be vulnerable to a heightened risk of these attacks, including retaliatory cyber-attacks, that could materially disrupt our systems and operations, supply chain and ability to produce, sell and distribute our services.

Such threats include, but are not limited to, social-engineering attacks (including through deep fakes, which may be increasingly more difficult to identify as fake, and phishing attacks), malicious code (such as viruses and worms), malware (including as a result of advanced persistent threat intrusions), denial-of-service attacks, credential stuffing, credential harvesting, personnel misconduct or error, ransomware attacks, supply-chain attacks, software bugs, server malfunctions, software or hardware failures, loss of data or other information technology assets, adware, attacks enhanced or facilitated by AI, telecommunications failures, earthquakes, fires, floods and other similar threats.

In particular, severe ransomware attacks are becoming increasingly prevalent and can lead to significant interruptions in our operations, ability to provide our products or services, loss of sensitive data and income, reputational harm, and diversion of funds. Extortion payments may alleviate the negative impact of a ransomware attack, but we may be unwilling or unable to make such payments due to, for example, applicable laws or regulations prohibiting such payments.

Remote work has become more common and has increased risks to our information technology systems and data, as more of our employees utilize network connections, computers, and devices outside our premises or network, including working at home, while in transit and in public locations. Additionally, future or past business transactions (such as acquisitions or integrations) could expose us to additional cybersecurity risks and vulnerabilities, as our systems could be negatively affected by vulnerabilities present in acquired or integrated entities' systems and technologies. Furthermore, we may discover security issues that were not found during due diligence of such acquired or integrated entities, and it may be difficult to integrate companies into our information technology environment and security program.

In addition, our reliance on third-party service providers could introduce new cybersecurity risks and vulnerabilities, including supply-chain attacks, and other threats to our business operations. We rely on third-party service providers and technologies to operate critical business systems to process sensitive data in a variety of contexts, including, without limitation, cloud-based infrastructure, application hosting, data center facilities, encryption and authentication technology, employee email, content delivery to customers and other functions. We also rely on third-party service providers to provide other products, services, parts, or otherwise to operate our business. Our ability to monitor these third parties' information security practices is limited, and these third parties may not have adequate information security measures in place. If our third-party service providers experience a security incident or other interruption, we could experience adverse consequences. While we may be entitled to damages if our third-party service providers fail to satisfy their privacy or security-related obligations to us, any award may be insufficient to cover our damages, or we may be unable to recover such award.

We have implemented and maintain various information security processes and technologies designed to identify, assess and manage material risks from cybersecurity threats to our computer networks, third party hosted services, communications systems, hardware and software, and our critical data, including intellectual property, and confidential information that is proprietary, strategic or competitive in nature. However, there can be no assurance that these measures will be effective. We take steps designed to detect, mitigate and remediate vulnerabilities in our information systems (such as our hardware and/or software, including that of third parties upon which we rely), including through trainings, incident tabletop exercises and system testing. We may not, however, detect and remediate all such vulnerabilities including on a timely basis. Further, we may experience delays in developing and deploying remedial measures and patches designed to address identified vulnerabilities. Vulnerabilities could be exploited and result in a security incident.

Any of the previously identified or similar threats could cause a security incident or other interruption that could result in unauthorized, unlawful, or accidental acquisition, modification, destruction, loss, alteration, encryption, disclosure of, or access to our sensitive data or our information technology systems, or those of the third parties upon whom we rely. A security incident or other interruption could disrupt our ability (and that of third parties upon whom we rely) to provide our services.

We may expend significant resources or modify our business activities to try to protect against security incidents. Additionally, certain data privacy and security obligations may require us to implement and maintain specific security measures or industry-standard or reasonable security measures to protect our information technology systems and sensitive data.

If we (or a third party upon whom we rely) experience a security incident or are perceived to have experienced a security incident, we may experience adverse consequences, such as government enforcement actions (for example, investigations, fines, penalties, audits and inspections); additional notification and reporting requirements and/or oversight; restrictions on processing sensitive data (including personal data); litigation (including class claims); indemnification obligations; negative publicity; reputational harm; monetary fund diversions; diversion of management attention; interruptions in our operations (including availability of data); financial loss; and other similar harms. Security incidents and attendant consequences may negatively impact our ability to grow and operate our business.

Our contracts may not contain limitations of liability, and even where they do, there can be no assurance that limitations of liability in our contracts are sufficient to protect us from liabilities, damages, or claims related to our data privacy and security obligations. We cannot be sure that our insurance coverage will be adequate or sufficient to protect us from or to mitigate liabilities arising out of our privacy and security practices, that such coverage will continue to be available on commercially reasonable terms or at all, or that such coverage will pay future claims.

In addition to experiencing a security incident, third parties may gather, collect, or infer sensitive data about us from public sources, data brokers, or other means that reveals competitively sensitive details about our organization and could be used to undermine our competitive advantage or market position.

Our mirror cleaning technology may perform below our expectations.

The primary maintenance activity for solar thermal projects using our systems will be the routine and continuous cleaning of reflective mirror surfaces. We anticipate each mirror will need to be deep cleaned (rotating brush and water mist) every two weeks to prevent a buildup of soiling which would otherwise significantly degrade the system performance. Operational testing is ongoing on our ChariotAV autonomous cleaning vehicle which is intended to confirm the vehicles ability to accurately navigate the heliostat field autonomously while effectively and repeatedly cleaning the mirrors to maintain optimal light reflectivity. If our ChariotAV autonomous cleaning vehicle does not ultimately operate as intended, actual operating costs of our concentrated solar energy plants may be substantially higher than forecasted or total energy generation may fall short of estimates.

Regulatory Risks

We are subject to stringent and evolving U.S. laws, regulations, and rules, contractual obligations, industry standards, policies and other obligations related to data privacy and security. Our actual or perceived failure to comply with such obligations could lead to regulatory investigations or actions; litigation (including class claims) and mass arbitration demands; fines and penalties; disruptions of our business operations; reputational harm; loss of revenue or profits; and other adverse business consequences.

In the ordinary course of business, we collect, receive, store, process, generate, use, transfer, disclose, make accessible, protect, secure, dispose of, transmit and share (collectively, process) personal data and other sensitive information, including proprietary and confidential business data, trade secrets, intellectual property, sensitive third-party data, business plans, transactions and financial information (collectively, sensitive data).

Our data processing activities subject us to numerous data privacy and security obligations, such as various laws, regulations, guidance, industry standards, external and internal privacy and security policies, contractual requirements, and other obligations relating to data privacy and security.

In the U.S., federal, state and local governments have enacted numerous data privacy and security laws, including data breach notification laws, personal data privacy laws, consumer protection laws (e.g., Section 5 of the Federal Trade Commission Act), and other similar laws (e.g., wiretapping laws).

In the past few years, numerous U.S. states — including California, Virginia, Colorado, Connecticut and Utah — have enacted comprehensive privacy laws that impose certain obligations on covered businesses, including providing specific disclosures in privacy notices and affording residents with certain rights concerning their personal data.

As applicable, such rights may include the right to access, correct, or delete certain personal data, and to opt-out of certain data processing activities, such as targeted advertising, profiling and automated decision-making. The exercise of these rights may impact our business and ability to provide our products and services. Certain states also impose stricter requirements for processing certain personal data, including sensitive information, such as conducting data privacy impact assessments. These state laws allow for statutory fines for noncompliance. For example, the California Consumer Privacy Act of 2018, as amended by the California Privacy Rights Act of 2020 (“CPRA”) (collectively, “CCPA”), applies to personal data of consumers, business representatives and employees who are California residents, and requires businesses to provide specific disclosures in privacy notices and honor requests of such individuals to exercise certain privacy rights. The CCPA provides for fines of up to \$7,500 per intentional violation and allows private litigants affected by certain data breaches to recover significant statutory damages.

Similar laws are being considered in several other states, as well as at the federal and local levels, and we expect more states to pass similar laws in the future. These developments may further complicate compliance efforts, and increase legal risk and compliance costs for us and the third parties upon whom we rely.

In addition to data privacy and security laws, we are bound by other contractual obligations related to data privacy and security, and our efforts to comply with such obligations may not be successful.

We publish privacy policies, marketing materials and other statements, such as compliance with certain certifications or self-regulatory principles, regarding data privacy and security. If these policies, materials or statements are found to be deficient, lacking in transparency, deceptive, unfair, or misrepresentative of our practices, we may be subject to investigation, enforcement actions by regulators, or other adverse consequences.

Obligations related to data privacy and security (and consumers’ data privacy expectations) are quickly changing, becoming increasingly stringent, and creating uncertainty. Additionally, these obligations may be subject to differing applications and interpretations, which may be inconsistent or conflict among jurisdictions. Preparing for and complying with these obligations requires us to devote significant resources and may necessitate changes to our services, information technologies, systems, and practices and to those of any third parties that process personal data on our behalf.

We may at times fail (or be perceived to have failed) in our efforts to comply with our data privacy and security obligations. Moreover, despite our efforts, our personnel or third parties we rely on may fail to comply with such obligations, which could negatively impact our business operations. If we or the third parties on which we rely fail, or are perceived to have failed, to address or comply with applicable data privacy and security obligations, we could face significant consequences, including but not limited to: government enforcement actions (e.g., investigations, fines, penalties, audits, inspections and similar); litigation (including class-action claims) and mass arbitration demands; additional reporting requirements and/or oversight; bans on processing personal data; and orders to destroy or not use personal data. In particular, plaintiffs have become increasingly more active in bringing privacy-related claims against companies, including class claims and mass arbitration demands. Some of these claims allow for the recovery of statutory damages on a per violation basis, and, if viable, carry the potential for monumental statutory damages, depending on the volume of data and the number of violations. Any of these events could have a material adverse effect on our reputation, business, or financial condition, including but not limited to: loss of customers; inability to process personal data or to operate in certain jurisdictions; limited ability to develop or commercialize our products; expenditure of time and resources to defend any claim or inquiry; adverse publicity; or substantial changes to our business model or operations.

Our business benefits in part from federal, state, provincial and local government support for renewable energy, and a decline in such support could harm our business.

We benefit in part from legislation and government policies, incentives, mandates or other programs that support renewable energy, and energy storage projects that enhance the economic feasibility of our solar energy projects. This support includes legislation and regulations that encourage or in some cases require other customers to procure power from renewable or low-emission sources or otherwise to procure our services; and provide us or our customers with tax and other incentives that reduce our costs or increase our revenues. For example, the IRA contains many provisions intended to incentivize domestic clean energy investment, clean energy production and manufacturing of necessary components. However, it is unclear whether these initiatives will create sufficient incentives for projects or result in increased demand for our services. In addition, some of these government mandates and economic incentives are scheduled to be reduced or to expire, or could be eliminated altogether, while others are scheduled to be extended or

expanded. Without ongoing federal, state, provincial and local government support for renewable energy our ability obtain project commitments and related financing could be adversely affected and our business, financial condition and results of operations could be adversely affected.

Legislative or regulatory actions relating to renewable energy may impact demand for our services, our ability to remain in compliance with applicable laws and our cost of operations.

We are subject to laws, regulations and rules enacted by national, regional and local governments. Compliance with, and monitoring of, applicable laws, regulations and rules may be difficult, time consuming and costly. Those laws, regulations and rules and their interpretation and application may also change from time to time and those changes could have a material adverse effect on our business, investments and results of operations. In addition, a failure to comply with applicable laws, regulations and rules, as interpreted and applied, could have a material adverse effect on our business and results of operations.

In addition, laws and regulations impacting our customers may affect the demand for our products. Because most of our revenue is expected to be derived from the energy and industrial market sectors, regulatory and environmental requirements affecting those industries could adversely affect our business, financial condition, results of operations and cash flows. Customers in the industries we serve, including oil & gas companies and power providers, face stringent regulatory and environmental requirements, as well as permitting processes, as they implement plans for their projects, which may result in delays, reductions and cancellations of some of their projects. Our customers' energy procurement policies may prohibit or limit their willingness to procure our products. Our business prospects may be negatively impacted if we are prevented from completing new installations or our installations become more costly as a result of laws, regulations, ordinances, or rules applicable to our products. These regulatory factors may result in decreased demand for our services, potentially impacting our operations and our ability to grow.

The demand for our product could also be impacted by infrastructure legislation and funding. The locations of renewable energy projects, including the expected locations of our concentrated solar energy plants, are often remote and may not be viable unless new or expanded transmission infrastructure to transport the energy to demand centers is economically feasible. Furthermore, funding for renewable energy initiatives may not be available. These factors could result in fewer renewable energy projects and a delay in the construction of these projects and the related infrastructure, which could negatively impact our business.

Opportunities associated with government contracts could lead to increased governmental regulation applicable to us.

Most government contracts are awarded through a regulated competitive bidding process, including the award we received from the DOE to deploy our renewable energy technology in California. We may incur significant costs associated with bidding for government contracts before we realize any revenues from these contracts. Government agencies may review a contractor's performance, cost structure and compliance with applicable laws, regulations and standards. If government agencies determine through these reviews that costs were improperly allocated to specific contracts, they will not reimburse the contractor for those costs or may require the contractor to refund previously reimbursed costs. If government agencies determine that we engaged in improper activity, we may be subject to civil and criminal penalties. Government contracts are also subject to renegotiation of profit and termination by the government prior to the expiration of the term.

Risks Related to Ownership of Shares and Warrants

Our common stock and Public Warrants have been suspended from trading on, and may be delisted from, the NYSE and are not listed on any other national securities exchange.

On November 7, 2023, we received a letter from the staff of NYSE Regulation notifying us that it had determined to commence proceedings to delist our common stock and public warrants ("Public Warrants"). Trading in these securities was immediately suspended. The NYSE Regulation reached its decision to delist these securities pursuant to Section 802.01B of the NYSE's Listed Company Manual because we had fallen below the NYSE's continued listing standard requiring listed companies to maintain an average global market capitalization over a consecutive 30 trading day period of at least \$15 million. We are currently appealing the NYSE's determination to delist our common stock and Public Warrants, but unless our appeal is ultimately successful, our common stock and Public Warrants will be delisted after the completion of the NYSE's application to the SEC.

Should our securities be delisted from the NYSE, we can provide no assurance that we will be able to, re-list our common stock or the Public Warrants on a national securities exchange or that there will be an active market for these securities on the OTC market. Moreover, without an active trading market, the market price of our securities may be extremely volatile and not reflective of the market price that would be seen on a more active trading market. For so long as our common stock is suspended from trading on the NYSE, which suspension will become permanent if our common stock is ultimately delisted from the NYSE, we and our stockholders could face significant negative consequences including:

- limited availability of market quotations for our securities;
- a reduction in the number of investors willing to hold or acquire our common stock, which would negatively impact our ability to access equity markets and obtain financing;
- a determination that the common stock is a “penny stock” which would require brokers trading in the common stock to adhere to more stringent rules, possibly resulting in a reduced level of trading activity in the secondary trading market for shares of common stock;
- a limited amount of analyst coverage;
- a decreased ability to issue additional securities or obtain additional financing in the future; and
- an impairment of our ability to provide equity incentives to our employees.

On November 8, 2023, our common stock and Public Warrants began trading on the OTC market under the symbols HLGX and HLGXW, respectively.

Our stock price is subject to volatility, which could have a material adverse impact on investors and employee retention.

The price of our stock has experienced substantial price volatility and may continue to do so in the future. From January 1, 2023 to March 20, 2024, our stock price fluctuated between a low of \$0.52 per share and a high of \$26.25 per share (as adjusted for the reverse stock split). Additionally, the energy and technology industries, and the stock market as a whole have, from time to time, experienced extreme stock price and volume fluctuations that have affected stock prices in ways that may have been unrelated to the performance of the companies’ in these sectors. We believe the price of our stock should reflect expectations of future growth and profitability. If we fail to meet expectations related to future growth, profitability, or other market expectations, the price of our stock may decline significantly, which could have a material adverse impact on investor confidence and employee retention.

We may redeem our outstanding Public and Private Warrants prior to their exercise at a time that is disadvantageous to warrant holders, thereby making such warrants worthless.

As of December 31, 2023, we had Public Warrants and private placement warrants (“Private Warrants,” and together with the Public Warrants, the “Public and Private Warrants”) outstanding. We may redeem our outstanding Public Warrants at a price of \$0.35 per warrant, provided that the last reported sales price of our common stock equals or exceeds \$630.00 per share for any 20 trading days within a 30 trading-day period ending on the third trading day prior to the date we send the notice of redemption to the warrant holders. We may exercise our redemption right even if we are unable to register or qualify the underlying securities for sale under all applicable state securities laws.

In addition, we may redeem all (but not less than all) of our outstanding Public and Private Warrants at a price of \$3.50 per warrant if the following conditions are satisfied: (i) the last reported sale prices of our common stock equals or exceeds \$350.00 (as may be adjusted for stock splits, stock dividends, reorganizations, recapitalizations or the like) on the trading day prior to the date of the notice; (ii) the Private Warrants are also concurrently exchanged at the same price as the outstanding Public Warrants; and (iii) there is an effective registration statement covering the issuance of the shares of our common stock issuable upon exercise of the warrants and a current prospectus relating thereto available throughout the 30-day period after written notice of redemption is given.

In either case, the redemption of our outstanding Public and Private Warrants could force the warrant holders (i) to exercise their warrants and pay the exercise price therefor at a time when it may be disadvantageous for them to do so, (ii) to sell their warrants at the then-current market price when they might otherwise wish to hold their warrants or

(iii) to accept the nominal redemption price which, at the time the outstanding warrants are called for redemption, is likely to be substantially less than the market value of their warrants. The value received upon exercise of the warrants (i) may be less than the value the holders would have received if they had exercised their warrants at a later time where the underlying share price is higher and (ii) may not compensate the holders for the value of the warrants, including because the number of shares of common stock received is capped at 0.01 shares of our common stock per warrant (subject to adjustment) irrespective of the remaining life of the warrants. Refer to Note 4 — Warrants for additional information about our Public and Private Warrants.

We have outstanding Public and Private Warrants that are exercisable into our common stock, which would increase the number of shares eligible for future resale in the public market and result in dilution to our stockholders.

We have outstanding Public and Private Warrants to purchase an aggregate of 244,762 shares of our common stock that are currently exercisable. The exercise price of the Public and Private Warrants is \$402.50 per share, or approximately \$98.5 million in the aggregate for all shares underlying these warrants, assuming none of the warrants are exercised through “cashless” exercise. To the extent such warrants are exercised, additional shares of our common stock will be issued, which will result in dilution to holders of our common stock and increase the number of shares eligible for resale in the public market. Sales of substantial numbers of such shares in the public market or the fact that such warrants may be exercised could adversely affect the market price of our common stock. However, there is no guarantee that the Public and Private Warrants will ever be in the money prior to their expiration, and as such, the warrants may expire worthless.

We may be subject to securities litigation, which is expensive and could divert management attention.

The market price of our common stock may be volatile and, in the past, companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may be the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management’s attention and resources from other business concerns and could also require us to make substantial payments to satisfy judgments or to settle litigation either of which could seriously harm our business.

General Risk Factors

Our stockholders may not be able to enforce judgments entered by U.S. courts against certain of our directors.

We are incorporated in the State of Delaware. However, some of our directors may reside outside of the U.S. As a result, our stockholders may not be able to effect service of process upon those persons within the U.S. or enforce against those persons judgments obtained in U.S. courts.

Anti-takeover provisions contained in our second amended and restated certificate of incorporation as well as provisions of Delaware law, could impair a takeover attempt.

Our second amended and restated certificate of incorporation (“Certificate of Incorporation”) contains provisions that may discourage unsolicited takeover proposals that stockholders may consider to be in their best interests. We are also subject to anti-takeover provisions under Delaware law, which could delay or prevent a change of control. Together these provisions may make the removal of management more difficult and may discourage transactions that otherwise could involve payment of a premium over prevailing market prices for our securities. These provisions include:

- no cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- a classified Board with three-year staggered terms, which could delay the ability of stockholders to change the membership of a majority of our Board;
- the right of our Board to elect a director to fill a vacancy created by the expansion of our Board or the resignation, death or removal of a director in certain circumstances, which prevents stockholders from being able to fill vacancies on our Board;
- a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders; and

- the requirement that a meeting of stockholders may only be called by members of our Board or the stockholders holding a majority of our shares, which may delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors.

These provisions, alone or together, could delay hostile takeovers and changes in control or changes in our Board or our management.

As a Delaware corporation, we are also subject to provisions of Delaware law, including Section 203 of the Delaware General Corporation Law (“DGCL”), which prevents some stockholders holding more than 15% of our outstanding common stock from engaging in certain business combinations without approval of the holders of substantially all of our common stock. Any provision of our Certificate of Incorporation or bylaws or Delaware law that has the effect of delaying or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock and could also affect the price that some investors are willing to pay for our common stock.

Our Certificate of Incorporation provides, subject to limited exceptions, that the Court of Chancery of the State of Delaware and the U.S. federal district courts will be the sole and exclusive forums for substantially all disputes between us and our stockholders, which could limit our stockholders’ ability to obtain a favorable judicial forum for disputes with us or our directors, officers, stockholders or employees.

Our Certificate of Incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for any stockholder (including a beneficial owner) to bring (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee to us or our stockholders, (iii) any action asserting a claim against us, our directors, officers or employees arising pursuant to any provision of the DGCL or our Certificate of Incorporation or bylaws, or (iv) any action asserting a claim against us, our directors, officers or employees governed by the internal affairs doctrine and, if brought outside of Delaware, the stockholder bringing the suit will be deemed to have consented to service of process on such stockholder’s counsel, except any action (A) as to which the Court of Chancery of the State of Delaware determines that there is an indispensable party not subject to the jurisdiction of the Court of Chancery (and the indispensable party does not consent to the personal jurisdiction of the Court of Chancery within ten days following such determination), (B) which is vested in the exclusive jurisdiction of a court or forum other than the Court of Chancery, or (C) for which the Court of Chancery does not have subject matter jurisdiction.

Our Certificate of Incorporation also provides that the exclusive forum provision will be applicable to the fullest extent permitted by applicable law. Section 27 of the Exchange Act creates exclusive federal jurisdiction over all suits brought to enforce any duty or liability created by the Exchange Act or the rules and regulations thereunder. As a result, the exclusive forum provision will not apply to suits brought to enforce any duty or liability created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction. Furthermore, Section 22 of the Securities Act establishes concurrent jurisdiction for federal and state courts over Securities Act claims. Accordingly, both state and federal courts have jurisdiction to hear such claims. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by different courts, among other considerations, our Certificate of Incorporation also provides that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the U.S. will be the sole and exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act.

While the Delaware courts have determined that such choice of forum provisions are facially valid and several state trial courts have enforced such provisions and required that suits asserting Securities Act claims be filed in federal court, there is no guarantee that courts of appeal will affirm the enforceability of such provisions and a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions. In such instance, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of our Certificate of Incorporation. This may require significant additional costs associated with resolving such action in other jurisdictions and there can be no assurance that the provisions will be enforced by a court in those other jurisdictions. If a court were to find either exclusive forum provision in our Certificate of Incorporation to be inapplicable or unenforceable in an action, we may incur further significant additional costs associated with litigating Securities Act claims in state court, or both state and federal court, which could seriously harm our business, financial condition, results of operations and prospects.

Any person or entity purchasing or otherwise acquiring or holding or owning (or continuing to hold or own) any interest in any of our securities shall be deemed to have notice of and consented to the forum provisions in our Certificate of Incorporation. Although we believe these exclusive forum provisions benefit us by providing increased consistency in the application of Delaware law and federal securities laws in the types of lawsuits to which each applies, the exclusive forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our current or former directors, officers, stockholders or other employees, which may discourage such lawsuits with respect to such claims. Our stockholders will not be deemed to have waived our compliance with the federal securities laws and the rules and regulations thereunder as a result of our exclusive forum provisions.

The warrant agreement governing our Public and Private Warrants designates the courts of the State of New York or the U.S. District Court for the Southern District of New York as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by holders of the warrants, which could limit the ability of warrant holders to obtain a favorable judicial forum for disputes with our company.

Our Public and Private Warrants are issued in registered form under a warrant agreement between us and Continental Stock Transfer & Trust Company, as warrant agent. The warrant agreement provides that, subject to applicable law, (i) any action, proceeding or claim against us arising out of or relating in any way to the warrant agreement, including under the Securities Act, will be brought and enforced in the courts of the State of New York or the U.S. District Court for the Southern District of New York and (ii) that we irrevocably submit to such jurisdiction, which jurisdiction shall be the exclusive forum for any such action, proceeding or claim. We will waive any objection to such exclusive jurisdiction and that such courts represent an inconvenient forum.

Notwithstanding the foregoing, these provisions of the warrant agreement will not apply to suits brought to enforce any liability or duty created by the Exchange Act or any other claim for which the U.S. federal district courts are the sole and exclusive forum. Any person or entity purchasing or otherwise acquiring any interest in any of our warrants shall be deemed to have notice of and to have consented to the forum provisions in our warrant agreement. If any action, the subject matter of which is within the scope the forum provisions of the warrant agreement, is filed in a court other than a court of the State of New York or the U.S. District Court for the Southern District of New York (a "foreign action") in the name of any holder of our warrants, such holder shall be deemed to have consented to: (x) the personal jurisdiction of the state and federal courts located in the State of New York in connection with any action brought in any such court to enforce the forum provisions (an "enforcement action") and (y) having service of process made upon such warrant holder in any such enforcement action by service upon such warrant holder's counsel in the foreign action as agent for such warrant holder.

This choice-of-forum provision may limit a warrant holder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us, which may discourage such lawsuits. Alternatively, if a court were to find this provision of our warrant agreement inapplicable or unenforceable with respect to one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could materially and adversely affect our business, financial condition and results of operations and result in a diversion of the time and resources of our management and Board.

Item 1B. Unresolved Staff Comments

None.

Item 1C. Cybersecurity

Risk Management and Strategy

We have implemented and maintain various information security processes and technologies designed to identify, assess and manage material risks from cybersecurity threats to our computer networks, third party hosted services, communications systems, hardware and software, and our critical data, including intellectual property and confidential information that is proprietary, strategic or competitive in nature ("Information Systems and Data").

Heliogen's Chief Information Security Officer ("CISO") and the information security team, in conjunction with Heliogen's legal team and third-party service providers, help identify, assess and manage Heliogen's cybersecurity threats and risks. Heliogen's CISO and the information security team identify and assess risks from cybersecurity threats by monitoring and evaluating our threat environment using various methods from time to time, including,

for example: conducting vulnerability assessments to identify vulnerabilities; conducting scans of corporate devices and network infrastructure; analyzing reports of potential, known and identified threats and actors; using automated and manual tools to monitor for, identify, or evaluate threats and risks; conducting audits and threat assessments; subscribing to reports and services that help identify cybersecurity threats; using third party threat assessments and external intelligence feeds; and evaluating our company's and our industry's risk profile.

We implement and maintain technical, physical, and organizational measures, processes, and/or policies, depending on the environment, designed to manage and mitigate material risks from cybersecurity threats to our Information Systems and Data, including, for example: dedicated cybersecurity staff; an incident response plan and policy; a vulnerability management policy; risk assessment process; processes and policies to address access to systems and networks; physical security protocols; processes for asset management; encryption of certain company data, systems, and networks; penetration testing; and employee training. We also maintain cybersecurity insurance.

Our assessment and management of risks from cybersecurity threats are integrated into our overall risk management processes. For example, cybersecurity risk is identified and addressed as a component of the Company's general risk management strategy. We have also established a cybersecurity committee consisting of our CISO, information security team, and other senior leaders to oversee our cybersecurity risk management process and strategies to mitigate cybersecurity threats, including through trainings, incident tabletop exercises and system testing.

We use third-party service providers to assist us from time to time to identify, assess, and manage risks from cybersecurity threats, including professional services firms, cybersecurity consultants, managed cybersecurity service providers and penetration testing firms.

We use third-party service providers to perform a variety of functions throughout our business, such as application hosting. We have a vendor management program to manage cybersecurity risks associated with our use of certain service providers. The program includes, depending on the nature of the services and the identity of the service provider, completion of security questionnaires, review of the service provider's written security program, and imposition of cybersecurity-related contractual obligations related on the provider.

For a description of the risks from cybersecurity threats that may materially affect Heliogen and how they may do so, see our risk factors under "Item 1A. Risk Factors" contained in Part I of this Annual Report, including "If our information technology systems or those of third parties upon which we rely, or our data are or were compromised, we could experience adverse consequences resulting from such compromise, including but not limited to regulatory investigations or actions; litigation; fines and penalties; disruptions of our business operations; reputational harm; loss of revenue or profits; and other adverse consequences."

Governance

Our Board addresses Heliogen's cybersecurity risk management as part of its general oversight function. The Board's Audit Committee is responsible for overseeing Heliogen's cybersecurity risk management processes, including oversight of mitigation of risks from cybersecurity threats.

Our cybersecurity risk assessment and management processes are implemented and maintained by certain members of Heliogen management, including our CISO who has over 40 years of cybersecurity expertise and experience.

Our CISO implements programs and policy recommendations to integrate cybersecurity risk considerations into our overall risk management strategy and works with the information security team to communicate key priorities. Our CISO is responsible for helping to prepare the Company for cybersecurity incidents, approving cybersecurity processes, and reviewing security assessments and other security-related reports.

Our incident response plan is designed to escalate certain cybersecurity incidents to members of our incident response team and members of management depending on the circumstances, including executive management and the Board. Our CISO and information security team work with our incident response team to help the Company mitigate and remediate cybersecurity incidents of which they are notified. In addition, our incident response plan includes reporting to the Audit Committee for certain cybersecurity incidents.

The Audit Committee receives periodic reports and is updated during the quarterly audit committee meetings from the CISO and information security team concerning Heliogen’s significant cybersecurity threats and risk and the processes Heliogen has implemented to address them. The Audit Committee also receives reports, summaries or presentations related to cybersecurity threats, risk and mitigation.

Item 2. Properties

As of December 31, 2023, our principal properties consisted of the following:

Nature	Location	Held	Lease End Term
Corporate headquarters	Pasadena, California	Lease	May 2028
Corporate offices	Houston, Texas	Lease	August 2026
Manufacturing facility	Long Beach, California	Lease	September 2031
R&D facility	Lancaster, California	Lease	May 2024
Developmental property	Lancaster, California	Lease	March 2025
Developmental property	Plains, Texas	Lease	September 2033

Item 3. Legal Proceedings

Information relating to various commitments and contingencies is described in Note 18 — Commitments and Contingencies to our consolidated financial statements in Part II, Item 8 of this Annual Report and the information discussed therein is incorporated by reference into this Part I, Item 3.

Item 4. Mine Safety Disclosures

None.

Part II

Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information

Effective November 8, 2023, our common stock and Public Warrants are traded on the OTC market under the symbol “HLGN” and “HLGNW,” respectively. Prior to November 8, 2023, our common stock and Public Warrants were traded on the NYSE under the symbol “HLGN” and “HLGN.W,” respectively. Over-the-counter market quotations reflect inter-dealer prices, without retail mark-up, mark-down, or commission, and may not necessarily represent actual transactions.

Holders of Record

As of March 20, 2024, we had 505 stockholders of record of our common stock and 4 holders of record of our Public and Private Warrants.

The actual number of stockholders of our common stock and Public and Private Warrants is greater than this number of record holders and includes holders who are beneficial owners but whose shares of common stock or Public and Private Warrants are held in “street name” by banks, brokers and other nominees.

Dividend Policy

We currently do not pay dividends on our common stock, and we do not anticipate paying cash dividends in the foreseeable future. Payment of cash dividends, if any, in the future will be at the discretion of our Board and will depend on then-existing conditions, including our financial condition, operating results, contractual restrictions, capital requirements, business prospects and other factors our Board may deem relevant.

Recent Sales of Unregistered Equity Securities

None.

Issuer Purchases of Equity Securities

None.

Item 6. [Reserved]

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations

The following management’s discussion and analysis (“MD&A”) provides information that management believes is relevant to an assessment and understanding of our consolidated results of operations and financial condition and includes forward-looking statements that involve risks, uncertainties and assumptions. This section should be read in conjunction with Part I of this Annual Report, the consolidated financial statements and related notes included in Part II Item 8 in this Annual Report and the section titled “Cautionary Note Regarding Forward-Looking Statements” included in the fore-part in this Annual Report.

Overview

Heliogen is a leader in next-generation concentrated solar energy. We are developing a modular, AI-enabled, concentrated solar energy plant that will use an array of mirrors to reflect sunlight and capture, concentrate, store and convert it into cost-effective energy on demand. Our product offering will deliver industrial process steam around the clock using thermal energy storage based on proven technology. This steam can also be used to produce electricity when paired with a steam turbine and green hydrogen when coupled with a solid oxide electrolyzer. Our next-generation system will be able to cost-effectively generate and store thermal energy at very high temperatures, enabling more cost-effective production of electricity at a smaller scale. The inclusion of a thermal energy storage system distinguishes our solution from clean energy provided by typical PV and wind installations which do not produce thermal energy and are only

able to produce energy intermittently unless battery storage is added. The system will be configurable for several applications, including carbon-free industrial-grade heat and steam (for use in industrial processes), clean power (electricity), and generation of green hydrogen, based on a customer's needs.

Recent Developments

Texas Steam Plant. In October 2023, we executed a land lease in Plains, Texas and initiated construction on a Heliogen steam plant in the Permian Basin. The plant is expected to achieve mechanical completion by the end of 2024. The plant will demonstrate the operation of our technology at a larger scale than our current R&D facility in Lancaster, California and will demonstrate the operation of our internally designed steam-generating receiver integrated with our heliostat field and control system. The plant will be operated daily allowing us to collect operational data in support of future commercial projects. Additionally, we are evaluating commercial opportunities associated with this plant.

Brenda/Woodside Agreement. In December 2023, we executed a contract with Woodside for up to \$1.6 million to progress engineering and development for our Brenda project.

Omanor Collaboration Agreement. In January 2024, we entered into a joint development agreement with Omanor, a real estate developer of logistics & energy infrastructure assets, and provider of permitting and off-take services for renewable energy projects in the states of Baja California Norte and Sonora, Mexico. The agreement includes developing a concentrating solar power plant leveraging Heliogen's technology.

Results of Operations

Heliogen is undergoing a significant transition as it moves from design to testing and implementation of its innovative supercritical CO₂ power generation system. In March 2022, we secured a contract to engineer and construct a 5 MWe commercial-scale concentrated solar energy facility (the "Capella Project") with Woodside in Mojave, California with a total transaction price of \$45.5 million and received an award from the DOE (the "DOE Award") of \$39.0 million to support the Capella Project, of which \$3.9 million will be paid directly by the DOE to another party providing services under the DOE Award at our direction.

In March 2023, we entered into an agreement with NantG Power, LLC ("NantG"), an affiliated sister-company to Nant Capital LLC, a holder of more than 5% of Heliogen's outstanding voting stock, to provide front-end concept design and R&D engineering services for up to \$5 million. Additionally, during 2023, we performed engineering studies for companies evaluating our product offering.

We have historically incurred operating losses as we are in the early stages of commercializing our technology and investing in the R&D and infrastructure necessary to achieve these goals. However, we remain focused on achieving sufficient scale and efficiency improvements through technological progress and additional learning to ultimately achieve profitability.

How We Generate Revenue

We primarily generate revenue by contracting with owner-operators to build turnkey facilities that deploy Heliogen's technology. Our services revenue which is derived from customer contracts, is primarily recognized over time using the incurred costs method for our contracts with customers that include projects under development and engineering and design services. Engineering service contracts can be short-term or span several years and we recognize revenue over time as customers receive and consume the benefit of such services. Additionally, we have government grants which are accounted for as grant revenue and is recognized only when there is reasonable assurance that the entity will comply with any conditions attached to the grant and the grant funds will be received.

Cost of Conducting Our Business

Cost of revenue consists primarily of direct material, labor and subcontractor costs related to our revenue contracts. Additionally, we have indirect costs related to contract performance, such as indirect labor, supplies, tools and allocated depreciation.

Comparison of the Years Ended December 31, 2023 and 2022

<i>\$ in thousands</i>	Year Ended December 31,		\$ Change	% Change
	2023	2022		
Revenue:				
Services revenue	\$ 888	\$ 6,519	\$ (5,631)	(86)%
Grant revenue	3,557	7,232	(3,675)	(51)%
Total revenue	<u>4,445</u>	<u>13,751</u>	<u>(9,306)</u>	
Cost of revenue:				
Cost of services revenue (including depreciation)	3,677	8,107	(4,430)	(55)%
Cost of grant revenue	3,517	5,653	(2,136)	(38)%
Contract loss provisions	52,854	33,776	19,078	56%
Gross loss	<u>(55,603)</u>	<u>(33,785)</u>	<u>(21,818)</u>	
Operating expenses:				
Selling, general and administrative	50,655	81,224	(30,569)	(38)%
Research and development	21,028	38,281	(17,253)	(45)%
Impairment charges	7,774	6,922	852	12%
Operating loss	<u>(135,060)</u>	<u>(160,212)</u>	<u>25,152</u>	
Interest income, net	1,448	995	453	46%
Gain on warrant remeasurement	542	13,921	(13,379)	(96)%
Other income, net	3,473	2,280	1,193	52%
Net loss before taxes	<u>(129,597)</u>	<u>(143,016)</u>	<u>13,419</u>	
Benefit (provision) for income taxes	(1)	1,016	(1,017)	(100)%
Net loss	<u>\$ (129,598)</u>	<u>\$ (142,000)</u>	<u>\$ 12,402</u>	

Revenue and Gross Loss

During the year ended December 31, 2023, we recognized total revenue of \$4.4 million, a decrease of \$9.3 million compared to total revenue of \$13.8 million for the year ended December 31, 2022.

We recognized services revenue of \$0.9 million during the year ended December 31, 2023, a decrease of \$5.6 million compared to services revenue of \$6.5 million for the year ended December 31, 2022. The decrease was primarily driven by an unfavorable cumulative adjustment of \$3.4 million recorded during the fourth quarter of 2023 to services revenue, as a result of changes in the Capella Project estimate, discussed in more detail below. The remaining decrease in services revenue was driven by a reduction in costs incurred on the Capella Project for the scope of work and engineering services performed during the year ended December 31, 2023 compared to the year ended December 31, 2022.

We recognized grant revenue of \$3.6 million during the year ended December 31, 2023, a decrease of \$3.7 million compared to grant revenue of \$7.2 million for the year ended December 31, 2022. The decrease was driven by a decrease of \$2.1 million related to reimbursable costs incurred on the Capella Project under the DOE Award for the year ended December 31, 2023 and a decrease of \$1.5 million related to the employee retention credit under the Coronavirus Aid, Relief and Economic Security Act which was recognized during the year ended December 31, 2022.

During the year ended December 31, 2023, we recognized a gross loss of \$55.6 million, a change of \$21.8 million compared to a gross loss of \$33.8 million for the year ended December 31, 2022. The change was primarily driven by the recognition of provisions for contract losses of \$52.9 million and \$33.8 million during the years ended December 31, 2023 and 2022, respectively, primarily associated with the Capella Project. The provision for contract losses reflects our best estimate of the full expected loss on the Capella Project given the consideration expected to be realized under the CSDA and the DOE Award relative to the total estimated cost at completion. During the fourth quarter of 2023, we adjusted the Capella Project estimate after completing the front-end engineering design phase. Our current cost estimates for the Capella Project are subject to further refinement as we continue value engineering, exploring additional cost savings opportunities and continue to negotiate an executable engineering, procurement and construction (“EPC”) contract. As a result, the actual cost for the Capella Project could vary from our current estimate.

Selling, General and Administrative

The following table summarizes selling, general and administrative (“SG&A”) expenses:

<i>\$ in thousands</i>	Year Ended December 31,		\$ Change
	2023	2022	
Employee compensation, excluding share-based compensation. . . .	\$ 23,613	\$ 14,671	\$ 8,942
Share-based compensation	(6,464)	34,423	(40,887)
Collaboration Warrants	1,981	1,788	193
Other selling, general and administrative	31,525	30,342	1,183
Total selling, general and administrative	<u>\$ 50,655</u>	<u>\$ 81,224</u>	<u>\$ (30,569)</u>

During the year ended December 31, 2023, we recognized SG&A expense of \$50.7 million, a decrease of \$30.6 million compared to SG&A expense of \$81.2 million for the year ended December 31, 2022. The decrease was primarily driven by a reduction in share-based compensation as a result of no longer recognizing expense due to forfeitures during the year ended December 31, 2023 and a net reduction of \$12.5 million during the first quarter of 2023, as a result of stock options forfeited in connection with the termination of our former Chief Executive Officer. The remaining decrease in share-based compensation expense was a result of an expected reduction in expense over time due to graded vesting schedules for awards issued prior to our business combination with Athena Technology Acquisition Corp. (“Athena”). The decrease was partially offset by an increase in employee compensation of \$7.8 million primarily driven by headcount growth at the beginning of the year to support our commercial operations and incentive programs and \$1.2 million of reorganization costs related to employee severance and related benefits.

Research and Development

The following table summarizes R&D expenses:

<i>\$ in thousands</i>	Year Ended December 31,		\$ Change
	2023	2022	
Employee compensation, excluding share-based compensation. . . .	\$ 9,640	\$ 8,781	\$ 859
Share-based compensation	750	6,811	(6,061)
Other research and development.	10,638	22,689	(12,051)
Total research and development	<u>\$ 21,028</u>	<u>\$ 38,281</u>	<u>\$ (17,253)</u>

During the year ended December 31, 2023, we recognized R&D expense of \$21.0 million, a decrease of \$17.3 million compared to R&D expense of \$38.3 million for the year ended December 31, 2022. The decrease was driven by a reduction of \$13.6 million in other R&D direct costs due to focusing our R&D efforts on select strategic priorities, partially offset by \$1.5 million of expense associated with inventory allocated to our R&D projects.

Impairment Charges

During the year ended December 31, 2023, we recognized impairment charges of \$7.8 million, consisting of \$5.3 million to fully impair the remaining book value of our Collaboration Warrants, \$1.5 million to fully impair the remaining book value of our cloud computing implementation costs and \$1.0 million to fully impair goodwill. While we continue to believe in the long-term commercial viability of our products and technology, the sustained decrease in our market capitalization and prolonged losses beyond our initial estimates resulted in certain assets no longer deemed recoverable.

During the year ended December 31, 2022, we recognized impairment charges of \$6.9 million, consisting of \$3.8 million for impairments of property, plant and equipment related to certain project-related costs as management determined the project was no longer probable of being constructed and \$3.1 million for an impairment of an intangible asset related to acquired technology as the deployability of this technology has been delayed, resulting in a higher likelihood of this technology becoming obsolete during its useful life.

Warrant Remeasurement

During the year ended December 31, 2023, we recognized a gain of \$0.5 million, a change of \$13.4 million compared to a gain of \$13.9 million for the year ended December 31, 2022, related to the change in fair value of our outstanding Public and Private Warrants. The change in fair value of the Public and Private Warrants are highly correlated to changes in our stock price.

Benefit (Provision) For Income Taxes

During the year ended December 31, 2023, we recognized an income tax provision of \$1 thousand compared to an income tax benefit of \$1.0 million during the year ended December 31, 2022. The income tax benefit in 2022 primarily related to the release of our deferred tax liability, which was established upon the finalization of the HelioHeat Acquisition in March 2022. The deferred tax liability was related to the intangible asset acquired in the HelioHeat Acquisition and it was fully impaired during the year ended December 31, 2022.

Liquidity and Capital Resources

Our principal sources of liquidity are cash and investments on hand, which are short-term in duration and highly liquid, and cash receipts from customers and government grants. Our principal uses of cash are expenditures related to project development and completion, as well as R&D and SG&A expenditures in support of our technology development and operational support and growth efforts.

Total liquidity, including cash and cash equivalents and available-for-sale investments are as follows:

<i>\$ in thousands</i>	March 20, 2024	December 31, 2023
Cash and cash equivalents.	\$ 58,393	\$ 62,715
Investments	4,985	12,386
Total liquidity	<u>\$ 63,378</u>	<u>\$ 75,101</u>

Going Concern

The accompanying financial statements have been prepared assuming we will continue as a going concern. As of December 31, 2023, our liquidity was \$75.1 million and we had an accumulated deficit of \$438.2 million. During the year ended December 31, 2023, we incurred a net loss of \$129.6 million and used cash in operations of \$71.6 million. We expect to continue to generate operating losses and have significant cash outflows from operating activities for at least the next few years. Based on our liquidity position as of December 31, 2023 and our current forecast of operating results and cash flows, we anticipate that we may not have sufficient resources to fund our cash obligations for the next 12 months after the issuance date of this Annual Report. These factors raise substantial doubt about our ability to continue as a going concern.

We have evaluated the conditions discussed above and we are taking various steps in an effort, to alleviate them. We are exploring various cost saving opportunities and intend to continue seeking opportunities to generate additional revenue through our commercialization of engineering services. We have also engaged a financial advisor and we are actively assessing various avenues to secure additional capital, including, but not limited to, the issuance of debt, equity or both. No assurance can be given that any future financing, if needed, will be available or, if available, that it will be on terms that are satisfactory to us. If we are unable to effectively implement additional cost reductions, generate additional revenue or raise additional funding, we may be forced to delay, reduce or eliminate some or all of our commercialization efforts, product expansion or R&D programs and our business, financial condition and results of operations could be materially and adversely affected. Assuming no additional funding and based on our current operating and development plans, we expect that existing liquidity as of the date of this filing will be sufficient to fund currently anticipated operating expenses through the end of 2024.

Summary of Cash Flows

The following table provides a summary of our cash flows:

<i>\$ in thousands</i>	Year Ended December 31,	
	2023	2022
Net cash used in operating activities	\$ (71,644)	\$ (69,837)
Net cash provided by (used in) investing activities	86,654	(73,763)
Net cash provided by (used in) financing activities	1,331	(107)

Net Cash from Operating Activities. Net cash used in operating activities was \$71.6 million for the year ended December 31, 2023 compared to net cash used in operating activities of \$69.8 million for the year ended December 31, 2022. The \$1.8 million increase in the net cash used in operating activities was primarily driven by higher operating costs related to the growth of our operations and costs incurred related to our projects.

Net Cash from Investing Activities. Net cash provided by investing activities was \$86.7 million for the year ended December 31, 2023 compared to net cash used in investing activities of \$73.8 million for the year ended December 31, 2022. For the year ended December 31, 2023, we received net proceeds from the maturities of available-for-sale securities of \$87.9 million to fund our operations, partially offset by capital expenditures of \$1.3 million.

For the year ended December 31, 2022, we had net cash invested in available-for-sale securities of \$64.7 million as we invested the funds received in late 2021 from the closing of the business combination with Athena and capital expenditures of \$9.0 million to support growth in our commercial operations, machinery, equipment and improvements of our facilities, and office and computer equipment to support our headcount growth.

Net Cash from Financing Activities. Net cash provided by financing activities was \$1.3 million for the year ended December 31, 2023 compared to net cash used in financing activities of \$0.1 million for the year ended December 31, 2022. For the year ended December 31, 2023, we received proceeds of \$1.2 million from stock option exercises and proceeds of \$0.2 million associated with our employee stock purchase plan. For the year ended December 31, 2022, we received proceeds of \$1.2 million from stock option exercises offset by \$1.3 million of other financing costs paid in connection with the business combination with Athena.

Cash Requirements

Our material cash requirements from known contractual and other obligations include:

Operating Lease Liabilities. Our long-term operating leases are primarily for real estate. Refer to Note 11 — Leases to our consolidated financial statements in Part II, Item 8 of this Annual Report, for additional information regarding maturity analysis of our operating leases.

Critical Accounting Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. Although these estimates are based on our knowledge of current events and actions we may undertake in the future, actual results could differ from those estimates and assumptions. The following are considered critical to our consolidated financial statements because they require the most difficult, subjective or complex judgments, often because of the need to make estimates about matters that are inherently uncertain. We analyze our estimates on a periodic basis and base our estimates on historical experience and various other assumptions that we believe are reasonable under the circumstances. Our significant accounting policies are included in Note 2 — Significant Accounting Policies.

Inventories

Inventories consist primarily of raw materials, work in progress and finished goods. Inventories are stated at the lower of cost or net realizable value. Provisions are made to reduce obsolete inventories for excess quantities to their estimated net realizable values based on future demand, market conditions and valuation.

Impairment of Long-lived Assets

We assess long-lived assets classified as “held and used,” including our property, plant and equipment for impairment whenever events or changes in circumstances arise, including consideration of technological obsolescence, that may indicate that the carrying amount of such assets may not be recoverable. For purposes of recognition and measurement of an impairment loss, long-lived assets are grouped with other assets and liabilities at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities.

When impairment indicators are present, we compare undiscounted future cash flows, including the eventual disposition of the asset group at market value, to the asset group’s carrying value to determine if the asset group is recoverable. If the carrying value of the asset group exceeds the undiscounted future cash flows, we measure any impairment by comparing the fair value of the asset group to its carrying value. Fair value is generally determined by considering (i) internally developed discounted cash flows for the asset group, (ii) third-party valuations, and/or (iii) information available regarding the current market value for such assets. If the fair value of an asset group is determined to be less than its carrying value, an impairment in the amount of the difference is recorded in the period that the impairment indicator occurs. Estimating future cash flows requires significant judgment and such projections may vary from the cash flows eventually realized.

Goodwill Impairment

We perform our goodwill impairment evaluation at least annually, as of October 1, or more frequently if events or changes in circumstances indicate that it is more likely than not that the fair value of our reporting unit is less than its carrying value. We may first apply a qualitative assessment to determine if it is more likely than not that goodwill is impaired. If the qualitative assessment indicates that it is more likely than not that impairment exists, or if we choose to bypass the assessment, a quantitative assessment is performed, which involves comparing the fair value of the reporting unit to its carrying value, including goodwill. If the carrying value of the reporting unit exceeds its estimated fair value, we would record an impairment loss equal to the excess.

Revenue Recognition

We recognize project revenue over time as work is performed using the incurred costs method, which we believe is the method that most accurately reflects our progress toward satisfaction of the performance obligation. Under this method, revenue arising from fixed-price contracts is recognized as work is performed based on the ratio of costs incurred to date compared to the total estimated costs at completion of the performance obligations.

Contract Estimates

Incurred costs include all direct material, labor and subcontract costs, and those indirect costs related to contract performance, such as indirect labor, supplies and tools. Other costs for inventoried items, such as heliostats, are included in incurred costs when the item has been installed by being permanently attached or fitted. Cost-based input methods of revenue recognition require us to make estimates of net contract revenues and costs to complete the projects. In making such estimates, significant judgment is required to evaluate assumptions related to the amount of net contract revenues, including the impact of any performance incentives, liquidated damages and other payments to customers. Significant judgment is also required to evaluate assumptions related to the costs to complete the projects, including materials, labor, contingencies and other system costs. If a change in facts or circumstances occurs, the estimates will be adjusted, and the revenue recognized to date will be adjusted based on the revised estimates. Differences between the cumulative revenue recognized based on the previous estimates and the revenue recognized based on the revised estimates are recognized as an adjustment to revenue in the period in which the change in estimate occurs under the cumulative catch-up method.

If the estimated total costs on any contract are greater than the net contract revenues, we recognize the entire estimated loss in the period the loss becomes known and present such losses as contract loss provisions. Following recognition of contract loss provisions, we amortize the loss recognized in future periods as a reduction to cost of revenues using a similar method of measuring progress for each contract as done for revenue being recognized. We recognize changes in estimated contract revenue or total estimated costs and the resulting adjustment in the contract loss provision on a cumulative basis.

Fair Value Measurements

We are required to measure the fair value of the Public and Private Warrants at the end of each reporting period. The Public Warrants are traded on an exchange and thus management uses the closing price of the warrants at each period end. In assessing the valuation of the Private Warrants, management assessed the value holders of the Private Warrants would receive in a redemption scenario and concluded that due to the make-whole exercise provision, the value of Private Warrants approximates the value of the Public Warrants. Thus, we have estimated the fair value of the Private Warrants based on the closing price of the Public Warrants.

Contingent consideration arrangements are classified as liabilities and are remeasured to fair value at each reporting period, with any change in fair value being recognized on the consolidated statement of operations. The estimated fair value of the contingent consideration is based primarily on estimates of meeting the applicable contingency conditions as per the terms of the agreement. Significant judgment related to the probability and timing of payment is required by management in estimating the fair value of the contingent consideration.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We are a smaller reporting company as defined by Item 10 of Regulation S-K and are not required to provide the information otherwise required under this item.

Item 8. Financial Statements and Supplementary Data

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Heliogen, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Heliogen, Inc. and its subsidiaries (the “Company”) as of December 31, 2023 and 2022, and the related consolidated statements of operations, of comprehensive loss, of stockholders’ equity (deficit) and of cash flows for the years then ended, including the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2023 and 2022, and the results of its operations and its cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America.

Substantial Doubt About the Company’s Ability to Continue as a Going Concern

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, the Company expects to continue to generate operating losses and have significant cash outflows from operating activities that raise substantial doubt about its ability to continue as a going concern. Management’s plans in regard to these matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits of these consolidated financial statements in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP
Los Angeles, CA
March 26, 2024

We have served as the Company’s auditor since 2022.

Heliogen, Inc.
Consolidated Balance Sheets
(\$ in thousands, except share data)

	December 31,	
	2023	2022
ASSETS		
Cash and cash equivalents	\$ 62,715	\$ 45,719
Short-term restricted cash	500	655
Investments	12,386	97,504
Receivables, net	4,679	9,195
Inventories, net	1,956	2,442
Prepaid and other current assets	1,230	3,306
Total current assets	83,466	158,821
Operating lease right-of-use assets	13,909	14,772
Property, plant and equipment, net	5,577	7,071
Goodwill and intangible assets, net	71	1,160
Long-term restricted cash	1,000	1,500
Collaboration Warrants, non-current	—	5,282
Other long-term assets	3,010	3,013
Total assets	\$ 107,033	\$ 191,619
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)		
Trade payables	\$ 746	\$ 6,921
Accrued expenses and other current liabilities	8,907	5,602
Contract liabilities	17,008	10,348
Contract loss provisions	75,340	28,418
Total current liabilities	102,001	51,289
Operating lease liabilities, non-current	12,878	13,921
Warrant liabilities	100	642
Other long-term liabilities	69	443
Total liabilities	115,048	66,295
Commitments and contingencies (Note 18)		
Stockholders' equity (deficit)		
Preferred stock, \$0.0001 par value; 10,000,000 shares authorized and no shares outstanding as of December 31, 2023 and 2022	—	—
Common stock, \$0.0001 par value; 500,000,000 shares authorized; 5,946,315 shares issued and outstanding as of December 31, 2023 and 5,511,839 shares issued and outstanding (excluding restricted shares of 1,733) as of December 31, 2022 ⁽¹⁾	1	1
Additional paid-in capital ⁽¹⁾	430,678	434,496
Accumulated other comprehensive loss	(516)	(593)
Accumulated deficit	(438,178)	(308,580)
Total stockholders' equity (deficit)	(8,015)	125,324
Total liabilities and stockholders' equity (deficit)	\$ 107,033	\$ 191,619

(1) Periods presented have been adjusted to reflect the 1-for-35 reverse stock split on August 31, 2023. See Note 1 — Organization and Basis of Presentation — *Reverse Stock Split*, for additional information.

The accompanying notes are an integral part of these consolidated financial statements.

Heliogen, Inc.
Consolidated Statements of Operations
(\$ in thousands, except per share and share data)

	Year Ended December 31,	
	2023	2022
Revenue:		
Services revenue	\$ 888	\$ 6,519
Grant revenue	3,557	7,232
Total revenue	4,445	13,751
Cost of revenue:		
Cost of services revenue (including depreciation)	3,677	8,107
Cost of grant revenue	3,517	5,653
Contract loss provisions	52,854	33,776
Total cost of revenue	60,048	47,536
Gross loss	(55,603)	(33,785)
Operating expenses:		
Selling, general and administrative	50,655	81,224
Research and development	21,028	38,281
Impairment charges	7,774	6,922
Total operating expenses	79,457	126,427
Operating loss	(135,060)	(160,212)
Interest income, net	1,448	995
Gain on warrant remeasurement	542	13,921
Other income, net	3,473	2,280
Net loss before taxes	(129,597)	(143,016)
Benefit (provision) for income taxes	(1)	1,016
Net loss	\$ (129,598)	\$ (142,000)
Loss per share:		
Loss per share – Basic and Diluted ⁽¹⁾	\$ (22.26)	\$ (26.13)
Weighted average number of shares outstanding – Basic and Diluted ⁽¹⁾	5,822,389	5,433,912

(1) Periods presented have been adjusted to reflect the 1-for-35 reverse stock split on August 31, 2023. See Note 1 — Organization and Basis of Presentation — *Reverse Stock Split*, for additional information.

The accompanying notes are an integral part of these consolidated financial statements.

Heliogen, Inc.
Consolidated Statements of Comprehensive Loss
(\$ in thousands)

	Year Ended December 31,	
	2023	2022
Net loss	\$ (129,598)	\$ (142,000)
Other comprehensive income (loss), net of taxes:		
Unrealized gains (losses) on available-for-sale securities	308	(292)
Cumulative translation adjustment	(231)	(297)
Total other comprehensive income (loss), net of taxes	77	(589)
Comprehensive loss	\$ (129,521)	\$ (142,589)

The accompanying notes are an integral part of these consolidated financial statements.

Heliogen, Inc.
Consolidated Statements of Stockholders' Equity (Deficit)
(\$ in thousands, except share data)

	Common Stock ⁽¹⁾		Additional Paid-in Capital ⁽¹⁾	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total
	Shares	Amount				
Balance as of December 31, 2021	5,239,070	\$ 1	\$ 380,641	\$ (4)	\$ (166,580)	\$ 214,058
Net loss	—	—	—	—	(142,000)	(142,000)
Other comprehensive loss	—	—	—	(589)	—	(589)
Share-based compensation	—	—	42,861	—	—	42,861
Vesting of restricted stock units	30,792	—	—	—	—	—
Exercise of stock options	241,977	—	1,235	—	—	1,235
Vesting of warrants issued in connection with customer agreements	—	—	9,759	—	—	9,759
Balance as of December 31, 2022	<u>5,511,839</u>	<u>\$ 1</u>	<u>\$ 434,496</u>	<u>\$ (593)</u>	<u>\$ (308,580)</u>	<u>\$ 125,324</u>
Net loss	—	—	—	—	(129,598)	(129,598)
Other comprehensive income	—	—	—	77	—	77
Share-based compensation	—	—	(5,164)	—	—	(5,164)
Issuance of common stock under employee stock purchase plan	33,156	—	184	—	—	184
Vesting of restricted stock units	156,646	—	—	—	—	—
Tax withholding related to vesting of restricted stock units	(10,403)	—	(21)	—	—	(21)
Exercise of stock options	255,872	—	1,171	—	—	1,171
Payment for fractional shares in connection with the reverse stock split	(795)	—	(7)	—	—	(7)
Vesting of warrants issued in connection with customer agreements	—	—	19	—	—	19
Balance as of December 31, 2023	<u>5,946,315</u>	<u>\$ 1</u>	<u>\$ 430,678</u>	<u>\$ (516)</u>	<u>\$ (438,178)</u>	<u>\$ (8,015)</u>

(1) Periods presented have been adjusted to reflect the 1-for-35 reverse stock split on August 31, 2023. See Note 1 — Organization and Basis of Presentation — *Reverse Stock Split*, for additional information.

The accompanying notes are an integral part of these consolidated financial statements.

Heliogen, Inc.
Consolidated Statements of Cash Flows
(\$ in thousands)

	Year Ended December 31,	
	2023	2022
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	\$ (129,598)	\$ (142,000)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	2,142	2,587
Impairment charges.	7,774	6,922
Provision for inventory reserve.	2,391	—
Share-based compensation	(5,164)	42,861
Change in fair value of warrants.	(542)	(13,921)
Change in fair value of contingent consideration.	(353)	(1,656)
Deferred income taxes	1	(1,018)
Non-cash operating lease expense	1,711	1,592
Other non-cash operating activities.	(1,304)	(50)
Changes in assets and liabilities:		
Receivables, net.	4,084	(5,151)
Inventories, net	(1,713)	(2,442)
Prepaid and other current assets	92	1,114
Trade payables and accrued liabilities	(3,330)	2,732
Contract liabilities.	6,689	10,559
Change in contract loss provisions, net.	46,888	28,058
Other non-current assets and liabilities.	(1,412)	(24)
Net cash used in operating activities	(71,644)	(69,837)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Capital expenditures	(1,257)	(9,034)
Purchases of available-for-sale securities	(97,189)	(271,246)
Maturities of available-for-sale securities.	185,100	140,700
Sales of available-for-sale securities.	—	65,817
Net cash provided by (used in) investing activities.	86,654	(73,763)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds from exercise of stock options.	1,175	1,167
Proceeds from issuance of common stock under employee stock purchase plan	184	—
Payment related to taxes for net-share settlement of share-based compensation	(21)	—
Payment for fractional shares in connection with the reverse stock split.	(7)	—
Other financing costs	—	(1,274)
Net cash provided by (used in) financing activities	1,331	(107)
Increase (decrease) in cash, cash equivalents and restricted cash	16,341	(143,707)
Cash, cash equivalents and restricted cash at the beginning of the year.	47,874	191,581
Cash, cash equivalents and restricted cash at the end of the year.	\$ 64,215	\$ 47,874

The accompanying notes are an integral part of these consolidated financial statements.

Heliogen, Inc.
Consolidated Statements of Cash Flows — (Continued)
(\$ in thousands)

	Year Ended December 31,	
	2023	2022
Reconciliation of cash, cash equivalents and restricted cash:		
Cash and cash equivalents.	\$ 62,715	\$ 45,719
Short-term restricted cash.	500	655
Long-term restricted cash.	1,000	1,500
Total cash, cash equivalents and restricted cash.	\$ 64,215	\$ 47,874
Non-cash investing and financing activities:		
Fair value of Project Warrants and Collaboration Warrants recognized in equity.	\$ 19	\$ 9,759
Capital expenditures incurred but not yet paid.	\$ —	\$ 282

The accompanying notes are an integral part of these consolidated financial statements.

Heliogen, Inc.
Notes to the Consolidated Financial Statements
For the Years Ended December 31, 2023 and 2022

Note 1 — Organization and Basis of Presentation

Background

Heliogen, Inc. and its subsidiaries (collectively, “Heliogen” or the “Company”), is involved in the development and commercialization of next-generation concentrated solar energy. We are developing a modular, artificial intelligence (“AI”)-enabled, concentrated solar energy plant that will use an array of mirrors to reflect sunlight and capture, concentrate, store and convert it into cost-effective energy on demand. Unless otherwise indicated or the context requires otherwise, references in our consolidated financial statements to “we,” “us,” or “our” and similar expressions refer to Heliogen.

Basis of Presentation

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States (“GAAP”) and include the accounts of Heliogen and the subsidiaries it controls. All material intercompany balances are eliminated in consolidation. Certain immaterial prior period amounts have been reclassified to conform to current period presentation. Such changes did not have a material impact on our financial position or results of operations.

Reverse Stock Split

On August 31, 2023, the Company effected a 1-for-35 reverse stock split of the Company’s common stock. As a result of the reverse stock split, every 35 shares of the Company’s issued and outstanding common stock as of 5:00 p.m. (Eastern Time) on August 31, 2023 was automatically combined into one issued and outstanding share of common stock, with no change in par value per share. No fractional shares of common stock were issued as a result of the reverse stock split. Any fractional shares in connection with the reverse stock split were rounded down to the nearest whole share and cash payments were made to the stockholders. The reverse stock split had no impact on the number of shares of common stock or preferred stock that the Company is authorized to issue pursuant to its certificate of incorporation. Proportional adjustments were made to the number of shares of common stock issuable upon exercise or conversion of the Company’s equity awards and warrants, as well as the applicable exercise price. All share and per share information included in this Annual Report on Form 10-K has been retroactively adjusted to reflect the impact of the reverse stock split.

Liquidity and Going Concern

These financial statements have been prepared assuming the Company will continue as a going concern. This basis of accounting contemplates continuity of operations, realization of assets and satisfaction of liabilities and commitments in the normal course of business. These financial statements do not include any adjustments that might be necessary should we be unable to continue as a going concern.

As of December 31, 2023, the Company had liquidity of \$75.1 million, consisting of \$62.7 million of cash and cash equivalents and \$12.4 million of investments and no debt. During the year ended December 31, 2023, the Company incurred a net loss of \$129.6 million and used cash in operations of \$71.6 million. The Company expects to continue to generate operating losses and have significant cash outflows from operating activities for at least the next few years. Based on these factors, the Company anticipates that it may not have sufficient resources to fund its cash obligations for the next 12 months after the issuance date of the consolidated financial statements, which raises substantial doubt about the Company’s ability to continue as a going concern.

The Company has evaluated the conditions discussed above and is taking various steps in an effort, to alleviate them. The Company is exploring various cost saving opportunities and intends to continue seeking opportunities to generate additional revenue through its commercialization of engineering services. The Company, has also engaged a financial advisor and is actively assessing various avenues to secure additional capital, including, but not limited to, the issuance of debt, equity or both. No assurance can be given that any future financing, if needed, will be available or, if available, that it will be on terms that are satisfactory to the Company.

Heliogen, Inc.
Notes to the Consolidated Financial Statements
For the Years Ended December 31, 2023 and 2022

Note 1 — Organization and Basis of Presentation (cont.)

Emerging Growth Company

We are an “emerging growth company” as defined in Section 2(a) of the Securities Act of 1933, as modified by the Jumpstart Our Business Startups Act of 2012, and we may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in its periodic reports and proxy statements and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. We have elected not to use the extended transition period for complying with any new or revised financial accounting standards, and as such, we are required to adopt new or revised standards at the same time as other public companies.

Note 2 — Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with GAAP requires us to make estimates and assumptions that affect the amounts reported in our consolidated financial statements and the accompanying notes. On an ongoing basis, we evaluate our estimates, including those related to inputs used to recognize revenue over time, accounting for income taxes, fair values of share-based compensation, inventory valuation, lease liabilities, warrant liabilities, contingent consideration, goodwill impairments and long-lived asset impairments. Despite our intention to establish accurate estimates and reasonable assumptions, actual results could differ materially from such estimates and assumptions.

Segments

The Company operates as one operating segment. The Company’s chief executive officer, who is the chief operating decision maker, reviews financial information on a consolidated basis for the purposes of allocating resources and assessing performance.

Cash and Cash Equivalents

We consider highly liquid investments with original maturities of three months or less at the time of purchase to be cash equivalents. As of December 31, 2023 and 2022, our cash and cash equivalents balances were \$62.7 million and \$45.7 million, respectively. As of December 31, 2023, our restricted cash balance, including the long-term portion, was \$1.5 million and was comprised of a standby letter of credit issued in relation to the lease for our Long Beach, California facility. As of December 31, 2022, our restricted cash balance, including the long-term portion, was \$2.2 million and was comprised of a standby letter of credit issued in relation to the lease for our Long Beach, California facility and a commercial letter of credit used to pay a supplier as certain conditions are met.

Investments

We classify investments in fixed maturity securities at the acquisition date and reevaluate the classification at each balance sheet date. Held-to-maturity investments are carried at amortized cost, reflecting the ability and intent to hold the securities to maturity. Trading investments are securities acquired with the intent to sell in the near term and are carried at fair value with changes in fair value reported in earnings. All other fixed maturity securities are classified as available-for-sale and are carried at fair value with net unrealized gains or losses related to non-credit factors reported as a component of accumulated other comprehensive income. As of December 31, 2023 and 2022, all investments in fixed maturities were classified as available-for-sale. The difference between the original cost and maturity value of a fixed maturity security is amortized to earnings using the interest method. As of December 31, 2023 and 2022, interest receivable on our available-for-sale securities was \$0.1 million and \$0.1 million, respectively, and is included in receivables on our consolidated balance sheets.

Heliogen, Inc.
Notes to the Consolidated Financial Statements
For the Years Ended December 31, 2023 and 2022

Note 2 — Significant Accounting Policies (cont.)

The primary objectives of our investment portfolio are to maintain the safety of our invested capital, provide prudent levels of liquidity to accommodate operational and capital needs and maintain an acceptable level of risk. These risks include credit risk, interest rate risk and concentration risk, which are mitigated through the use of various well-established financial institutions as well as an investments portfolio consisting of very liquid and high credit quality instruments. The Company reviews its available-for-sale securities portfolio for impairment and determines if impairment is due to credit losses or other reasons. In making the assessment of whether a loss is from credit or other factors, management considers the extent to which fair value is less than amortized cost, any changes to the rating of the security by a rating agency and adverse conditions related to the security, among other factors. If this assessment indicates that a credit loss exists, the present value of cash flows expected to be collected from the security are compared to the amortized cost basis of the security. If the present value of cash flows is less than the amortized cost basis, a credit loss exists and an allowance is created, limited by the amount that the fair value is less than the amortized cost basis. Subsequent activity related to the credit loss component (e.g. write-offs, recoveries) is recognized as part of the allowance for credit losses on available-for-sale securities.

Accounts Receivable

We record accounts receivable based on contracted prices when we obtain an unconditional right to payment under the terms of our customer contracts or government grants. The carrying value of such receivables, net of the allowance for credit losses, represents the estimated net realizable value. Payment terms for receivables from customers are generally due upon demand or within 30 days.

As a practical expedient, we do not adjust the promised amount of consideration for the effects of a significant financing component when we expect, at contract inception, that the period between our transfer of a promised product or service to a customer and when the customer pays for that product or service will be one year or less. We typically do not include extended payment terms in our contracts with customers.

Allowance for Credit Losses

The allowance for credit losses is a valuation account that is deducted from a financial asset's amortized cost to present the net amount we expect to collect from such asset. We estimate allowances for credit losses using relevant available information from both internal and external sources. We monitor the estimated credit losses associated with our trade accounts receivable and unbilled accounts receivable based primarily on our collection history and the delinquency status of amounts owed to us, which we determine based on the aging of such receivables. Such methods and estimates are adjusted, as appropriate, for relevant past events, current conditions and reasonable and supportable forecasts. We recognize write-offs within the allowance for credit losses when cash receipts associated with our financial assets are deemed uncollectible. As of December 31, 2023, we had \$0.2 million of allowance for credit losses for trade receivables associated with our projects in Germany. We did not have any allowances for credit losses as of December 31, 2022.

We consider governmental grant receivables to be fully collectible and accordingly, no allowance for credit loss balance has been established. If amounts become uncollectible, they are charged to operations.

Inventories

Inventories consist primarily of raw materials, work in progress and finished goods. Inventories are stated at the lower of cost or net realizable value. Provisions are made to reduce obsolete inventories for excess quantities to their estimated net realizable values based on future demand, market conditions and valuation. Refer to Note 7 — Inventories for additional information.

Heliogen, Inc.
Notes to the Consolidated Financial Statements
For the Years Ended December 31, 2023 and 2022

Note 2 — Significant Accounting Policies (cont.)

Property, Plant and Equipment

We report our property, plant and equipment at cost, less accumulated depreciation and any impairment losses. Cost includes the price paid to acquire or construct the assets, required installation costs, interest capitalized during the construction period and any expenditures that substantially add to the value of or substantially extend the useful life of the assets. We capitalize costs related to computer software obtained or developed for internal use, which generally includes enterprise-level business and finance software that we customize to meet our specific operational requirements. We expense repair and maintenance costs at the time we incur them.

We begin depreciation for our property, plant and equipment when the assets are placed in service. We consider such assets to be placed in service when they are both in the location and condition for their intended use. We compute depreciation expense using the straight-line method over the estimated useful lives of assets. We depreciate leasehold improvements over the shorter of their estimated useful lives or the remaining term of the lease. The estimated useful life of an asset is reassessed whenever applicable facts and circumstances indicate a change in the estimated useful life of such asset has occurred. Refer to Note 8 — Property, Plant & Equipment for additional information.

Impairment of Long-lived Assets

We assess long-lived assets classified as “held and used,” including our property, plant and equipment and finite-lived intangibles, for impairment whenever events or changes in circumstances arise, including consideration of technological obsolescence, that may indicate that the carrying amount of such assets may not be recoverable. For purposes of recognition and measurement of an impairment loss, long-lived assets are grouped with other assets and liabilities at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities.

When impairment indicators are present, we compare undiscounted future cash flows, including the eventual disposition of the asset group at market value, to the asset group’s carrying value to determine if the asset group is recoverable. If the carrying value of the asset group exceeds the undiscounted future cash flows, we measure any impairment by comparing the fair value of the asset group to its carrying value. Fair value is generally determined by considering (i) internally developed discounted cash flows for the asset group, (ii) third-party valuations, and/or (iii) information available regarding the current market value for such assets. If the fair value of an asset group is determined to be less than its carrying value, an impairment in the amount of the difference is recorded in the period that the impairment indicator occurs. Estimating future cash flows requires significant judgment and such projections may vary from the cash flows eventually realized. Refer to Note 15 — Impairment Charges for additional information.

We consider a long-lived asset to be abandoned after we have ceased use of the asset and we have no intent to use or repurpose it in the future. Abandoned long-lived assets are recorded at their salvage value, if any.

Leases

At inception, we determine whether an arrangement is a lease and the appropriate classification as an operating or finance lease. When a lease is identified, a right-of-use asset and the corresponding lease liability are recognized upon commencement of the lease term based on the present value of the lease payments not yet paid, discounted using our incremental borrowing rate, in the event that the implicit rate is not available. The right-of-use asset is also adjusted for prepayments and initial direct costs. Our leases may contain renewal options that are exercisable at our discretion. At the commencement date of a lease, we include in the lease term any periods covered by a renewal option, to the extent we are reasonably certain to exercise such options. Leases with an initial term of one year or less are considered short-term leases and are not recognized as lease assets and liabilities. Right-of-use assets are assessed periodically for impairment if events or circumstances occur that indicate the carrying amount of the asset may not be recoverable.

We recognize operating lease costs on a straight-line basis over the lease term, and any variable lease costs are recognized in the period in which they are incurred. We do not separate lease and nonlease components of a contract.

Heliogen, Inc.
Notes to the Consolidated Financial Statements
For the Years Ended December 31, 2023 and 2022

Note 2 — Significant Accounting Policies (cont.)

Goodwill

Goodwill represents the excess of the purchase price over the estimated fair value of net tangible and identifiable intangible assets acquired in business combinations. Goodwill is not amortized but is evaluated for impairment at the reporting unit level. The Company determined it has one reporting unit as of December 31, 2023 and 2022, which is the same as its single operating segment. The Company performs its goodwill impairment evaluation at least annually, as of October 1, or more frequently if events or changes in circumstances indicate that it is more likely than not that the fair value of the Company's reporting unit is less than its carrying value. The Company may first apply a qualitative assessment to determine if it is more likely than not that goodwill is impaired. If the qualitative assessment indicates that it is more likely than not that impairment exists, or if the Company chooses to bypass the assessment, a quantitative assessment is performed, which involves comparing the fair value of the reporting unit to its carrying value, including goodwill. If the carrying value of the reporting unit exceeds its estimated fair value, the Company would record an impairment loss equal to the excess. Refer to Note 9 — Goodwill and Intangible Assets and Note 15 — Impairment Charges for additional information.

Intangible Assets

Finite-lived intangible assets purchased in a business combination are recorded at fair value and amortized over their estimated useful lives. Refer to Note 9 — Goodwill and Intangible Assets for additional information.

Cloud Computing Arrangements

Implementation costs incurred in cloud computing hosting arrangements that are service contracts are capitalized. These costs include external direct costs for materials and services. Software maintenance and training costs are expensed in the period in which they are incurred. The capitalized implementation costs are included in other long-term assets on our consolidated balance sheets and are amortized using the straight-line method over the term of the cloud computing hosting arrangement, including reasonably certain renewals, beginning when the module or component of the hosting arrangement is ready for its intended use. Cash payments for capitalized implementation costs are classified as cash outflows from operating activities.

During the years ended December 31, 2023 and 2022, we capitalized cloud computing implementation costs for enterprise resource planning systems of \$1.1 million and \$0.7 million, respectively. Amortization expense related to capitalized cloud computing implementation costs was \$0.8 million and \$0.6 million for the years ended December 31, 2023 and 2022, respectively, and is included in selling, general and administrative ("SG&A") expense on our consolidated statements of operations.

During the fourth quarter of 2023, we recorded an impairment of \$1.5 million to fully impair the remaining book value of our cloud computing implementation costs, included in impairment charges on our consolidated statements of operations. Refer to Note 15 — Impairment Charges for additional information.

Revenue Recognition

Our revenue is derived from services revenue and grant revenue. Our services revenue is derived from contracts with customers and our grant revenue is derived from government grants.

Services Revenue

Our contracts with customers may include multiple promised goods and services. In such cases, we identify performance obligations by evaluating whether the promised goods and services are capable of being distinct within the context of the contract at contract inception. Promised goods and services that are not distinct at contract inception are combined. Once we identify the performance obligations, we determine a transaction price based on contractual amounts and an estimate of variable consideration. We allocate the transaction price to each performance obligation based on the

Heliogen, Inc.
Notes to the Consolidated Financial Statements
For the Years Ended December 31, 2023 and 2022

Note 2 — Significant Accounting Policies (cont.)

relative stand-alone selling price (“SSP”) maximizing the use of observable inputs. Judgment is exercised to determine the SSP of each distinct performance obligation. Our services revenue is further disaggregated into project revenue and engineering revenue, which are discussed in more detail below.

Project Revenue. We recognize project revenue over time as work is performed using the incurred costs method, which we believe is the method that most accurately reflects our progress toward satisfaction of the performance obligation. Under this method, project revenue arising from fixed-price contracts is recognized as work is performed based on the ratio of costs incurred to date compared to the total estimated costs at completion of the performance obligations.

Contract Estimates. Incurred costs include all direct material, labor and subcontractor costs, and those indirect costs related to contract performance, such as indirect labor, supplies and tools. Other costs for inventoried items, such as heliostats, are included in incurred costs when the item has been installed by being permanently attached or fitted. Cost-based input methods of revenue recognition require us to make estimates of net contract revenues and costs to complete the projects. In making such estimates, significant judgment is required to evaluate assumptions related to the amount of net contract revenues, including the impact of any performance incentives, liquidated damages and other payments to customers. Significant judgment is also required to evaluate assumptions related to the costs to complete the projects, including materials, labor, contingencies and other system costs. If a change in facts or circumstances occurs, the estimates will be adjusted, and the revenue recognized to date will be adjusted based on the revised estimates. Differences between the cumulative revenue recognized based on the previous estimates and the revenue recognized based on the revised estimates are recognized as an adjustment to revenue in the period in which the change in estimate occurs under the cumulative catch-up method.

If the estimated total costs on any contract are greater than the net contract revenues, we recognize the entire estimated loss in the period the loss becomes known and present such losses as contract loss provisions. Following recognition of contract loss provisions, we amortize the loss recognized in future periods as a reduction to cost of revenues using a similar method of measuring progress for each contract as done for revenue being recognized. We recognize changes in estimated contract revenue or total estimated costs and the resulting adjustment in the contract loss provision on a cumulative basis.

Engineering Services Revenue. We recognize engineering services revenue over time as customers receive and consume the benefit of such services. Engineering service contracts with customers can be short-term or span several years and present amounts due to the Company for providing engineering, research and development (“R&D”), or other similar services in our field of expertise.

Contract Assets and Liabilities. Billing practices are governed by the contract terms of each project based upon costs incurred, achievement of milestones or predetermined schedules. Billings do not necessarily correlate with revenue recognized over time using the incurred costs method. Contract assets include unbilled amounts typically resulting from revenue under long-term contracts when the incurred costs method of revenue recognition is utilized and revenue recognized exceeds the amount billed to the customer. Contract liabilities consist of deferred revenue for advance payments and billings in excess of revenue recognized. When we receive consideration, or such consideration is unconditionally due, from a customer prior to transferring goods or services to the customer under the terms of a sales contract, we record deferred revenue, which represents a contract liability.

As a practical expedient, we do not adjust the consideration in a contract for the effects of a significant financing component when we expect, at contract inception, that the period between a customer’s advance payment and our transfer of a promised product or service to the customer will be one year or less. Additionally, we do not adjust the consideration in a contract for the effects of a significant financing component when the consideration is received as a form of performance security.

Government Grants

We assess government contracts received, including cost reimbursement agreements, to determine if the agreement should be accounted for as an exchange transaction or a grant. An agreement is accounted for as a grant if the resource provider does not receive commensurate value in return for the assets transferred. As there is no authoritative guidance

Heliogen, Inc.
Notes to the Consolidated Financial Statements
For the Years Ended December 31, 2023 and 2022

Note 2 — Significant Accounting Policies (cont.)

under GAAP for accounting for grants to for-profit business entities, the Company accounts for the grants by analogy to International Accounting Standard 20, *Accounting for Government Grants and Disclosure of Government Assistance*. Additionally, a government grant is recognized only when there is reasonable assurance that (1) the entity will comply with any conditions attached to the grant and (2) the grant will be received.

Funds to be received under the Company's government grants are presented as grant revenue. The related reimbursable expenses are expensed as incurred and presented separately as cost of grant revenue. Refer to Note 3 — Revenue for additional information.

Research and Development

We incur R&D costs during the process of researching and developing new products and enhancing our existing products, technologies and manufacturing processes. Our R&D costs consist primarily of employee compensation, materials and outside services. We expense these costs as incurred until the resulting product has been completed, tested and made ready for commercial scale-up.

Reorganization Costs

We recognize reorganization costs for one-time termination benefits, including severance payments, outplacement job training, counseling and other termination benefits, at fair value at the communication date if no future service is required. Reorganization costs for one-time termination benefits in which the employee is required to render service until termination in order to receive the benefits are recognized ratably over the future service period.

In February 2023, the Company initiated a strategic plan to respond to market feedback, streamline our operations, and improve our financial condition. As a result, during the year ended December 31, 2023, we recorded reorganization costs of \$1.2 million, included in SG&A expense on our consolidated statements of operations, related to employee severance and related benefits. We did not record any reorganization costs during the year ended December 31, 2022.

Share-based Compensation

We recognize share-based compensation expense for the estimated fair value of equity awards issued as compensation to individuals over the requisite service period, which generally ranges from six months to four years. We account for forfeitures as they occur. Accordingly, in the absence of a modification, if an individual's continuous service is terminated, all previously unvested awards granted to such individual are forfeited, which results in a benefit to share-based compensation expense in the period of termination equal to the cumulative expense recorded through the termination date for the unvested awards. For employee stock awards with graded vesting schedules and only services conditions, we recognize share-based compensation expense on a straight-line basis over the total requisite service period of the award, ensuring that cumulative recorded share-based compensation expense equals the grant date fair value of vested awards at each period-end.

For modifications of share-based payment awards, we record the incremental fair value of the modified award as share-based compensation on the date of modification for vested awards or over the remaining vesting period for unvested awards. The incremental compensation is the excess of the fair value of the modified award on the date of modification over the fair value of the original award immediately before the modification. In addition, we record the remaining unrecognized compensation cost for the original cost of the award on the modification date over the remaining vesting period for unvested awards.

Commitments and Contingencies

We record liabilities for loss contingencies arising from claims, assessments, litigation, fines and penalties and other sources when it is probable that a liability has been incurred and the amount of the assessment can be reasonably estimated. Legal costs incurred in connection with loss contingencies are expensed as incurred.

Heliogen, Inc.
Notes to the Consolidated Financial Statements
For the Years Ended December 31, 2023 and 2022

Note 2 — Significant Accounting Policies (cont.)

Although we cannot predict the outcome of legal or other proceedings with certainty, when it is probable that a loss has been incurred and the amount is reasonably estimable, GAAP requires us to accrue an estimate of the probable loss or range of loss or make a statement that such an estimate cannot be made.

Income Taxes

We use the asset and liability method to account for income taxes whereby we calculate deferred tax assets or liabilities using the enacted tax rates and tax law applicable to when any temporary differences are expected to reverse. We establish valuation allowances, when necessary, to reduce deferred tax assets to the extent it is more likely than not that such deferred tax assets will not be realized.

Income tax expense includes (i) deferred tax expense, which generally represents the net change in deferred tax assets or liabilities during the year plus any change in valuation allowances and (ii) current tax expense, which represents the amount of tax currently payable to or receivable from taxing authorities. We only recognize tax benefits related to uncertain tax positions that are more likely than not of being sustained upon examination. For those positions that satisfy such recognition criteria, the amount of tax benefit that we recognize is the largest amount of tax benefit that is more likely than not of being sustained on ultimate settlement of the uncertain tax position. The Company's policy is to recognize interest and penalties related to uncertain tax positions, if any, in the income tax provision.

Fair Value Measurements

We measure certain assets and liabilities at fair value, which is defined as the price that would be received from the sale of an asset or paid to transfer a liability (i.e., an exit price) on the measurement date in an orderly transaction between market participants in the principal or most advantageous market for the asset or liability. Our fair value measurements use the following hierarchy, which prioritizes valuation inputs based on the extent to which the inputs are observable in the market.

- Level 1 — Valuations based on unadjusted quoted prices from active markets for identical assets or liabilities.
- Level 2 — Valuations in which significant inputs are observable either directly or indirectly — other than Level 1 inputs.
- Level 3 — Valuations in which significant inputs are unobservable.

Recent Accounting Pronouncements

In December 2023, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2023-09, *Income Taxes (Topic 740): Improvements to Income Taxes Disclosures* ("ASU 2023-09"), which requires greater disaggregation of income tax disclosures to increase transparency and usefulness. The new standard requires additional information to be disclosed with respect to the income tax rate reconciliation, disaggregation of income taxes paid and modifying other income tax-related disclosures. ASU 2023-09 is effective for fiscal years beginning after December 15, 2024, with early adoption permitted on a prospective or retrospective basis. The Company is currently evaluating the impact of this guidance on the Company's consolidated financial statements and related disclosures.

In November 2023, the FASB issued ASU 2023-07, *Segments Reporting (Topic 280): Improvements to Reportable Segment Disclosures* ("ASU 2023-07"), which requires companies to enhance the disclosures about segment expenses. The new standard will require the disclosure of significant segment expenses on an annual and interim basis, will provide new segment disclosure requirements for entities with a single reportable segment, and contain other disclosure requirements. ASU 2023-07 is effective for fiscal years beginning after December 15, 2023 and interim periods beginning after December 15, 2024, with early adoption permitted. The Company is currently evaluating the impact of this guidance on the Company's consolidated financial statements and related disclosures.

Heliogen, Inc.
Notes to the Consolidated Financial Statements
For the Years Ended December 31, 2023 and 2022

Note 2 — Significant Accounting Policies (cont.)

In January 2017, the FASB issued ASU 2017-04, *Intangibles — Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*, which eliminates the second step of the previous two-step quantitative test of goodwill impairment. Under the new guidance, the quantitative test consists of a single step in which the carrying amount of the reporting unit is compared to its fair value. An impairment charge would be recognized for the amount by which the carrying amount exceeds the reporting unit’s fair value; however, the amount of the impairment would be limited to the total amount of goodwill allocated to the reporting unit. The guidance does not affect the existing option to perform the qualitative assessment for a reporting unit to determine whether the quantitative impairment test is necessary. The new guidance was effective for smaller reporting companies for fiscal years beginning after December 15, 2022. The Company adopted this guidance on January 1, 2023 and it did not have a material impact on the Company’s consolidated financial statements.

Note 3 — Revenue

Disaggregated Revenue

The following table provides information about disaggregated revenue:

<i>\$ in thousands</i>	Year Ended December 31,	
	2023	2022
Project revenue	\$ 300	\$ 6,155
Engineering services revenue	588	364
Total services revenue	888	6,519
Grant revenue	3,557	7,232
Total revenue	<u>\$ 4,445</u>	<u>\$ 13,751</u>

Services Revenue

Project revenue consists of amounts recognized under contracts with customers for the development, construction and delivery of commercial-scale concentrated solar energy facilities. The Company’s recognized project revenue is associated with a commercial-scale demonstration agreement (“CSDA”) executed with Woodside Energy (USA) Inc. (“Woodside”) in March 2022 for the engineering, procurement and construction of a new 5 MWe concentrated solar energy facility to be built in Mojave, California (the “Capella Project”) for the customer’s use in research, development and testing. Pursuant to the CSDA, Woodside will pay up to \$50.0 million to us to complete the Capella Project. The total transaction price for the CSDA is \$45.5 million reflecting a reduction in contract price for the fair value of the Project Warrants (defined and discussed further in Note 4 — Warrants — *Project Warrants*) granted to Woodside in connection with the CSDA.

Engineering services revenue consists of amounts recognized under contracts with customers for the provision of engineering, R&D, or other similar services in our field of expertise. The Company’s recognized engineering services revenue is associated with engineering studies and our projects in Germany.

Services revenue recognized during the years ended December 31, 2023 and 2022 includes non-governmental customers in the United States (“U.S.”) and Europe.

Grant Revenue

In October 2021, the Company received an award from the U.S. Department of Energy (the “DOE”) of \$39.0 million (the “DOE Award”), of which \$3.9 million will be paid directly by the DOE to another party providing services under the DOE Award at the Company’s direction. Under the DOE Award, the Company will apply up to \$35.1 million in funds received under the DOE Award pursuant to budget periods defined in the DOE Award as reimbursement for costs incurred in completing the tasks specified in the DOE Award that are part of the Capella Project. Management has evaluated the recapture provisions of the DOE Award and concluded that it is not probable that the recapture

Heliogen, Inc.
Notes to the Consolidated Financial Statements
For the Years Ended December 31, 2023 and 2022

Note 3 — Revenue (cont.)

provisions will be triggered. The Company and the DOE have the ability to terminate the DOE Award for convenience. Under such a termination, the Company will be permitted to seek reimbursement of valid costs incurred, including permitted indirect costs, through the date of termination.

During the years ended December 31, 2023 and 2022, the Company recognized grant revenue under the Company's DOE Award of \$3.5 million and \$5.6 million, respectively, related to costs incurred during such periods that are reimbursable under the DOE Award.

In response to the Coronavirus Disease 2019 pandemic, Congress passed the Coronavirus Aid, Relief and Economic Security Act which, among other provisions, provides for an Employee Retention Credit ("ERC") against applicable employment taxes, if certain criteria are met. During the years ended December 31, 2023 and 2022, we recognized \$41 thousand and \$1.6 million, respectively, related to the ERC included in grant revenue on our consolidated statements of operations.

Contract Estimates

In the fourth quarter of 2023, the Company adjusted its Capella Project estimate after completing the front-end engineering design phase. Our current cost estimates for the Capella Project are subject to further refinement as we continue value engineering, exploring additional cost savings opportunities and continue to negotiate an executable engineering, procurement and construction ("EPC") contract. In January 2024, the Company and Woodside executed a change order to the CSDA, which was accounted for as a recognized subsequent event for the year ended December 31, 2023, that extends the expected completion date for the Capella Project in order to provide the Company more time to explore additional cost saving and funding opportunities. As a result, the actual cost for the Capella Project could vary from our current estimate.

During the year ended December 31, 2023, the Company recorded an unfavorable cumulative adjustment to project revenue of \$3.4 million, as a result of the adjustment to the Capella Project estimate. The Company did not have any adjustments to its contract estimates during the year ended December 31, 2022.

During the year ended December 31, 2023, we recognized a total provision for contract losses of \$52.9 million, primarily associated with the change in estimate for the Capella Project. During the year ended December 31, 2022, we recognized a total provision for contract losses of \$33.8 million, primarily associated with the Capella Project.

We amortized \$6.0 million and \$5.7 million during the years ended December 31, 2023 and 2022, respectively, of the previously recognized contract loss provisions as a reduction to cost of services revenue incurred during the periods based on percentages of completion.

Performance Obligations

Revenue recognized under contracts with customers, which excludes amounts to be received from government grants, relates solely to the performance obligations satisfied during the years ended December 31, 2023 and 2022 with no revenue recognized from performance obligations satisfied in prior periods.

As of December 31, 2023, we had approximately \$38.2 million of transaction prices allocated to remaining performance obligations from our customer contracts. Based on our current forecast, we expect to recognize approximately 16% of the remaining transaction prices as revenue over the next 12 months and the remainder to be recognized thereafter through 2027.

Heliogen, Inc.
Notes to the Consolidated Financial Statements
For the Years Ended December 31, 2023 and 2022

Note 3 — Revenue (cont.)

Receivables

Receivables consisted of the following:

<i>\$ in thousands</i>	December 31,	
	2023	2022
Trade receivables	\$ 954	\$ 1,119
Grant receivables:		
Unbilled	3,623	5,610
Other grant receivables	—	1,578
Total grant receivables	3,623	7,188
Contract assets	—	560
Other receivables	309	328
Total receivables	4,886	9,195
Allowance for credit losses	(207)	—
Total receivables, net	<u>\$ 4,679</u>	<u>\$ 9,195</u>

Contract Assets and Liabilities

The following table outlines the activity related to contract assets, which is included in total receivables on our consolidated balance sheets:

<i>\$ in thousands</i>	
Balance as of December 31, 2021	\$ 1,195
Additions to unbilled receivables	364
Amounts billed to customers	(972)
Foreign currency translation adjustments	(27)
Balance as of December 31, 2022	\$ 560
Additions to unbilled receivables	177
Amounts billed to customers	(762)
Foreign currency translation adjustments	25
Balance as of December 31, 2023	<u>\$ —</u>

The following table outlines the activity related to contract liabilities:

<i>\$ in thousands</i>	
Balance as of December 31, 2021	\$ 513
Payments received in advance of performance	17,100
Revenue recognized	(6,519)
Recognition of consideration payable associated with Project Warrants	(707)
Other	(39)
Balance as of December 31, 2022	\$ 10,348
Payments received in advance of performance	6,960
Revenue recognized	(300)
Recognition of consideration payable associated with Project Warrants	(19)
Other	19
Balance as of December 31, 2023	<u>\$ 17,008</u>

During the year ended December 31, 2023, we recognized revenue of \$0.3 million that was included in contract liabilities as of December 31, 2022.

Heliogen, Inc.
Notes to the Consolidated Financial Statements
For the Years Ended December 31, 2023 and 2022

Note 3 — Revenue (cont.)

Customer Concentrations

For the years ended December 31, 2023 and 2022, one and two customers, including governmental entities, respectively, each comprised greater than 10% of our total revenue and collectively represented 80% and 97%, respectively, of our total revenue.

As of December 31, 2023 and 2022, two customers, including governmental entities, each comprised greater than 10% of our total receivables and represented 89% and 90%, respectively, of our total receivables.

Note 4 — Warrants

Public Warrants and Private Warrants

The Company's warrant liabilities as of December 31, 2023 include public warrants (the "Public Warrants") and private placement warrants (the "Private Warrants," and together with the Public Warrants, the "Public and Private Warrants"). The Public Warrants and Private Warrants permit warrant holders to purchase in the aggregate 238,095 shares and 6,667 shares, respectively, of the Company's common stock at an exercise price of \$402.50 per share. The Public and Private Warrants became exercisable on March 18, 2022 and expire on December 30, 2026, or earlier upon redemption or liquidation. The Company has the ability to redeem outstanding Public Warrants prior to their expiration, at a price of \$0.35 per warrant, provided that the last reported sales price of the Company's common stock equals or exceeds \$630.00 per share for any 20 trading days within a 30 trading-day period ending on the third trading day prior to the notice date of redemption. In addition, the Company has the ability to redeem all, but not less than all, of the outstanding Public and Private Warrants prior to their expiration, at a price of \$3.50 per warrant if the last reported sales price of the Company's common stock equals or exceeds \$350.00 on the trading day prior to the date of the notice. The Company evaluated the Public and Private Warrants and concluded that a provision in the underlying warrant agreement dated March 16, 2021, by and between Athena Technology Acquisition Corp. and Continental Stock Transfer & Trust Company, related to certain tender or exchange offers precludes the Public and Private Warrants from being accounted for as components of equity. As both the Public and Private Warrants meet the definition of a derivative, they are recorded as liabilities on the consolidated balance sheets and measured at fair value at each reporting date, with the change in fair value included in gain (loss) on warrant remeasurement on the consolidated statements of operations.

Project Warrants

In connection with the execution of the CSDA with Woodside in March 2022, the Company issued warrants permitting Woodside to purchase 26,068 shares of the Company's common stock at an exercise price of \$0.35 per share (the "Project Warrants"). The Project Warrants expire upon the earlier of a change in control of the Company or March 28, 2027 and vest pro rata with certain payments required to be made by Woodside under the CSDA. The fair value of the Project Warrants upon issuance was \$173.60 per warrant based on the closing price of the Company's common stock on March 28, 2022, less the exercise price.

The Project Warrants were determined to be consideration payable to a customer and are equity-classified pursuant to the guidance in Accounting Standards Codifications ("ASC") 718, *Compensation — Stock Compensation* ("ASC 718"). The total transaction price associated with the CSDA was reduced by \$4.5 million, which represented the total consideration payable to Woodside for the Project Warrants upon issuance in March 2022 and the Company recognized \$0.2 million as an increase to additional paid-in capital related to the Project Warrants to reflect the attribution of the Project Warrants' fair value in a manner similar to revenue recognized under the CSDA.

During the years ended December 31, 2023 and 2022, \$19 thousand and \$0.7 million, respectively, was recognized as additional paid-in capital related to the vesting of Project Warrants. As of December 31, 2023, vested Project Warrants were exercisable for 18,807 shares of the Company's common stock.

Heliogen, Inc.
Notes to the Consolidated Financial Statements
For the Years Ended December 31, 2023 and 2022

Note 4 — Warrants (cont.)

Collaboration Warrants

In connection with the execution of a collaboration agreement (the “Collaboration Agreement”) with Woodside in March 2022, the Company issued warrants permitting Woodside to purchase 104,275 shares of the Company’s common stock at an exercise price of \$0.35 per share (the “Collaboration Warrants”). Under the Collaboration Agreement, Woodside will assist us in defining product offerings that use our modular technology for potential customers. The Collaboration Warrants expire upon the earlier of a change in control of the Company or March 28, 2027. Of these warrants, (i) half of the warrants vested immediately upon execution of the Collaboration Agreement, to purchase 52,138 shares of the Company’s common stock and (ii) the remaining warrants will vest based on certain specified performance goals under the Collaboration Agreement. The fair value of the Collaboration Warrants upon issuance was \$173.60 per warrant based on the closing price of the Company’s common stock on March 28, 2022, less the exercise price.

The Collaboration Warrants were determined to be consideration payable to a customer or non-employee under ASC 718 and are recorded as equity on the consolidated balance sheets. The related expense is being recognized ratably as SG&A expense for marketing services to be provided over the estimated service period. The Company recognized SG&A expense, related to the vesting of the Collaboration Warrants, of \$2.0 million and \$1.8 million during the years ended December 31, 2023 and 2022, respectively. As of December 31, 2023, the remaining estimated vesting period is approximately 3.3 years.

During the fourth quarter of 2023, we recorded an impairment of \$5.3 million to fully impair the remaining book value of our Collaboration Warrants, included in impairment charges on our consolidated statements of operations. Refer to Note 15 — Impairment Charges for additional information.

Additional vesting of the Collaboration Warrants as a result of a project sold to Woodside or an affiliate will be accounted for as a reduction of the contract price pursuant to ASC 606. Collaboration Warrants that vest upon sales to other customers shall be capitalized as sales commission under ASC 340-40, *Other Assets and Deferred Costs — Contracts with Customers*, and recognized over the life of the contract to the customer or expensed immediately if the cost is not recoverable under the contract with the customer.

Vendor Warrants

On April 19, 2022, the Company issued warrants to purchase 2,197 shares of the Company’s common stock, at an exercise price of \$0.35 per share (the “2022 Vendor Warrants”), to a vendor as compensation for services to be performed by the vendor. The 2022 Vendor Warrants vested in 12 equal monthly installments and had a fair value upon issuance of \$0.3 million. The 2022 Vendor Warrants expire on April 19, 2028.

On August 14, 2023, the Company issued additional warrants to purchase 1,285 shares of the Company’s common stock at an exercise price of \$0.35 per share (the “2023 Vendor Warrants,” collectively with the 2022 Vendor Warrants, the “Vendor Warrants”), to a vendor as compensation for services to be performed by the vendor. The 2023 Vendor Warrants had a fair value upon issuance of \$9 thousand, based on the closing price of the Company’s common stock on August 14, 2023, less the exercise price. The 2023 Vendor Warrants expire on August 14, 2029.

The Vendor Warrants were determined to be consideration payable to a non-employee under ASC 718 and are recorded as equity on the consolidated balance sheets. As of January 18, 2024, all Vendor Warrants were fully vested.

Registration Rights

The holders of the Project Warrants, Collaboration Warrants and Vendor Warrants are entitled to certain demand registration rights. The Company will bear the expenses incurred in connection with the filing of any such registration statements.

Heliogen, Inc.
Notes to the Consolidated Financial Statements
For the Years Ended December 31, 2023 and 2022

Note 5 — Investments

The following table summarizes our investments:

<i>\$ in thousands</i>	December 31, 2023			December 31, 2022		
	Amortized Cost	Unrealized Losses	Fair Value	Amortized Cost	Unrealized Losses	Fair Value
Corporate bonds	\$ —	\$ —	\$ —	\$ 3,997	\$ (22)	\$ 3,975
Commercial paper	—	—	—	10,837	(3)	10,834
U.S. treasury bills	12,387	(1)	12,386	82,979	(284)	82,695
Total investments	<u>\$ 12,387</u>	<u>\$ (1)</u>	<u>\$ 12,386</u>	<u>\$ 97,813</u>	<u>\$ (309)</u>	<u>\$ 97,504</u>

As of December 31, 2023 and 2022, all of our investments are classified as available-for-sale, have original maturities of one year or less and are disclosed as investments on our consolidated balance sheets.

The cost of securities sold is based on the specific-identification method. During the year ended December 31, 2023, there were no sales of investments. During the year ended December 31, 2022, we realized losses of \$0.2 million on the sale of investments, included in other income, net on our consolidated statements of operations related to \$65.8 million in proceeds from the sale of investments.

There were no credit losses for available-for-sale securities recognized during the years ended December 31, 2023 and 2022 and no allowance for credit losses as of December 31, 2023 and 2022.

Note 6 — Fair Value of Financial Instruments

The Company's assets and liabilities measured at fair value on a recurring basis are summarized in the following table by fair value measurement level:

<i>\$ in thousands</i>	Level	December 31,	
		2023	2022
Assets:			
Investments	1	\$ 12,386	\$ 97,504
Liabilities:			
Public Warrants ⁽¹⁾	1	\$ 97	\$ 625
Private Warrants ⁽¹⁾	2	3	17
Contingent consideration ⁽²⁾	3	—	353

- (1) Included in warrant liabilities on the consolidated balance sheets.
(2) Included in other long-term liabilities on the consolidated balance sheets.

Private Warrants. The fair value of the Private Warrants approximates the fair value of the Public Warrants due to the existence of similar redemption provisions. As a result, the Company has determined that the fair value of the Private Warrants at a specific date would be similar to that of the Public Warrants, and thus the fair value is determined by using the closing price of the Public Warrants, which was \$0.01 as of December 31, 2023.

Contingent Consideration. In September 2021, Heliogen acquired HelioHeat GmbH (“HelioHeat”), a private limited liability company in Germany engaged in the development, planning and construction of renewable energy systems and components, including a novel solar receiver (the “HelioHeat Acquisition”). Part of the fair value of consideration transferred for the HelioHeat Acquisition was contingent consideration. The contingent consideration was measured at fair value using a probability-weighted discounted cash flow model utilizing estimated timing for the commissioning and required operational period of a commercial facility using the acquired particle receiver technology. The key inputs used in the valuation for the contingent consideration as of December 31, 2023 included the timing and probability of payment.

Heliogen, Inc.
Notes to the Consolidated Financial Statements
For the Years Ended December 31, 2023 and 2022

Note 6 — Fair Value of Financial Instruments (cont.)

The following table summarizes the activities of our Level 3 fair value measurement:

<i>(\$ in thousands)</i>	
Balance as of December 31, 2021.....	\$ 2,009
Change in fair value ⁽¹⁾	(1,656)
Balance as of December 31, 2022.....	\$ 353
Change in fair value ⁽¹⁾	(353)
Balance as of December 31, 2023.....	\$ —

(1) The changes in the fair value of the contingent consideration are included in other income, net on our consolidated statements of operations.

Note 7 — Inventories

Inventories consisted of the following:

<i>(\$ in thousands)</i>	December 31,	
	2023	2022
Raw materials.....	\$ 1,870	\$ 2,442
Finished goods.....	2,424	—
Work in process.....	53	—
Reserve for excess and obsolete inventory.....	(2,391)	—
Total inventories, net.....	\$ 1,956	\$ 2,442

During the year ended December 31, 2023, we recorded an inventory reserve of \$2.4 million, included in cost of services revenue on our consolidated statements of operations, to adjust for excess and obsolete inventories based on current future demand.

Note 8 — Property, Plant & Equipment

Major classes of property, plant and equipment, consisted of the following:

<i>(\$ in thousands)</i>	Estimated Useful Lives in Years	December 31,	
		2023	2022
Leasehold improvements.....	5 – 7	\$ 3,107	\$ 2,931
Computer equipment.....	2 – 3	2,165	2,124
Machinery, vehicles and other equipment.....	5 – 10	4,307	3,528
Furniture and fixtures.....	2 – 5	664	646
Construction in progress.....		125	419
Total property, plant and equipment.....		10,368	9,648
Accumulated depreciation.....		(4,791)	(2,577)
Total property, plant and equipment, net.....		\$ 5,577	\$ 7,071

Depreciation expense for property, plant and equipment was \$2.1 million and \$1.9 million for the years ended December 31, 2023 and 2022, respectively, and is recorded in SG&A expense with a portion allocated to cost of services revenue.

Heliogen, Inc.
Notes to the Consolidated Financial Statements
For the Years Ended December 31, 2023 and 2022

Note 8 — Property, Plant & Equipment (cont.)

During the year ended December 31, 2022, we recorded an impairment of property, plant and equipment of \$3.8 million, included in impairment charges on our consolidated statements of operations. Refer to Note 15 — Impairment Charges for additional information.

Note 9 — Goodwill and Intangible Assets

Goodwill

The changes in the carrying amount of goodwill are as follows:

\$ in thousands

Balance as of December 31, 2021.....	\$	4,204
Remeasurement period adjustments ⁽¹⁾		(3,093)
Currency translation adjustments.....		(107)
Balance as of December 31, 2022.....	\$	1,004
Currency translation adjustments.....		4
Impairment ⁽²⁾		(1,008)
Balance as of December 31, 2023.....	\$	<u>—</u>

- (1) Measurement period adjustment to goodwill associated with the finalization of the purchase price allocation for the HelioHeat Acquisition in the first quarter of 2022.
- (2) During the first quarter of 2023, the Company fully impaired goodwill related to the HelioHeat Acquisition. Refer to Note 15 — Impairment Charges for additional information.

Intangible Assets

Intangible assets consisted of the following:

<i>\$ in thousands</i>	Useful Life in Years	December 31, 2023			December 31, 2022		
		Gross Carrying Amounts	Accumulated Amortization	Intangible Assets, Net	Gross Carrying Amounts	Accumulated Amortization and Impairment	Intangible Assets, Net
Acquired developed technology rights ⁽¹⁾	5	\$ —	\$ —	\$ —	\$ 3,799	\$ (3,799)	\$ —
Software licenses.	3	259	(188)	71	259	(103)	156
Total		<u>\$ 259</u>	<u>\$ (188)</u>	<u>\$ 71</u>	<u>\$ 4,058</u>	<u>\$ (3,902)</u>	<u>\$ 156</u>

- (1) Gross carrying amount for December 31, 2022 reflects currency translation adjustments of \$0.4 million.

Developed technology rights represent the fair value of HelioHeat’s solar receiver technology acquired in the HelioHeat Acquisition. During the year ended December 31, 2022, we recorded an impairment of intangible assets of \$3.1 million associated with the acquired developed technology rights, included in impairment charges on our consolidated statements of operations. Refer to Note 15 — Impairment Charges for additional information.

Amortization expense related to intangible assets was \$0.1 million and \$0.7 million for the years ended December 31, 2023 and 2022, respectively. As of December 31, 2023, intangible assets will be fully amortized through 2025.

Heliogen, Inc.
Notes to the Consolidated Financial Statements
For the Years Ended December 31, 2023 and 2022

Note 10 — Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consisted of the following:

<i>\$ in thousands</i>	December 31,	
	2023	2022
Payroll and other employee benefits	\$ 1,084	\$ 811
Professional fees	1,913	729
Research, development and project costs	3,658	1,313
Inventory in-transit	29	654
Operating lease liabilities, current portion	1,792	1,570
Other accrued expenses	431	525
Total accrued expenses and other current liabilities	\$ 8,907	\$ 5,602

Note 11 — Leases

The Company has operating leases, primarily for real estate. There are no material residual value guarantees associated with any of the Company’s operating leases.

Lancaster, California. On May 28, 2019, we executed a three-year lease with the City of Lancaster to build our R&D test facility (the “Lancaster Lease”). The Company has extended the Lancaster Lease to May 31, 2024 under the renewal options provided for in the Lancaster Lease. The Company is currently in negotiations with the City of Lancaster to obtain a new lease.

On April 1, 2023, we executed a two-year lease with a purchase option for a site in Lancaster, California where we intend to build the “Proxima” green hydrogen project.

Pasadena, California. On May 23, 2021, we executed a seven-year lease for office space in Pasadena, California (the “Pasadena Office Lease”). The Pasadena Office Lease includes a termination option under which the Company can terminate the lease for any reason and at no cost, with proper notice, at any time effective on or after May 31, 2026. A portion of the office space subject to the Pasadena Office Lease is being subleased to Idealab. Refer to Note 17 — Related Party Transactions for additional information on the Idealab sublease.

Long Beach, California. Effective July 27, 2021, we executed a five-year lease for manufacturing space in Long Beach, California (the “Long Beach Lease”). The Long Beach Lease includes an option for the Company to renew for an additional five years, which we anticipate utilizing. As security for the Company’s faithful performance of its obligations under the Long Beach Lease, a commercial bank issued an unconditional and irrevocable \$1.5 million standby letter of credit payable to the lessor, which may be reduced after three years to \$1.0 million if certain conditions are met. The standby letter of credit is valid until cancelled or matured. The terms of the letter of credit are automatically extended for a term of one year at a time unless 60 days prior to the then current expiration date, the commercial bank sends the Company a notice that the letter of credit will not be extended. The Company intends to renew the standby letter of credit through November 30, 2026, after which it is no longer required under the agreement. No amounts have been drawn under the standby letter of credit.

Houston, Texas. On January 1, 2022, we executed a 26-month lease for office space in Houston, Texas (the “Houston Office Lease”) with an option for the Company to renew for an additional two years. On October 27, 2023, we executed an amendment to the Houston Office Lease. The amendment provides for an extension of 30-months to the Houston Office Lease terms commencing on March 1, 2024 and added additional office space.

Plains, Texas. On October 1, 2023, we executed a ten-year term lease in Plains, Texas for rural undeveloped agricultural land and we initiated construction on a Heliogen steam plant (the “Texas Steam Plant Lease”). The Texas Steam Plant Lease includes an option for the Company to extend for an additional ten years.

Heliogen, Inc.
Notes to the Consolidated Financial Statements
For the Years Ended December 31, 2023 and 2022

Note 11 — Leases (cont.)

The following table provides information on the amounts of our right-of-use assets and liabilities included on our consolidated balances sheets:

<i>\$ in thousands</i>	Financial Statement Line	December 31,	
		2023	2022
Operating lease right-of-use assets	Operating lease right-of-use assets	\$ 13,909	\$ 14,772
Operating lease liabilities, current	Accrued expenses and other current liabilities	1,792	1,570
Operating lease liabilities, non-current	Operating lease liabilities, net of current portion	12,878	13,921

The following table summarizes the components of lease costs:

<i>\$ in thousands</i>	Year Ended December 31,	
	2023	2022
Operating lease cost	\$ 2,759	\$ 2,707
Sublease income	(155)	(124)
Total lease cost	<u>\$ 2,604</u>	<u>\$ 2,583</u>

The Company has variable and other related lease costs which were not considered material for the years ended December 31, 2023 and 2022.

The weighted-average remaining lease terms and discount rates for the Company's operating leases were as follows:

	December 31,	
	2023	2022
Weighted-average remaining lease term (years)	7.0	7.8
Weighted-average discount rate	7.4%	6.9%

The following table summarizes the supplemental cash flow information related to leases:

<i>\$ in thousands</i>	Year Ended December 31,	
	2023	2022
Cash paid for amounts included in the measurement of operating lease liabilities	\$ 2,717	\$ 2,318
Right-of-use assets obtained in exchange for new operating lease liabilities . . .	847	201
Right-of-use asset removed upon lease termination	—	306

As of December 31, 2023, the maturities of our future undiscounted cash flows associated with our operating lease liabilities were as follows:

<i>\$ in thousands</i>	
2024	\$ 2,793
2025	2,774
2026	2,767
2027	2,762
2028	2,333
Thereafter	5,484
Total future lease payments	<u>\$ 18,913</u>
Less: Imputed interest	<u>(4,243)</u>
Present value of future lease payments	<u>\$ 14,670</u>

Heliogen, Inc.
Notes to the Consolidated Financial Statements
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Note 12 — Equity

Common Stock

The Company is authorized to issue 500,000,000 shares of common stock, \$0.0001 par value per share. As of December 31, 2023 and 2022, there were 5,946,315 and 5,511,839 shares of common stock issued and outstanding, respectively.

Preferred Stock

The Company is authorized to issue 10,000,000 shares of preferred stock, \$0.0001 par value per share. As of December 31, 2023, no shares of preferred stock have been issued. The Company's Board of Directors (the "Board") has the authority to issue shares of preferred stock and to determine the rights, preferences, privileges and restrictions, including voting rights, of those shares.

ATM Agreement

On September 13, 2023, the Company entered into a Sales Agreement with The Benchmark Company, LLC, as agent ("Benchmark"), pursuant to which the Company may, from time to time, offer and sell shares of the Company's common stock in an at-the-market offering program through or to Benchmark as its sales agent or principal (the "ATM Agreement"). The offer and sale of the Company's common stock will be made pursuant to the Company's effective shelf registration statement on Form S-3. Under the ATM Agreement, the Company will pay Benchmark an aggregate commission of up to 3% of the aggregate gross proceeds of any shares of the Company's common stock sold under the ATM Agreement in an amount of up to \$40.0 million. As of December 31, 2023, no shares of common stock were sold under the ATM Agreement.

On November 7, 2023, the Company received a letter from the NYSE that it had determined to commence proceedings to delist the Company's common stock from the NYSE, and trading of the Company's common stock was immediately suspended. The Company may not utilize the ATM Agreement while trading of its common stock is suspended or delisted from the NYSE.

Stockholders Rights Plan

On April 16, 2023, the Company's Board declared a dividend of one preferred share purchase right ("Right") for each outstanding share of the Company's common stock to the stockholders of record as of the close of business on April 28, 2023, and adopted a limited duration stockholder rights plan, effective immediately, as set forth in the Rights Agreement, dated as of April 16, 2023 (the "Rights Agreement"), by and between the Company and Continental Stock Transfer & Trust Company, as rights agent. The Rights will be exercisable only if a person or group (an "acquiring person") acquires or launches a tender or exchange offer to acquire beneficial ownership (which includes certain synthetic equity interests) of 12.5% or more of the Company's outstanding common stock (20% for certain passive institutional investors as described in the Rights Agreement) without the approval of the Board. Once the Rights become exercisable, each Right will entitle its holder (other than the acquiring person, whose rights will become void) to purchase for \$122.50, subject to adjustment, additional shares of our common stock having a market value of twice such exercise price. In addition, the Rights Agreement has customary flip-over and exchange features. The Rights will expire on April 17, 2024 unless the rights are earlier redeemed or exchanged by the Company. The Rights Agreement will reduce the likelihood that any entity, person or group gains control of Heliogen through open market accumulation without paying all stockholders an appropriate control premium or without providing our Board sufficient time to make informed judgments and take actions that are in the best interests of all stockholders.

Heliogen, Inc.
Notes to the Consolidated Financial Statements
For the Years Ended December 31, 2023 and 2022

Note 13 — Loss per Share

Basic and diluted loss per share (“EPS”) were as follows:

<i>\$ in thousands, except share and per share data</i>	Year Ended December 31,	
	2023	2022
Numerator:		
Net loss	\$ (129,598)	\$ (142,000)
Denominator:		
Weighted-average common shares outstanding	5,754,037	5,390,012
Weighted-average impact of warrants ⁽¹⁾	68,352	43,900
Denominator for basic EPS – weighted-average shares	5,822,389	5,433,912
Effect of dilutive securities	—	—
Denominator for diluted EPS – weighted-average shares	5,822,389	5,433,912
EPS – Basic and Diluted	\$ (22.26)	\$ (26.13)

(1) Warrants that have a \$0.35 exercise price per common share are assumed to be exercised when vested because common shares issued for little consideration upon exercise are included in outstanding shares for the purposes of computing basic and diluted EPS.

The following securities were excluded from the calculation of loss per share as their impact would be anti-dilutive:

	Year Ended December 31,	
	2023	2022
Stock options	204,394	891,509
Shares issuable under the employee stock purchase plan	11,371	17,145
Unvested restricted stock units	339,287	327,141
Restricted shares issued upon the early exercise of unvested stock options	—	1,733
Unvested warrants	59,540	68,556
Vested warrants	244,762	244,762

Note 14 — Share-based Compensation

On December 28, 2021, the stockholders approved the Heliogen, Inc. 2021 Equity Incentive Plan (the “2021 Plan”) and the Heliogen, Inc. 2021 Employee Stock Purchase Plan (the “2021 ESPP”). The 2021 Plan aims to incentivize employees, directors and consultants who render services to the Company through the granting of stock awards, including stock options, stock appreciation right awards, restricted stock awards, restricted stock unit (“RSU”) awards, performance awards and other stock-based awards.

As of December 31, 2023, 338,032 shares of common stock were reserved for issuance under the 2021 Plan. In addition, such aggregate number of shares of common stock will automatically increase on January 1 of each year, beginning on January 1, 2022 and ending on (and including) January 31, 2031, in an amount equal to 4% of the total number of shares of the Company’s common stock outstanding on December 31 of the preceding year or a lesser number of shares determined by the Board. The aggregate number of shares of common stock that may be issued pursuant to the exercise of incentive stock options under the 2021 Plan is 1,018,642 shares.

Heliogen, Inc.
Notes to the Consolidated Financial Statements
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Note 14 — Share-based Compensation (cont.)

The following table summarizes our share-based compensation expense by the affected line on our consolidated statements of operations:

<i>\$ in thousands</i>	Year Ended December 31,	
	2023	2022
Cost of services revenue	\$ 550	\$ 1,627
Selling, general and administrative	(6,464)	34,423
Research and development	750	6,811
Total share-based compensation expense	<u>\$ (5,164)</u>	<u>\$ 42,861</u>

The following table summarizes our share-based compensation expense by grant type:

<i>\$ in thousands</i>	Year Ended December 31,	
	2023	2022
Stock options	\$ (11,738)	\$ 19,672
Restricted stock units	6,220	22,900
Employee stock purchase plan	238	75
Vendor Warrants	116	214
Total share-based compensation expense	<u>\$ (5,164)</u>	<u>\$ 42,861</u>

Stock Options

We value our stock options using the Black-Scholes option pricing model, which was developed for use in estimating the fair value of stock options. Black-Scholes and other option valuation models require the input of highly subjective assumptions, including the fair value of our common stock, expected term, expected volatility, risk-free interest rate and expected dividends. The Company did not grant any stock option awards during the years ended December 31, 2023 and 2022.

The following table summarizes the Company's stock option activity:

<i>\$ in thousands, except share and per share data</i>	Number of Shares	Weighted Average Exercise Price (\$)	Weighted Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value (\$)
Outstanding balance as of December 31, 2021	1,166,437	\$ 83.88	8.41	
Exercised	(229,955)	4.93		
Forfeited	(43,807)	14.39		
Expired	<u>(1,166)</u>	28.63		
Outstanding balance as of December 31, 2022	891,509	107.85	7.62	\$ 10,725
Exercised	(254,139)	4.57		
Forfeited	(332,585)	203.48		
Expired	<u>(100,391)</u>	250.58		
Outstanding balance as of December 31, 2023	<u>204,394</u>	\$ 12.64	5.82	\$ 6
Exercisable as of December 31, 2023	<u>163,783</u>	\$ 11.60	5.51	\$ 6

The total intrinsic value of stock options exercised was \$1.6 million and \$29.0 million for the years ended December 31, 2023 and 2022, respectively. As of December 31, 2023, the unrecognized compensation cost related to stock options was \$0.7 million which is expected to be recognized over a weighted-average period of 1.3 years.

Heliogen, Inc.
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Note 14 — Share-based Compensation (cont.)

During the year ended December 31, 2023, we recognized a net reduction of \$12.5 million in share-based compensation expense, included in SG&A, as a result of 279,589 stock options forfeited in connection with the termination of our former Chief Executive Officer in the first quarter of 2023.

Restricted Stock Units

The fair value of RSU awards is measured at the fair value of the Company's common stock on the grant date. For the years ended December 31, 2023 and 2022, we estimated the fair value of RSU awards using the closing stock price on the grant date or the modification date.

The following table summarizes the Company's RSU award activity:

	Number of Shares	Weighted Average Grant Date Fair Value (\$)
Unvested as of December 31, 2021.....	126,831	\$ 314.16
Granted	260,263	94.94
Vested	(30,792)	261.73
Forfeited	(29,161)	219.53
Unvested as of December 31, 2022.....	327,141	153.12
Granted	356,230	9.63
Vested	(156,646)	109.60
Forfeited	(187,438)	83.51
Unvested as of December 31, 2023.....	<u>339,287</u>	\$ 58.92

The grant date fair value of vested RSU awards was \$17.2 million and \$8.1 million for the years ended December 31, 2023 and 2022, respectively. As of December 31, 2023, the unrecognized compensation cost related to unvested RSU awards was \$12.2 million which is expected to be recognized over a weighted-average period of 1.2 years.

During the year ended December 31, 2022, in connection with the termination of certain former employees, we modified certain RSU awards to accelerate the vesting period, which resulted in a reduction of total incremental cost of \$0.7 million.

Employee Stock Purchase Plan

Under the 2021 ESPP, eligible employees may elect to purchase the Company's common stock at the end of each offering period, which will generally be six months, at a 15% discount to the market price of the Company's common stock at the beginning or the end of each offering period on May 15 and November 15 of each year, whichever is lower, using funds deducted from their payroll during the offering period. Eligible employees can authorize payroll deductions of up to 15% of their eligible earnings, subject to certain limitations.

As of December 31, 2023, 210,174 shares of common stock were reserved for issuance under the 2021 ESPP. In addition, such aggregate number of shares of common stock will automatically increase on January 1 of each year, beginning on January 1, 2022 and ending on (and including) January 1, 2031. The number of shares added each calendar year will equal the lesser of (i) 1% of the total number of shares of common stock outstanding on December 31 of the preceding calendar year, (ii) 271,638 shares, or (iii) a lesser number of shares than described under (i) or (ii) as determined by the Board. As of December 31, 2023, 33,156 shares have been issued under the 2021 ESPP.

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Note 15 — Impairment Charges

Impairment charges consisted of the following:

<i>\$ in thousands</i>	Year Ended December 31,	
	2023	2022
Property, plant and equipment	\$ —	\$ 3,779
Goodwill	1,008	—
Acquired developed technology rights	—	3,143
Cloud computing arrangements ⁽¹⁾	1,484	—
Collaboration Warrants ⁽²⁾	5,282	—
Total impairment charges	\$ 7,774	\$ 6,922

- (1) Prior to the impairment, cloud computing arrangements were included in other long-term assets on our consolidated balance sheets.
- (2) Prior to the impairment, Collaboration Warrants of \$1.6 million was included in prepaid and other current assets and \$3.7 million was included in Collaboration Warrants, non-current on our consolidated balance sheets.

As discussed in Note 1 — Organization and Basis of Presentation — *Liquidity and Going Concern*, based on our liquidity position as of December 31, 2023 and our current forecast of operating results and cash flows, we anticipate that we may not have sufficient resources to fund our cash obligations for the next 12 months after the issuance date of the consolidated financial statements. Management concluded that these factors constituted a triggering event and as a result, we performed an impairment assessment for our long-lived assets, including right-of-use assets. While the Company continues to believe in the long-term commercial viability of our products and technology, we also believe that we will continue to incur losses for a longer period than was originally estimated and will require additional cash investment before we can generate positive cash flow. As a result, during the fourth quarter of 2023, we recorded impairments of \$1.5 million to fully impair the remaining book value of our cloud computing implementation costs and \$5.3 million to fully impair the remaining book value of our Collaboration Warrants.

During the first quarter of 2023, we assessed our goodwill for impairment due to a sustained decrease in the Company's market capitalization. The Company concluded that it was more likely than not that the fair value of its reporting unit was less than its carrying amount as of March 31, 2023. As a result, we fully impaired goodwill and recorded an impairment of \$1.0 million during the first quarter of 2023.

During the year ended December 31, 2022, we recorded an impairment of \$3.8 million to property, plant and equipment related to construction in progress for certain project-related costs as management determined the project was no longer probable of being constructed.

During the year ended December 31, 2022, we recorded an impairment of \$3.1 million to intangible assets associated with the acquired developed technology rights as management determined that the deployability of this technology has been delayed, resulting in a higher likelihood of this technology becoming obsolete during its useful life. As a result, we determined the carrying value of our acquired developed technology rights were not recoverable.

Note 16 — Income Taxes

Provision (benefit) for income taxes consisted of the following:

<i>\$ in thousands</i>	Year Ended December 31,	
	2023	2022
Current:		
State	\$ 1	\$ 4
Deferred:		
Foreign	—	(1,020)
Provision (benefit) for income taxes	\$ 1	\$ (1,016)

Heliogen, Inc.
Notes to the Consolidated Financial Statements
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Note 16 — Income Taxes (cont.)

The domestic and foreign components of pre-tax income were as follows:

<i>\$ in thousands</i>	Year Ended December 31,	
	2023	2022
Domestic	\$ (129,092)	\$ (136,881)
Foreign	(505)	(6,135)
Net loss before taxes	<u>\$ (129,597)</u>	<u>\$ (143,016)</u>

The effective tax rate of the Company differed from the federal statutory rate as follows:

<i>\$ in thousands</i>	Year Ended December 31,			
	2023		2022	
U.S. federal statutory income tax rate	\$ (27,215)	21.0%	\$ (30,033)	21.0%
State taxes, net of federal benefit	(9,566)	7.4%	(9,125)	6.4%
Warrant liabilities remeasurement	(114)	0.1%	(2,923)	2.0%
Share-based compensation	(1,303)	1.0%	4,401	(3.1)%
Goodwill impairment	212	(0.2)%	—	—%
Valuation allowance	37,751	(29.1)%	37,355	(26.1)%
Other	236	(0.2)%	(691)	0.5%
Provision (benefit) for income taxes	<u>\$ 1</u>	<u>—%</u>	<u>\$ (1,016)</u>	<u>0.7%</u>

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. A valuation allowance is established when necessary to reduce deferred tax assets to the amounts more likely than not to be realized. The increase in the valuation allowance during the year ended December 31, 2023 was due to net increases in our net deferred tax assets. No portion of our valuation allowance was released into our income tax benefit during the year ended December 31, 2023.

The components of the deferred tax assets and liabilities were as follows:

<i>\$ in thousands</i>	December 31,	
	2023	2022
Deferred tax assets:		
Net operating loss carryforwards	\$ 66,701	\$ 44,221
Share-based compensation	3,139	3,779
Operating lease liabilities	4,399	4,628
Capitalized research and development costs	7,985	5,716
Provision for contract losses	22,452	8,221
Other	4,571	1,468
Gross deferred tax assets	109,247	68,033
Less: Valuation allowance	<u>(96,346)</u>	<u>(58,595)</u>
Net deferred tax assets	12,901	9,438
Deferred tax liabilities:		
Depreciation and amortization	(1,340)	(1,537)
Operating lease right-of-use assets	(4,158)	(4,419)
Other	(7,403)	(3,482)
Total deferred tax liabilities	<u>(12,901)</u>	<u>(9,438)</u>
Net deferred income taxes	<u>\$ —</u>	<u>\$ —</u>

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Notes to the Consolidated Financial Statements
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Note 16 — Income Taxes (cont.)

In assessing the realizability of deferred tax assets, we consider whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Based upon the analysis of federal and state deferred tax balances, future tax projections and availability of taxable income in the carryback period, the Company recorded a valuation allowance against the federal and state deferred tax assets of \$96.3 million and \$58.6 million as of December 31, 2023 and 2022, respectively.

As of December 31, 2023, the Company has federal net operating loss carryforwards of \$218.2 million and state net operating loss carryforwards of \$228.1 million. The federal and state net operating losses will expire starting with 2033 and a portion of the federal net operating losses may be carried forward indefinitely. As of December 31, 2023, the Company has foreign net operating losses carryforwards of \$2.7 million, which may be carried forward indefinitely.

The 2020 through 2023 tax years remain open to examination by the Internal Revenue Service and the 2019 through 2023 tax years remain open to examination by the state tax authorities. In addition, the utilization of net loss carryforwards is subject to federal and state review for the periods in which those net losses were incurred. The Company is not under audit by any taxing jurisdictions at this time.

Utilization of the net operating loss and research tax credit carryforwards are subject to an annual limitation based on changes in ownership, as defined by Sections 382 and 383 of the Internal Revenue Code of 1986, as amended.

Note 17 — Related Party Transactions

Idealab

Bill Gross, our former Chief Executive Officer, serves as the chairman of the board of directors of Idealab, a California Corporation (“Idealab”). Idealab, a holder of more than 5% of Heliogen’s outstanding voting stock through its wholly-owned subsidiary, Idealab Holdings, LLC, is a party to a lease with the Company and provides various administrative services through service agreements and certain other operational support. All expenses or amounts paid to Idealab pursuant to these agreements are included in SG&A expense on the consolidated statements of operations. The amounts charged to us or reimbursed by us under these agreements for the years ended December 31, 2023 and 2022 were \$0.3 million and \$0.5 million, respectively.

In May 2021, Heliogen sub-leased a portion of its office space in Pasadena, California to Idealab. In March and May 2023, Heliogen entered into amendments to the sub-lease with Idealab. Refer to Note 11 — Leases for additional information regarding our Pasadena, California office space lease. The sub-lease has an initial annual base rent of \$0.2 million and contains a 3% per annum escalation clause. The sub-lease is subject to termination by either party upon six months prior written notice. Concurrently with the parties’ entering into the sub-lease agreement, Idealab and Heliogen also entered into certain property management and shared facilities staffing agreements, which provide that Heliogen pays Idealab \$3 thousand per month for building management services and \$13 thousand per month for shared facilities staff and services (with proportional reimbursement of salaries). Such agreements are subject to termination by either party with 90 days prior written notice. The Company recognized rental revenue of \$0.2 million and \$0.1 million for years ending December 31, 2023 and 2022, respectively, from Idealab included in other income, net on our consolidated statements of operations.

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Note 17 — Related Party Transactions (cont.)

NantG Power, LLC

On March 24, 2023, Heliogen entered into an agreement with NantG Power, LLC (“NantG”), an affiliated sister-company to Nant Capital LLC, a holder of more than 5% of Heliogen’s outstanding voting stock, to provide front-end concept design and R&D engineering services. During the year ended December 31, 2023, the Company recognized \$0.1 million of services revenue from NantG.

Note 18 — Commitments and Contingencies

We are involved in various claims and lawsuits arising in the normal course of business, including proceedings involving tort and other general liability claims and other miscellaneous claims. We recognize a liability when we believe the loss is probable and reasonably estimable. We currently believe that the ultimate outcome of such lawsuits and proceedings will not, individually or in the aggregate, have a material effect on our consolidated financial statements as of and for the year ended December 31, 2023.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosures

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Interim Chief Financial Officer, evaluated, as of the end of the period covered by this Annual Report on Form 10-K, the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act). Based on that evaluation, and as a result of the material weaknesses described below, our Chief Executive Officer and Interim Chief Financial Officer concluded that, as of December 31, 2023, our disclosure controls and procedures were not effective.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Exchange Act Rules 13a-15(f) and 15d-15(f). Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP.

Management assessed the effectiveness of our internal control over financial reporting as of December 31, 2023 based on the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control — Integrated Framework (2013). Based on our assessment, management concluded that, as of December 31, 2023, our internal control over financial reporting was not effective due to the material weaknesses identified in connection with the filing of the Annual Report on Form 10-K/A for the year ended December 31, 2021, as described below, which have not yet been fully remediated.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

The material weaknesses are as follows:

- We did not design or maintain an effective control environment specific to the areas of financial reporting and our close process, including effective review of technical accounting matters (e.g., revenue recognition).
- We did not design or maintain an effective control environment to ensure proper segregation of duties, including separate review and approval of journal entries and access within our accounting system.

These material weaknesses resulted in the misstatement of our revenue, costs of revenue and provision for contract losses and in the restatement of the Company's financial statements for the period ended December 31, 2021. Additionally, the material weaknesses described above could result in a misstatement of account balances or disclosures that would result in a material misstatement of the annual or interim consolidated financial statements that would not be prevented or detected.

This Annual Report on Form 10-K does not include, and we are not required to include, an attestation report of our independent registered public accounting firm on the effectiveness of our internal control over financial reporting pursuant to Section 404(b) of the Sarbanes-Oxley Act of 2002 due to an exemption for "emerging growth company" as defined in the JOBS Act.

Remediation Plan

In 2023, management evaluated previously identified material weaknesses and has taken the following actions to remediate the deficiencies in our internal control over financial reporting:

- We identified the controls within each of the Company's processes.
- Internal Audit, with the assistance of a third-party consultant, tested the design of all relevant internal controls. Results of testing performed by Internal Audit were provided to management for review.

- Internal Audit mapped relevant internal controls identified and implemented during 2022 and 2023 to the specific material weaknesses. The objective of this mapping was to evaluate the sufficiency and appropriateness of the implemented controls to prevent and mitigate previous control failures from reoccurring.
- We continued the implementation of our company-wide enterprise resource planning system and other applications, including system configuration parameters that require segregation of journal entry review and approval.

These actions are intended to facilitate the enhanced review of underlying information related to financial reporting. They also aim to formalize and improve our internal controls over financial reporting both in scope and quality. We are committed to addressing the underlying causes of the material weaknesses. Despite ongoing efforts to remedy these weaknesses, their resolution will only be acknowledged when our comprehensive remediation plan has been fully implemented.

Although we have made significant progress in remediating the aforementioned deficiencies as outlined above, the material weaknesses continued to exist as of December 31, 2023.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2023 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. In January 2024, we had changes to our executive team. Our Chief Financial Officer resigned effective January 11, 2024 and the Board appointed an Interim Chief Financial Officer. In addition, our Chief Accounting Officer resigned effective January 26, 2024 and a new Chief Accounting Officer was appointed at the same time.

Inherent Limitations on Effectiveness of Controls

Management recognizes that a control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints and that management is required to apply its judgment in evaluating the benefits of possible controls and procedures relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud or error, if any, have been detected. These inherent limitations include the realities that judgments in decision making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

Item 9B. Other Information

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

Part III

Item 10. Directors, Executive Officers and Corporate Governance

Executive Officers and Directors

The following table sets forth the name, age and position of each of the directors and executive officers of Heliogen as of March 20, 2024:

Name	Age	Position
Executive Officers		
Christiana Obiaya ⁽¹⁾⁽⁶⁾	41	Chief Executive Officer; Director
Alan Gahm ⁽²⁾	66	Interim Chief Financial Officer
Thomas Doyle	62	Chief Commercial Officer
Non-Employee Directors		
Julie Kane ⁽⁵⁾	65	Chairperson of the Board
Stacey Abrams ⁽⁵⁾⁽⁶⁾	50	Director
Barbara Burger ⁽⁴⁾⁽⁶⁾	63	Director
Robert Kavner ⁽³⁾⁽⁵⁾	80	Director
Roger Lazarus ⁽³⁾⁽⁴⁾	65	Director
Phyllis W. Newhouse ⁽³⁾⁽⁴⁾	61	Director
Suntharesan Padmanathan ⁽⁶⁾	65	Director

- (1) On February 5, 2023, the Board appointed Christiana Obiaya, previously our Chief Financial Officer, as Chief Executive Officer and a director of Heliogen.
- (2) On January 11, 2024, the Board appointed Alan Gahm as Interim Chief Financial Officer.
- (3) Member of Heliogen's Audit Committee.
- (4) Member of Heliogen's Compensation and Human Capital Committee.
- (5) Member of Heliogen's Nominating and Corporate Governance Committee.
- (6) Member of Heliogen's Corporate Strategy Committee.

Executive Officers

Christiana Obiaya. On February 5, 2023, Ms. Obiaya was appointed to serve as Heliogen's Chief Executive Officer and a member of the Board, having previously served as the Chief Financial Officer since March 2021. Prior to joining Heliogen, Ms. Obiaya held roles as Chief Financial Officer and head of strategy for Bechtel Energy ("Bechtel") from 2017 to 2021 as well as various other leadership roles spanning finance, strategy, project development and investment, and project execution from 2010 to 2017. Prior to Bechtel, Ms. Obiaya worked on renewable energy projects in Kenya and India from 2008 to 2009. Ms. Obiaya began her nearly 20-year career as an engineer, designing products and scaling up manufacturing processes at a multinational consumer goods company from 2004 to 2008. Ms. Obiaya also serves as a director of Tetra Tech, Inc. (NASDAQ: TTEK) since January 2023 and is a member of the compensation and strategic planning and enterprise risk committees. Ms. Obiaya graduated from MIT with a B.S. in Chemical Engineering and an MBA from MIT Sloan School of Management. Ms. Obiaya was selected to serve on our Board because of her experience in leadership roles and perspective in corporate strategy.

Alan Gahm. On January 11, 2024, Mr. Gahm was appointed to serve as Heliogen's Interim Chief Financial Officer. Mr. Gahm has been a financial consultant through consulting firm, A&K Financial Consulting Services, LLC ("A&K Consulting"), since 2022. Prior to A&K Consulting, Mr. Gahm was Global Controller for Ascend Performance Materials from 2016 to 2022. Ascend is a privately held global chemical manufacturer of nylon, intermediates, chemicals, and specialty products. Mr. Gahm was previously Vice President, Controller at Universal Weather and Aviation from 2010 to 2016 and Vice President, Chief Accounting Officer for Integrated Electrical Services from 2008 to 2010. Mr. Gahm has also previously served as Global Corporate Controller of Kraton Polymers, Chief Operating Officer of Profit Technologies Corporation (an international audit and consulting firm), and Vice President, Finance and Corporate Controller for Koch Industries ("KoSa"). Prior to these positions, Mr. Gahm worked in several finance management positions for Shell Oil Company, including business segment Chief Financial Officer positions. Mr. Gahm previously served as Heliogen's Interim Chief Accounting Officer during the third quarter of 2022. Mr. Gahm holds a B.A. in Accounting and Finance from the University of West Florida.

Thomas Doyle. Mr. Doyle has been Heliogen's Chief Commercial Officer since October 2021 and was Co-Head of Project Development from January 2021 to October 2021. Prior to joining Heliogen, Mr. Doyle served as an Executive Advisor to Morgan Stanley Energy Partners ("MSEP") from January 2020 to January 2021 and as Chief Executive Officer of Reterro, Inc. from June 2016 to December 2019. Mr. Doyle also held roles as Chief Executive Officer of NRG Renew from October 2009 through January 2016 and Executive Vice President of Commercial Execution at Brightsource Energy. Mr. Doyle also serves on the board of directors of one of MSEP's portfolio companies. Mr. Doyle holds an MBA and a B.S. in Mechanical Engineering from the University of Arizona.

Non-Employee Directors

Julie Kane. Ms. Kane has served as a member of our Board since December 2021 and as the chairperson of the Board since March 2023. Previously, Ms. Kane served as a director of SIGA Technologies, Inc. (Nasdaq: SIGA) from May 2019 to June 2023 where she chaired the compensation committee and nominations and corporate governance committee. From 2015 to 2020, Ms. Kane served as the Senior Vice President, Chief Ethics and Compliance Officer, and Deputy General Counsel of PG&E Corporation. Prior to joining PG&E Corporation, Ms. Kane worked at Avon Products, Incorporated as Vice President and General Counsel of Avon North America and Corporate Legal Functions from 2013 to 2015. Prior to joining Avon in 2013, Ms. Kane held a number of senior roles with Novartis Corporation and its affiliates over a 25-year period. Ms. Kane is a member of the board of directors of the Ethics Resource Center in Washington, D.C., and formerly served on the Board of Governors of the Commonwealth Club of California. Ms. Kane holds a B.A. in political science from Williams College and J.D. from the University of San Francisco School of Law. Ms. Kane is a member of the California state bar.

Ms. Kane was selected to serve on our Board because of her decades of experience spanning several industries, including pharmaceuticals, chemicals and agribusiness, beauty, direct-selling and dual-fuel utilities, along with her experience in environmental, social and governance matters, provides our Board with valuable insight into many aspects of our business.

Stacey Abrams. Ms. Abrams has served as a member of our Board since December 2021. Ms. Abrams has served as the Chief Executive Officer of Sage Works Production, Inc. since 2020 and as the Chief Executive Officer of Sage Works, LLC since September 2002. She co-founded Insomnia Consulting in 2006 to specialize in development, investment and consulting for complex infrastructure projects, including transportation, waste-by-rail transfer, energy, facilities and water. In addition, Ms. Abrams founded and served as executive director of the Southern Economic Advancement Project from March 2019 until December 2021. From 2007 to 2017, Ms. Abrams served as a State Representative of the Georgia General Assembly and as the minority leader from 2011 to 2017. She previously served as the Chief Executive Officer of the Third Sector Development from August 1998 until March 2019. Ms. Abrams previously also co-founded and served as Senior Vice President of NOWaccount Network Corporation from 2010 to 2016. Ms. Abrams currently serves on the boards of directors of a number of organizations, including ShoulderUp Technology Acquisition Corp., the National Democratic Institute for International Affairs and the Marguerite Casey Foundation. Ms. Abrams has a strong record on climate change, environmental justice and climate action. She has served on the advisory boards of World War Zero (founded by former Secretary of State John Kerry) and Climate Power 2020 (founded by John Podesta). Ms. Abrams received a B.A. in Interdisciplinary Studies from Spelman College, a Master of Public Affairs from the University of Texas Lyndon B. Johnson School of Public Affairs, and a J.D. from Yale University.

Ms. Abrams was selected to serve on our Board because of her expertise in environmental justice and climate action and her leadership experience in both government and the private sector.

Barbara Burger. Dr. Burger has served as a member of our Board since September 2022. Dr. Burger currently serves as a senior advisor for Syzygy Plasmonics (since June 2022), Epicore Biosystems (since July 2022) and Spark (since April 2023). She has also served on the Emerald Technology Ventures Advisory Council since April 2022, as a senior advisor to Energy Impact Partners since April 2023 and as an advisor to Lazard Ltd. since October 2022. Dr. Burger also holds a wide range of civic and industrial leadership governing board and advisory council positions including the MIT Energy Initiative, Houston Symphony Society, Oil and Gas Climate Initiative Climate Investment LLP, the National Renewable Energy Laboratory, the Greentown Labs board of directors, Activate, and Rice University's Corporate Innovation Practice. Previously, Dr. Burger was the Vice President, Innovation at Chevron and President of Chevron Technology Ventures from June 2013 to April 2022. Prior to that, Dr. Burger held a number of management positions at Chevron across International Marketing, Chemicals, Technology Marketing, Lubricants, Ventures, and Innovation.

Dr. Burger has spent most of her career focused on the big challenges in energy transition, equity, and access to education. Dr. Burger is an active alumnus of the University of Rochester where she serves on the Board of Trustees and chairs the River Campus Libraries National Council. She also established the Barbara J. Burger Endowed Scholarship in the Sciences and founded the Barbara J. Burger iZone, where students generate, refine, and communicate ideas for social, cultural, community and economic impact. At the California Institute of Technology, Dr. Burger supports graduate women in chemistry and serves on the Strategic Advisory Board for the Resnick Sustainability Institute. Dr. Burger holds a bachelor's degree in chemistry from the University of Rochester, a PhD degree in chemistry from the California Institute of Technology and an MBA degree in finance, with academic honors, from the University of California, Berkeley.

Dr. Burger was selected to serve on our Board because of her expertise in the energy and chemical sectors and her deep experience in industrial growth and innovation.

Robert Kavner. Mr. Kavner has served as a member of our Board since December 2021. Since 1995, Mr. Kavner has been an independent venture capital investor focusing on investments in technology companies. From January 1996 through December 1998, Mr. Kavner served as President and Chief Executive Officer of On Command Corporation, a provider of on-demand video systems for the hospitality industry. From 1984 to 1995, Mr. Kavner held several senior management positions at AT&T, including senior vice president, Chief Financial Officer and Chief Executive Officer of Multimedia Products and Services Group and chairman of AT&T Venture Capital Group. Mr. Kavner also served as a member of AT&T's executive committee. Prior to joining AT&T, Mr. Kavner was a partner of PricewaterhouseCoopers. Mr. Kavner currently serves on the boards of directors of a number of privately-held companies, including several early stage companies. He has previously served on the board of directors of a number of public companies, including serving as chairman of Earthlink Networks, CitySearch, Overture, and Pandora Media, and as a member of the boards of Sun Microsystems, Philips Telecommunications, Fleet Bank of Boston, Tandem Computers, and Duracell International. Mr. Kavner received a B.B.A. from Adelphi University and attended the Advanced Management Program at the Amos Tuck School at Dartmouth College.

Mr. Kavner was selected to serve on our Board because of his leadership experience, including his previous service on the boards of directors of a number of public companies, his experience working with a number of variety of technology companies and his expertise in finance and accounting.

Roger Lazarus. Mr. Lazarus has served as a member of our Board since March 2, 2023. Mr. Lazarus is currently the Chief Financial Officer of Chain Bridge I, a special purpose acquisition company, and is also a venture partner to Marcy Venture Partners and its portfolio companies. From 1997 to 2019 Mr. Lazarus worked as a partner at Ernst & Young LLP advising on acquisitions and investments for corporate and private equity clients. During his career with Ernst & Young, he served in a variety of roles, including as the Chief Operating Officer ("COO") and Board member of Ernst & Young's LatAm North region, where he managed internal operations and oversaw financial and operating reporting for 13 countries from 2017 to 2019, as a managing partner and COO of Ernst & Young Colombia from 2013 to 2019, and as the managing partner of Ernst & Young's West Region Transactions service-line from 2006 to 2009. Mr. Lazarus is a director and the chair of the Audit Committee and Compensation Committee of LatAm Logistic Properties S.R.L, a 3PL real estate developer in Costa Rica, Colombia and Peru. He is chair of the Audit Committee of the Goldman Environmental Foundation, the sponsor of the annual Goldman Environmental Prize. Mr. Lazarus is a Chartered Accountant (ICAEW), holds a BA with honors in Economics from the University of York, England and completed the international certification of the Institute of Directors (London, England) in 2020.

Mr. Lazarus was selected to serve on our Board because of his valuable financial and operational expertise across both developed and emerging markets.

Phyllis Newhouse. Ms. Newhouse has served as a member of our Board since December 2021. Ms. Newhouse is a serial entrepreneur and investor, retired military senior officer and mentor. Ms. Newhouse is the founder of XtremeSolutions, Inc., an Atlanta-based cybersecurity firm that offers service in both the federal and private sectors ("XSI"). Since founding XSI in June 2002, Ms. Newhouse has served as XSI's Chief Executive Officer and has led the company in offering a wide range of IT expertise and provides industry leading, state-of-the-art information technology and cybersecurity services and solutions. Ms. Newhouse is also the founder and Chief Executive Officer of ShoulderUp Technology Acquisition Corp., a blank check company which completed its initial public offering in November 2021. Prior to founding XSI, Ms. Newhouse served as a member of the United States Army for more than 22 years, where she focused on national security issues and helped to establish the Cyber Espionage Task Force. Ms. Newhouse currently serves on the board of directors of Sabre GLOB Inc. (NASDAQ: SABR), as well as for the

Technology Association of Georgia and Business Executives for National Security. Ms. Newhouse is also the founder of ShoulderUp, a nonprofit organization dedicated to connecting and supporting women on their entrepreneurial journeys. Additionally, Ms. Newhouse serves on the executive board and is a member of the Women President Organization and serves on the board of Girls Inc., a nonprofit organization that encourages all girls to be “Strong, Smart, and Bold.” Ms. Newhouse is known as a pioneer in cybersecurity. She has received numerous awards as an industry thought leader. In 2017, Ms. Newhouse became the first woman to win an Ernst & Young (“EY”) Entrepreneur of The Year award in the technology category. She was admitted into the 2013 class of EY Entrepreneurial Winning Women, and in 2019 was inducted into the Enterprising Women hall of fame. Ms. Newhouse received her B.A. in Liberal Arts Science from Saint Leo College.

Ms. Newhouse was selected to serve on our Board because of her significant knowledge of the cybersecurity and IT industries and experience as a director of publicly and privately-held companies.

Suntharesan Padmanathan. Mr. Padmanathan has served as a member of our Board since December 2021. Mr. Padmanathan is a seasoned engineering and energy expert with over 40 years of industry experience. Mr. Padmanathan has served as vice-chairman of the board of directors of ACWA Power since January 2022 and currently also serves as a member of the board of directors of several companies involved in power and water development across the globe, including BESIX, XLink Ltd and Desolenator BV. He previously served as President & Chief Executive Officer of ACWA Power from 2007 to January 2022 and before that, as Head of Business Development from 2005 to 2007. During his time at ACWA Power, Mr. Padmanathan spearheaded its expansion from a startup to a leading private developer, owner and operator of power generation and desalinated water production plants today including its emergence as the largest developer and owner of concentrated solar power with molten salt storage technology in the world. Prior to joining ACWA Power, Mr. Padmanathan was Vice President and Corporate Officer at Black and Veatch, where he was responsible for developing privately financed power, water and wastewater projects in over a dozen countries. Before that, he was the Chief Executive of Black & Veatch Africa Limited and an Executive Director of Burrow Binnie International Ltd. Mr. Padmanathan began his career as an engineer at John Burrow and Partners Overseas. Mr. Padmanathan holds a degree in Engineering from the University of Manchester, United Kingdom.

Mr. Padmanathan was selected to serve on our Board because of his significant knowledge of the renewable energy industry and his experience as an executive officer and member of the boards of directors of several companies involved in power and water development across the globe.

Family Relationships

There are no family relationships among any of our directors or executive officers.

Board Composition

Our business and affairs are organized under the direction of the Board. The Board consists of eight members. Ms. Kane serves as Chairperson of the Board. The primary responsibilities of the Board are to provide oversight, strategic guidance, counseling and direction to management. The Board meets on a regular basis and additionally as required.

In accordance with the terms of the Certificate of Incorporation, the Board is divided into three classes, Class I, Class II and Class III, with only one class of directors being elected in each year and each class serving a three-year term.

- Class I consists of Ms. Obiaya, Ms. Newhouse and Mr. Padmanathan, whose terms will expire at Heliogen’s annual meeting of stockholders to be held in 2025;
- Class II consists of Ms. Abrams and Dr. Burger, whose terms will expire at Heliogen’s annual meeting of stockholders to be held in 2026; and
- Class III consists of Mr. Kavner, Ms. Kane and Mr. Lazarus whose terms will expire at Heliogen’s annual meeting of stockholders to be held in 2024.

At each annual meeting of stockholders the successors to directors whose terms then expire will be elected to serve from the time of election and qualification until the third annual meeting following their election and until their successors are duly elected and qualified. This classification of the Board may have the effect of delaying or preventing changes in control or management. Our directors may be removed for cause by the affirmative vote of the holders of at least a majority of our voting stock.

Role of the Board in Risk Oversight

One of the key functions of the Board is informed oversight of our risk management process. The Board does not have a standing risk management committee, but rather administers this oversight function directly through the Board as a whole, as well as through various standing committees of the Board that address risks inherent in their respective areas of oversight. In particular, the Board is responsible for monitoring and assessing strategic risk exposure and our Audit Committee has the responsibility to consider and discuss our major financial risk exposures and the steps its management take to monitor and control such exposures, including guidelines and policies to govern the process by which risk assessment and management is undertaken. The Audit Committee also monitors compliance with legal and regulatory requirements. Our Compensation and Human Capital Committee (“Compensation Committee”) assesses and monitors whether our compensation plans, policies and programs comply with applicable legal and regulatory requirements.

Notice of NYSE Delisting

On November 7, 2023, we received a letter from the staff of New York Stock Exchange (“NYSE”) Regulation notifying us that it had determined to commence proceedings to delist our common stock and Public Warrants. The NYSE Regulation reached its decision to delist these securities pursuant to Section 802.01B of the NYSE’s Listed Company Manual because we had fallen below the NYSE’s continued listing standard requiring listed companies to maintain an average global market capitalization over a consecutive 30 trading day period of at least \$15 million. We are currently appealing the delisting determination. However, we are currently monitoring the trading price of our common stock and Public Warrants and may decide to withdraw our appeal of the NYSE’s delisting determination prior to our scheduled meeting with NYSE on April 18, 2024. Our common stock is currently quoted on the OTCQX, the highest market tier operated by the OTC Markets Group, Inc. We intend to continue to comply with public company SEC regulations and other NYSE listing requirements, including maintaining an independent Board with corporate governance rules and oversight committees.

Board Committees

The Board established an Audit Committee, a Compensation Committee, a Nominating and Corporate Governance Committee (“Nominating Committee”) and a Corporate Strategy Committee. The Board adopted a charter for each of these committees, which complies with the applicable requirements of current NYSE Listing Rules. We intend to comply with future requirements to the extent they will be applicable to us. Copies of the charters for each committee are available on the investor relations portion of our website.

Audit Committee

Our Audit Committee is currently composed of three directors: Mr. Kavner, Mr. Lazarus and Ms. Newhouse. The chair of the Audit Committee is Mr. Kavner. The Board has adopted a written Audit Committee charter that is available to stockholders on the Company’s website.

The primary purpose of our Audit Committee is to discharge the responsibilities of our Board with respect to our corporate accounting and financial reporting processes, systems of internal control and financial statement audits, and to oversee our independent registered public accounting firm. Specific responsibilities of the Audit Committee include:

- overseeing the Company’s accounting and financial reporting processes, systems of internal control, financial statement audits and the integrity of the Company’s financial statements;
- managing the selection, engagement terms, fees, qualifications, independence, and performance of the registered public accounting firms engaged as the Company’s independent outside auditors for the purpose of preparing or issuing an audit report or performing audit services;
- reviewing any reports or disclosures required by applicable law and stock exchange listing requirements;
- overseeing the design, implementation, organization and performance of the Company’s internal audit function;

- helping the Board oversee the Company’s programs and policies designed to ensure legal and regulatory compliance, including risk assessment and management practices and policies;
- considering any requests by directors or executive officers of the Company for a waiver from the Code of Business Conduct and Ethics (the “Code of Conduct”); and
- providing regular reports and information to the Board.

Our Board reviews the NYSE listing standards definition of independence for Audit Committee members on an annual basis and has determined that all members of the Audit Committee are independent (as independence is currently defined in Section 303A.07(a) of the NYSE Listed Company Manual and Rule 10A-3(b)(1) of the Exchange Act).

Our Board has determined that each of Mr. Kavner and Mr. Lazarus is an “audit committee financial expert” within the meaning of SEC regulations. Each member of the Audit Committee can read and understand fundamental financial statements in accordance with applicable requirements. In arriving at these determinations, the Board examined each Audit Committee member’s scope of experience and the nature of their employment.

Compensation and Human Capital Committee

Our Compensation Committee is composed of three directors: Dr. Burger, Mr. Lazarus and Ms. Newhouse. The chair of the Compensation Committee is Ms. Newhouse. Our Board has determined that each member of our Compensation Committee is independent under the listing standards of the NYSE, and a “non-employee director” as defined in Rule 16b-3 promulgated under the Exchange Act. Our Board has adopted a written Compensation Committee charter that is available to stockholders on our website.

The primary purpose of our Compensation Committee is to discharge the responsibilities of our Board in overseeing our compensation policies, plans, and programs, and to review and determine the compensation to be paid to our executive officers, directors, and other senior management, as appropriate. Specific responsibilities of our Compensation Committee include:

- helping the Board oversee the Company’s compensation policies, plans and programs with a goal to attract, incentivize, retain and reward top quality executive management and employees;
- reviewing and determining the compensation to be paid to the Company’s executive officers and directors;
- when required, reviewing and discussing with management the Company’s compensation disclosures in the “Compensation Discussion and Analysis” section of the Company’s annual reports, registration statements, proxy statements or information statements filed with the SEC;
- when required, preparing and reviewing the Compensation Committee report on executive compensation included in the Company’s annual proxy statement in accordance with applicable rules and regulations of the SEC in effect from time to time; and
- reviewing the human capital management practices related to the Company’s talent generally (including how the Company recruits, develops, and retains people).

The composition and function of our Compensation Committee comply with all applicable requirements of the Sarbanes-Oxley Act, SEC rules and regulations and NYSE listing rules. We will comply with future requirements to the extent they become applicable to us.

Nominating and Corporate Governance Committee

Our Nominating Committee is composed of three directors: Ms. Abrams, Ms. Kane and Mr. Kavner. The chair of the Nominating Committee is Ms. Abrams. Our Board has determined that each member of the Nominating Committee is independent under the listing standards of the NYSE. Our Board has adopted a written Nominating Committee charter that is available to stockholders on the Company’s website. Specific responsibilities of the Nominating Committee include:

- helping the Board oversee the Company’s corporate governance functions and develop, update as necessary and recommend to the Board the governance principles applicable to the Company;

- identifying, evaluating and recommending and communicating with candidates qualified to become Board members or nominees for directors of the Board consistent with criteria approved by the Board;
- reviewing candidates nominated by stockholders;
- recommending the composition, functions, and duties of the committees of the Board;
- overseeing and monitoring the Company's corporate governance policies and initiatives, including its Code of Conduct and environmental and sustainability policies and initiatives, and risks related to the Company's operations, supply chain, and customer engagement; annually overseeing an evaluation of the performance of the Board, including the Board committees, and, as appropriate, making recommendations to the Board for areas of improvement; and
- making other recommendations to the Board relating to the directors of the Company.

The composition and function of the Nominating Committee comply with all applicable requirements of the Sarbanes-Oxley Act, SEC rules and regulations and NYSE listing rules. We will comply with future requirements to the extent they become applicable to us.

Corporate Strategy Committee

Our Corporate Strategy Committee consists of Ms. Obiaya, Ms. Abrams, Dr. Burger and Mr. Padmanathan. Dr. Burger serves as the chair of the Corporate Strategy Committee. The functions of the committee include, among other things:

- reviewing and discussing periodically with the Chief Executive Officer and other management of the Company the execution and implementation of the Company's long-range strategic plan, including product and customer initiatives;
- reviewing and advising periodically regarding specific strategic initiatives of management and the risks and opportunities associated with any such initiatives, including risks and opportunities as they relate to the Company's customers and employees, the Company's products and technology, and the Company's brand and reputation; and
- reporting to the Board with respect to matters discussed by the committee with management, and to ensure the Board is periodically apprised of the Company's progress with respect to implementation of any Board-approved strategy.

Delinquent Section 16(a) Reports

Section 16(a) of the Exchange Act requires our executive officers, directors and persons who beneficially own more than 10% of our common stock to file with the SEC reports of their ownership and changes in their ownership of our common stock. To our knowledge, based solely on review of the copies of such reports and amendments to such reports with respect to the year ended December 31, 2023 filed with the SEC, all required Section 16 reports under the Exchange Act for our directors, executive officers and beneficial owners of greater than 10% of our common stock were filed on a timely basis during the year ended December 31, 2023, except for one Form 4 filed on behalf of Bill Gross, a beneficial owner of more than 10% of our common stock, for two transactions and two Form 4's filed late for Nant Capital, LLC, a beneficial owner of more than 10% of our common stock, for five transactions of Heliogen common shares.

Compensation Committee Interlocks and Insider Participation

None of the members of our Compensation Committee has ever been one of our executive officers or employees. None of our executive officers currently serve, or has served during the last completed fiscal year, on the compensation committee or board of directors of any other entity that has one or more executive officers that serve as a member of the Board or Compensation Committee.

Insider Trading, Anti-Hedging and Anti-Pledging Policy

In addition to the general provisions of our Insider Trading Policy, which prohibits all employees and directors from trading in our securities while in possession of material nonpublic information, the policy also prohibits our directors, officers, including our named executive officers, and certain other employees of the Company from engaging in hedging or monetization transactions, including through the use of financial instruments such as prepaid variable forwards, equity swaps, collars and exchange funds. Our Insider Trading Policy also prohibits trading in derivative securities related to our common stock, which include publicly-traded call and put options (other than employee options and other equity awards granted under our equity compensation plans), as well purchasing our common stock on margin or holding our common stock in margin accounts.

Code of Business Conduct and Ethics for Employees, Executive Officers and Directors

The Board has adopted a Code of Conduct, applicable to all of Heliogen's employees, executive officers and directors. The Code of Conduct is available on Heliogen's website at www.heliogen.com. Information contained on or accessible through Heliogen's website is not a part of this Annual Report on Form 10-K (this "Annual Report"), and the inclusion of Heliogen's website address in this Annual Report is an inactive textual reference only. To the extent required by rules adopted by the SEC, we will promptly disclose future amendments to our Code of Conduct or waivers of its requirements that apply to our principal executive officer, principal financial officer, principal accounting officer or controller or persons performing similar functions on our website at www.heliogen.com.

Item 11. Executive Compensation

For the year ended December 31, 2023, Heliogen's named executive officers were:

- Christiana Obiaya — Chief Executive Officer⁽¹⁾
- Bill Gross — Former Chief Executive Officer⁽¹⁾
- Sagar Kurada — Former Chief Financial Officer and Head of Strategy⁽²⁾⁽³⁾
- Thomas Doyle — Chief Commercial Officer
- Kelly Rosser — Former Chief Accounting Officer and Former Interim Chief Financial Officer⁽¹⁾⁽²⁾⁽⁴⁾

(1) On February 5, 2023, the Board terminated Bill Gross from his position as Chief Executive Officer of Heliogen and appointed Christiana Obiaya, previously our Chief Financial Officer, as Chief Executive Officer and appointed Kelly Rosser as Interim Chief Financial Officer and Chief Accounting Officer.

(2) On July 10, 2023, the Board appointed Sagar Kurada to serve as the Chief Financial Officer and Ms. Rosser stepped down as Interim Chief Financial Officer.

(3) Effective January 11, 2024, Mr. Kurada resigned from his position as Chief Financial Officer and Head of Strategy.

(4) Effective January 26, 2024, Ms. Rosser resigned from her position as Chief Accounting Officer.

Agreements With Our Named Executive Officers

Christiana Obiaya. Ms. Obiaya entered into an employment agreement with Heliogen on March 29, 2023. Pursuant to the terms of her employment agreement, Ms. Obiaya is entitled to an annual base salary of \$600,000, effective as of February 5, 2023. The employment agreement also provides for a discretionary annual bonus of up to 100% of Ms. Obiaya's then-current annual base salary, payable based upon the achievement of certain goals as determined by the Board and outlined in the Company's annual executive bonus plan. Ms. Obiaya is also entitled to a monthly housing allowance of \$5,000 for temporary housing expenses in the Los Angeles, California area, until the 12-month anniversary following the effective date of her employment agreement. Ms. Obiaya is also eligible to participate in the employee benefit plans generally available to our employees and maintained by Heliogen.

In addition, the employment agreement provides that Ms. Obiaya would receive a restricted stock unit ("RSU") award under the Heliogen, Inc. 2021 Equity Incentive Plan (the "2021 Plan") covering 42,857 shares of Heliogen's common stock for the fiscal year 2023 annual equity grant. The RSU award vests as to 6.25% on each quarterly vesting date following the date of grant, subject to Ms. Obiaya's continued service through each vesting date.

Upon a “qualifying termination” (defined in the employment agreement as a termination without “cause” or resignation for “good reason”), under the employment agreement, and subject to her execution of a release of claims, Ms. Obiaya will continue to receive, as severance, (i) 100% of her base salary, paid over the 12 months following such termination of employment in accordance with Heliogen’s regular payroll practices, (ii) reimbursement for her COBRA premiums for up to 12 months following such termination of employment, and (iii) in the event the Board determines that the applicable annual bonus milestones have met, a pro rata bonus award based on the date of the qualifying termination.

Upon a qualifying termination that occurs within 12 months following the change in control (as defined in the 2021 Plan), Ms. Obiaya is entitled to receive the base salary severance, COBRA reimbursement, an amount equal to her target bonus for the year in which the qualifying termination occurs (in lieu of the pro rata bonus payment), and any equity award granted to Ms. Obiaya under the Legacy Heliogen 2013 Stock Incentive Plan (the “2013 Plan”) or the 2021 Plan that is subject to time-based vesting will accelerate and become fully vested and exercisable, all subject to execution of the release of claims.

Bill Gross. The Board terminated Mr. Gross from his position as Chief Executive Officer on February 5, 2023. Mr. Gross entered into an employment agreement with Heliogen in November 2021. Pursuant to the terms of his employment agreement, Mr. Gross was entitled to an initial annual base salary of \$275,000, which increased to \$400,000 effective as of December 30, 2021. The employment agreement also provided for a discretionary annual bonus of up to 100% of Mr. Gross’s then-current annual base salary, payable based upon the achievement of certain milestones as determined by the Board pursuant to Heliogen’s 2022 Executive Bonus Plan.

The employment agreement further provided that, unless provided otherwise, any equity award granted to Mr. Gross under the 2013 Plan or the 2021 Plan that was subject to time-based vesting, to the extent such award was assumed, continued, or substituted by the surviving corporation in connection with a “change in control” (as defined in the applicable plan), and Mr. Gross continued to provide services to Heliogen or the successor corporation, would have accelerated and become fully vested and exercisable in the event of a “qualifying termination” (as defined in the executive employment agreement, including a termination without “cause” or resignation for “good reason” and execution of a release of claims) that occurred within 12 months following the change in control. Upon a qualifying termination that did not occur within 12 months following a change in control, under the employment agreement, Mr. Gross would have been eligible for accelerated vesting of his time-based equity awards that would have vested, had he remained in continuous service for an additional 12 months after the termination date. Under the terms of the employment agreement, after Mr. Gross’s termination, he is required to reasonably cooperate with Heliogen in responding to reasonable requests in connection with any disputes brought against Heliogen, and will be paid \$195 per hour for the time devoted to such matters. Mr. Gross was also eligible to participate in the employee benefit plans generally available to our employees and maintained by Heliogen.

Sagar Kurada. Mr. Kurada resigned from his position as Chief Financial Officer and Head of Strategy effective January 11, 2024. Mr. Kurada entered into an employment agreement with Heliogen on July 6, 2023. Pursuant to the terms of his employment agreement, Mr. Kurada was entitled to an annual base salary of \$450,000, effective as of July 10, 2023, and an annual target bonus equal to 100% of his base salary. For the 2023 calendar year, Mr. Kurada’s bonus, if any, would have been pro-rated for the period of time employed by Heliogen. Subject to the approval of Board, Mr. Kurada was also entitled to receive an RSU award under the 2021 Plan of 21,428 shares of Heliogen’s common stock, of which 25% would have vested on the first anniversary of the effective date of his employment agreement, and 6.25% would have vested each quarter thereafter, subject to Mr. Kurada’s continued service through each such vesting date.

Upon a “qualifying termination” (defined in the employment agreement as a termination without “cause” or resignation for “good reason”), under the employment agreement, and subject to his execution of a release of claims, Mr. Kurada would have continued to receive, as severance, (i) 75% of his base salary, paid over the 9 months following such termination of employment in accordance with Heliogen’s regular payroll practices, (ii) reimbursement for his COBRA premiums for up to 9 months following such termination of employment, and (iii) in the event the Board would have determined that the applicable annual bonus milestones had been met, a pro rata bonus award based on the date of the qualifying termination.

Upon a qualifying termination within 12 months following a change in control (as defined in the 2021 Plan), Mr. Kurada would have been entitled to receive the base salary severance, COBRA reimbursement and an amount equal to his target bonus for the year in which the qualifying termination occurs (in lieu of the pro rata bonus payment), and any equity award granted to Mr. Kurada under the 2021 Plan that was subject to time-based vesting would have accelerated and become fully vested and exercisable, all subject to execution of the release of claims.

Mr. Kurada entered into a transition agreement with Heliogen on January 11, 2024. Pursuant to the terms of his transition agreement, Heliogen and Mr. Kurada mutually agreed that Mr. Kurada would cease to serve as Chief Financial Officer and Head of Strategy, effective January 11, 2024, and cease employment with Heliogen, effective January 31, 2024 (the “Separation Date”). The transition agreement provided that Mr. Kurada would continue to receive his base salary and benefits eligibility through the Separation Date. Mr. Kurada did not receive a bonus for 2023. Mr. Kurada received (i) payments equal to his base salary for two months following the Separation Date; and (ii) payment of his and his dependents’ healthcare premiums pursuant to COBRA for a period of up to two months after the Separation Date. All equity awards granted to Mr. Kurada were unvested as of the Separation Date and were therefore canceled.

Thomas Doyle. Mr. Doyle entered into an employment agreement with Heliogen on March 29, 2023. Pursuant to the terms of his employment agreement, Mr. Doyle is entitled to an annual base salary of \$400,000. The employment agreement also provides for a discretionary annual bonus of up to 50% of Mr. Doyle’s then-current annual base salary, payable based upon the achievement of certain goals as determined by the Board and outlined in the Company’s annual executive bonus plan. Mr. Doyle is also eligible to participate in the employee benefit plans generally available to our employees and maintained by Heliogen.

Upon a “qualifying termination” (defined in the employment agreement as a termination without “cause” or resignation for “good reason”), under the employment agreement, and subject to his execution of a release of claims, Mr. Doyle will continue to receive, as severance, (i) 75% of his base salary, paid over the 9 months following such termination of employment in accordance with Heliogen’s regular payroll practices, (ii) reimbursement for his COBRA premiums for up to 9 months following such termination of employment, and (iii) in the event the Board determines that the applicable annual bonus milestones have met, a pro rata bonus award based on the date of the qualifying termination.

Upon a qualifying termination that occurs within 12 months following the change in control (as defined in the 2021 Plan), Mr. Doyle is entitled to receive the base salary severance, COBRA reimbursement, an amount equal to his target bonus for the year in which the qualifying termination occurs (in lieu of the pro rata bonus payment), and any equity award granted to Mr. Doyle under the 2013 Plan or the 2021 Plan that is subject to time-based vesting will accelerate and become fully vested and exercisable, all subject to execution of the release of claims.

Kelly Rosser. Ms. Rosser resigned from her position as Chief Accounting Officer effective January 26, 2024. Ms. Rosser entered into an employment agreement with Heliogen on April 13, 2023. Pursuant to the terms of her employment agreement, Ms. Rosser was entitled to an annual base salary of \$300,000. The employment agreement also provided for a discretionary annual bonus of a percentage of Ms. Rosser’s then-current annual base salary, to be determined by the Board, payable based upon the achievement of certain goals as determined by the Board and outlined in the Company’s annual executive bonus plan. Ms. Rosser was also eligible to participate in the employee benefit plans generally available to our employees and maintained by Heliogen.

Upon a “qualifying termination” (defined in the employment agreement as a termination without “cause” or resignation for “good reason”), under the employment agreement, and subject to her execution of a release of claims, Ms. Rosser would have continued to receive, as severance, (i) 75% of her base salary, paid over the 9 months following such termination of employment in accordance with Heliogen’s regular payroll practices, (ii) reimbursement for her COBRA premiums for up to 9 months following such termination of employment, and (iii) in the event the Board determined that the applicable annual bonus milestones had been met, a pro rata bonus award based on the date of the qualifying termination.

Upon a qualifying termination that occurs within 12 months following the change in control (as defined in the 2021 Plan), Ms. Rosser would have been entitled to receive the base salary severance, COBRA reimbursement, an amount equal to her target bonus for the year in which the qualifying termination occurs (in lieu of the pro rata bonus payment), and any equity award granted to Ms. Rosser under the 2021 Plan that was subject to time-based vesting would have accelerated and become fully vested and exercisable, all subject to execution of the release of claims.

Ms. Rosser resigned effective January 26, 2024 and did not receive any severance payments in connection with her resignation. All unvested RSU awards granted to Ms. Rosser as of January 26, 2024 were forfeited. Pursuant to the terms of her employment agreement, Ms. Rosser was entitled to receive, and did receive, a cash performance-based bonus for 2023 as further described below under “— Narrative Disclosure to Summary Compensation Table — *Non-equity Incentive Plan Compensation.*”

Clawback Policy

We have adopted a Dodd-Frank Wall Street Reform and Consumer Protection Act-compliant compensation recoupment policy in accordance with SEC and listing exchange requirements. In the event we are required to prepare an accounting restatement, we will recover any compensation received after the effective date by any current or former executive officer that is based wholly or in part upon the attainment of a financial reporting measure.

Other Compensation and Benefits

Benefits and Perquisites

Heliogen provides benefits to its executive officers on the same basis as is provided to all of its employees, including health, dental and vision insurance; life insurance; accidental death and dismemberment insurance; short-term and long-term disability insurance; flexible spending accounts; employee assistance program; and a work-from-home allowance.

Other than the director and officer insurance coverage Heliogen maintains for its directors and officers, Heliogen does not maintain any executive-specific health and welfare benefits or perquisites.

401(k) Plan

We maintain a 401(k) plan that provides eligible employees with an opportunity to save for retirement on a tax advantaged basis. Eligible employees are able to defer eligible compensation up to certain limits under the Internal Revenue Code of 1986, as amended (the “Code”), which are updated annually. Our 401(k) plan provides for a safe harbor employer matching contribution equal to 100% of the first 3% of eligible compensation and 50% of the next 2% of eligible compensation contributed to the plan by an employee. The 401(k) plan is intended to be qualified under Section 401(a) of the Code, with the related trust intended to be tax exempt under Section 501(a) of the Code. As a tax-qualified retirement plan, contributions to the 401(k) plan are deductible by us when made, and contributions and earnings on those amounts are not generally taxable to the employees until withdrawn or distributed from the 401(k) plan.

Summary Compensation Table

The following table shows for the years ended December 31, 2023 and 2022, compensation awarded or paid to, or earned by, the named executive officers.

<u>Name and Principal Position</u>	<u>Year</u>	<u>Salary (\$)</u>	<u>Bonus (\$)⁽⁵⁾</u>	<u>Stock Awards (\$)⁽⁶⁾</u>	<u>Non-equity Incentive Plan Compensation (\$)⁽⁷⁾</u>	<u>All Other Compensation (\$)⁽¹⁰⁾</u>	<u>Total (\$)</u>
Christiana Obiaya ⁽¹⁾	2023	\$ 576,923	\$ —	\$ 413,999	\$ 174,000 ⁽⁸⁾	\$ 68,200	\$ 1,233,122
<i>Chief Executive Officer</i>	2022	398,558	100,000	—	10,000 ⁽⁸⁾	13,194	521,752
Bill Gross ⁽¹⁾	2023	46,154	—	—	—	1,990	48,144
<i>Former Chief Executive Officer</i>	2022	398,558	—	—	20,000	15,658	434,216
Sagar Kurada ⁽²⁾⁽³⁾	2023	207,692	—	192,745	—	—	400,437
<i>Former Chief Financial Officer</i>							
Thomas Doyle	2023	400,000	—	55,197	120,000 ⁽⁹⁾	13,200	588,397
<i>Chief Commercial Officer</i>	2022	398,558	—	—	10,000 ⁽⁹⁾	3,963	412,521
Kelly Rosser ⁽¹⁾⁽²⁾⁽⁴⁾	2023	352,692	25,000	41,393	100,000	13,200	532,285
<i>Former Chief Accounting Officer and Former Interim Chief Financial Officer</i>							

(1) On February 5, 2023, the Board terminated Bill Gross from his position as Chief Executive Officer of Heliogen and appointed Christiana Obiaya, previously our Chief Financial Officer, as Chief Executive Officer and appointed Kelly Rosser as Interim Chief Financial Officer and Chief Accounting Officer.

(2) On July 10, 2023, the Board appointed Sagar Kurada to serve as the Chief Financial Officer and Ms. Rosser stepped down as Interim Chief Financial Officer.

- (3) Effective January 11, 2024, Mr. Kurada resigned from his position as Chief Financial Officer and Head of Strategy.
- (4) Effective January 26, 2024, Ms. Rosser resigned from her position as Chief Accounting Officer.
- (5) Represents a one-time, discretionary bonus paid to Ms. Obiaya in January 2022 and a one-time, discretionary bonus paid to Ms. Rosser in October 2023.
- (6) Amounts represent the aggregate grant date fair value of restricted stock units (“RSU”) awards granted to our named executive officers, computed in accordance with ASC Topic 718. Assumptions used in calculating the grant date fair value are included in Note 14 — Share-based Compensation to our consolidated financial statements included in this Annual Report for the year ended December 31, 2023. These amounts do not necessarily correspond to the actual value recognized or that may be recognized by the named executive officer.
- (7) Amounts represent the value of a performance-based bonus the named executive officers were entitled to under the Company’s 2023 Executive Bonus Plan (as defined below) and 2022 Executive Bonus Plan (as defined below). The 2023 bonus was paid to Ms. Rosser. The 2022 bonus was paid to Mr. Gross.
- (8) Ms. Obiaya was granted cash bonuses of \$174,000 and \$10,000 in 2023 and 2022, respectively, under the Company’s 2023 Executive Bonus Plan and 2022 Executive Bonus Plan, respectively, but in each year she elected to voluntarily forego her applicable bonuses.
- (9) Mr. Doyle was granted cash bonuses of \$120,000 and \$10,000 in 2023 and 2022, respectively, under the Company’s 2023 Executive Bonus Plan and 2022 Executive Bonus Plan, respectively, but in each year he elected to voluntarily forego his applicable bonuses.
- (10) Represents matching 401(k) contributions made during 2023 and 2022. Additionally, Ms. Obiaya received \$55,000 in housing allowance for temporary housing expenses in the Los Angeles, California area per her employment agreement during 2023.

Narrative Disclosure to Summary Compensation Table

Base Salary

Base salary is set at a level that is intended to reflect the executive’s duties, authorities, contributions, prior experience and performance.

Cash Bonus Awards

In October 2023, a one-time, discretionary bonus of \$25,000 was paid to Ms. Rosser associated with her cooperation with a successful transition to a new Chief Financial Officer. Heliogen did not award any other discretionary cash bonuses to the named executive officers with respect to 2023.

Other than a discretionary cash bonus of \$100,000 paid to Ms. Obiaya in January 2022, Heliogen did not award the named executive officers any discretionary cash bonuses with respect to 2022.

Restricted Stock Unit Awards

Heliogen’s equity awards are designed to align the interests of employees and consultants, including our executive officers, with our interests and the interests of our stockholders. The Board or an authorized committee thereof is responsible for approving equity awards.

On May 3, 2023, the Board granted each of Ms. Obiaya, Mr. Doyle and Ms. Rosser an RSU award under the 2021 Plan for 42,857, 5,714 and 4,285 shares of Heliogen’s common stock, respectively, for the fiscal year 2023 annual equity grant. Pursuant to the terms of the RSU award agreement, the RSU awards will vest over four years in equal quarterly installments of 6.25% of the shares beginning on June 15, 2023, subject to each executive officer’s continued service with Heliogen through each such vesting date.

On August 2, 2023, Mr. Kurada received an RSU award under the 2021 Plan for 21,428 shares of Heliogen’s common stock. Pursuant to the terms of the RSU award agreement, the RSU award will vest 25% on the first anniversary of the effective date of Mr. Kurada’s employment agreement, and 6.25% will vest each quarter thereafter, subject to Mr. Kurada’s continued service with Heliogen through each such vesting date. All equity awards granted to Mr. Kurada were unvested as of his Separation Date and were therefore canceled.

No RSU awards were granted to Mr. Gross, Ms. Obiaya or Mr. Doyle, during the year ended December 31, 2022.

Non-equity Incentive Plan Compensation

Heliogen instituted a performance-based bonus program for fiscal year 2023 (the “2023 Executive Bonus Plan”). Under the 2023 Executive Bonus Plan, each named executive officer was eligible for an annual performance bonus based on the satisfaction of certain corporate performance metrics determined by the Compensation Committee. Each named executive officer was assigned a target performance bonus opportunity expressed as a percentage of their annual base salary, which for 2023 was 100% for both Ms. Obiaya and Mr. Kurada, 75% for Mr. Doyle and 50% for Ms. Rosser. For 2023, the Compensation Committee approved a cash annual performance-based bonus for each of Ms. Obiaya, Mr. Doyle and Ms. Rosser equal to approximately 60% of their 2023 annual base salary multiplied by a 50% target bonus percentage for each of them, based on the satisfaction of one performance metric at the threshold level and one performance metric at the target level. Although Ms. Obiaya’s target bonus percentage was 100% and Mr. Doyle’s target bonus percentage was 75%, the cash annual performance-based bonus approved by the Compensation Committee was based on a 50% target bonus percentage payout for all participants, including Ms. Obiaya and Mr. Doyle. Ms. Obiaya elected to voluntarily forego her bonus of \$174,000 under the 2023 Executive Bonus Plan that she would have otherwise been entitled to receive. Mr. Doyle elected to voluntarily forego his bonus of \$120,000 under the 2023 Executive Bonus Plan that he would have otherwise been entitled to receive. Messrs. Gross and Kurada did not receive bonuses under the 2023 Executive Bonus Plan.

Heliogen also instituted a performance-based bonus program for the fiscal year 2022 (the “2022 Executive Bonus Plan”). Under the 2022 Executive Bonus Plan, each named executive officer was eligible for an annual performance bonus based on the satisfaction of certain corporate performance metrics determined by the Compensation Committee. Each named executive officer was assigned a target performance bonus opportunity expressed as a percentage of their annual base salary, which for 2022 was 100% for Mr. Gross and 50% for both Ms. Obiaya and Mr. Doyle. For 2022, the Compensation Committee approved a cash annual performance-based bonus for each of Mr. Gross, Ms. Obiaya and Mr. Doyle equal to approximately 5% of their 2022 annual base salary multiplied by their respective target bonus percentage, based on the satisfaction of one performance metric at the target level. Ms. Obiaya and Mr. Doyle both elected to voluntarily forego their bonus of \$10,000 under the 2022 Executive Bonus Plan that each of them would have otherwise been entitled to receive.

The performance-based bonuses are reflected in the column of the Summary Compensation Table above entitled “Non-equity Incentive Plan Compensation.”

Outstanding Equity Awards at 2023 Year-End

The following table presents information regarding outstanding equity awards held by each named executive officer as of December 31, 2023.

Name	Option Awards				Stock Awards	
	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units That Have Not Vested (#)	Market Value of Shares or Units that Have Not Vested (\$) ⁽¹⁾
Christiana Obiaya	19,768	8,991 ⁽²⁾	\$ 10.50	3/8/2031	—	\$ —
	—	—	\$ —	—	7,192 ⁽⁴⁾	\$ 14,384
	—	—	\$ —	—	34,823 ⁽⁵⁾	\$ 69,646
Bill Gross	—	—	\$ —	—	—	\$ —
Sagar Kurada	—	—	\$ —	—	21,428 ⁽⁶⁾	\$ 42,856
Thomas Doyle	17,698	7,301 ⁽³⁾	\$ 6.30	1/22/2031	—	\$ —
	—	—	\$ —	—	7,192 ⁽⁴⁾	\$ 14,384
	—	—	\$ —	—	4,643 ⁽⁵⁾	\$ 9,286
Kelly Rosser	—	—	\$ —	—	7,857 ⁽⁷⁾	\$ 15,714
	—	—	\$ —	—	3,484 ⁽⁵⁾	\$ 6,968

(1) Represents the market value of RSU awards based on the closing price of Heliogen’s common stock of \$2.00 as of December 29, 2023, the last trading day of 2023.

(2) Represents stock options that vest over four years, with 25% of the shares vested on March 8, 2022 and the remaining 75% of the shares vesting over three years in equal monthly installments thereafter, subject to Ms. Obiaya’s continued service through each vesting date.

- (3) Represents stock options that vest over four years, with 25% of the shares vested on January 19, 2022 and the remaining 75% of the shares vesting over three years in equal monthly installments thereafter, subject to Mr. Doyle's continued service through each vesting date.
- (4) Represents RSU awards that vest over four years in equal quarterly installments of 6.25% of the shares beginning on March 15, 2022, subject to the named executive officer's continued service through each vesting date.
- (5) Represents RSU awards that vest over four years in equal quarterly installments of 6.25% of the shares beginning on June 15, 2023, subject to the named executive officer's continued service through each vesting date.
- (6) Represents an RSU award that vests over four years with 25% of the shares vesting on July 10, 2024 and 6.25% of the shares vesting quarterly beginning on September 15, 2024, subject to Mr. Kurada's continued service through each vesting date. Effective January 31, 2024, Mr. Kurada ceased employment with Heliogen. All equity awards granted to Mr. Kurada were unvested as of such date and were therefore canceled.
- (7) Represents an RSU award that vests over four years with 25% of the shares vesting on September 15, 2023 and 6.25% of the shares vesting quarterly beginning on December 15, 2023, subject to Ms. Rosser's continued service through each vesting date. Effective January 26, 2024, Ms. Rosser ceased employment with Heliogen and all unvested RSU awards were forfeited.

Non-Employee Director Compensation

The following table presents the annual compensation earned during 2023 by the non-employee directors of Heliogen.

Director	Fees Earned or Paid in Cash (\$) ⁽¹⁾	Stock Awards (\$) ⁽²⁾	Total (\$)
Julie Kane	\$ 100,000	\$ 19,267	\$ 119,267
Stacey Abrams	75,833	19,267	95,100
Barbara Burger	76,250	19,267	95,517
Robert Kavner	87,500	19,267	106,767
Roger Lazarus ⁽³⁾	58,333	43,632	101,965
Phyllis Newhouse	77,917	19,267	97,184
Suntharesan Padmanathan	61,667	19,267	80,934

- (1) Amounts represent the annual cash retainer paid to each director.
- (2) Amounts represent the aggregate grant date fair value of stock awards granted, computed in accordance with ASC Topic 718.
- (3) Roger Lazarus was appointed to our Board effective March 2, 2023.

Non-Employee Director Compensation Policy

Effective March 2, 2023, our Board adopted an amended and restated non-employee director compensation policy that is designed to align compensation with Heliogen's business objectives and the creation of stockholder value, while enabling Heliogen to attract, retain, incentivize and reward directors who contribute to the long-term success of Heliogen. Pursuant to this policy, each member of our Board who is not our employee is eligible to receive the following compensation for his or her service as a member of our Board:

- An initial equity grant equal to that number of RSUs that is the lesser of (i) the number of RSUs with a value of \$150,000 in the aggregate based on the closing price of our common stock on the effective date of the director's appointment and (ii) 2,142 RSUs, in either case, which vests ratably over a three-year period, with one-third vesting on each anniversary of the grant date, subject to the Board member's continued service on our Board; and
- An annual equity grant equal to that number of RSUs that is the lesser of (i) the number of RSUs with a value of \$150,000 in the aggregate based on the closing price of our common stock on the date of the annual meeting at which the grant is made and (ii) 2,142 RSUs, in either case, which fully vests on the earlier of (i) one year following the date of grant or (ii) the day before the next annual meeting following the applicable grant date, subject to the Board member's continued service on our Board.

All non-employee directors receive an annual cash retainer of \$50,000 for his or her service in that role. The non-executive Chairperson of the Board receive an additional cash retainer of \$45,000 for his or her service in that role. The chairs of the Audit Committee, Compensation Committee, Nominating Committee and Corporate Strategy Committee each receive cash retainers of \$20,000, for his or her respective committee service as chair. Members (other than chairs) of the Audit Committee, Compensation Committee, Nominating Committee and Corporate Strategy Committee each receive cash retainers of \$10,000, for his or her respective committee service.

Our policy is to reimburse directors for reasonable and necessary out-of-pocket expenses incurred in connection with attending Board and committee meetings or performing other services in their capacities as directors.

The Board expects to review director compensation periodically to ensure that director compensation remains competitive such that Heliogen is able to recruit and retain qualified directors.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The following table sets forth information known to us regarding the beneficial ownership of the common stock as of March 20, 2024, by:

- each person who is known by us to be the beneficial owner of more than 5% of the outstanding shares of the common stock;
- each of our current named executive officers and directors; and
- all of our current executive officers and directors, as a group.

Beneficial ownership is determined according to the rules of the SEC, which generally provide that a person has beneficial ownership of a security if he, she or it possesses sole or shared voting or investment power over that security, including stock options and warrants that are currently exercisable or exercisable within 60 days and RSUs vesting within 60 days.

The beneficial ownership percentages set forth in the table below are based on 5,970,373 shares of common stock issued and outstanding as of March 20, 2024. The following table does not reflect record or beneficial ownership of any warrants to purchase common stock. In computing the number of shares of capital stock beneficially owned by a person and the percentage ownership of such person, we deemed to be outstanding all shares of our capital stock subject to stock options held by the person that are currently exercisable or exercisable within 60 days of March 20, 2024 and issuable upon the vesting of RSUs held by the person within 60 days of March 20, 2024. However, we did not deem such shares of our capital stock outstanding for the purpose of computing the percentage ownership of any other person.

Unless otherwise noted in the footnotes to the following table, and subject to applicable community property laws, the persons and entities named in the table have sole voting and investment power with respect to their beneficially owned common stock.

Name of Beneficial Owner ⁽¹⁾	Beneficial Ownership	
	Shares	%
5% Stockholders		
Nant Capital, LLC ⁽²⁾	1,455,593	24.4%
Directors and Named Executive Officers		
Bill Gross ⁽³⁾	142,775	2.4%
Christiana Obiaya ⁽⁴⁾	36,464	*0%
Sagar Kurada ⁽⁵⁾	—	—%
Tom Doyle ⁽⁶⁾	27,294	*0%
Kelly Rosser ⁽⁷⁾	4,124	*0%
Julie Kane	3,596	*0%
Stacey Abrams ⁽⁸⁾	4,024	*0%
Barbara Burger	854	*0%
Robert Kavner	3,596	*0%
Roger Lazarus	714	*0%
Phyllis Newhouse	126,409	2.1%
Suntharesan Padmanathan	3,596	*0%
All directors and current executive officers as a group (9 persons) ⁽⁹⁾	206,547	3.4%

* Represents beneficial ownership of less than 1%.

(1) Unless otherwise noted, the business address of those listed in the table above is 130 West Union Street Pasadena, California 91103.

- (2) This information is based on a Schedule 13D filed with the SEC on February 23, 2024 by Nant Capital LLC (“Nant Capital”), Cambridge Equities, LP (“Cambridge Equities”), MP 13 Ventures, LLC (“MP 13 Ventures”) and Dr. Patrick Soon-Shiong. Consists of (i) 946,275 shares of common stock beneficially owned by Nant Capital, (ii) 442,298 shares of common stock beneficially owned by Cambridge Equities, and (iii) 67,020 shares of common stock directly owned by Dr. Soon-Shiong. MP 13 Ventures is the general partner of Cambridge Equities and may be deemed to have beneficial ownership of the shares held by Cambridge Equities. Dr. Soon-Shiong is the sole member of MP 13 Ventures. As a result, MP 13 Ventures and Dr. Soon-Shiong may be deemed to beneficially own and share with Cambridge Equities the power to vote and direct the vote, and the power to dispose or direct the disposition of, the 442,298 shares beneficially owned by Cambridge Equities. Dr. Soon-Shiong is also the sole member of Nant Capital and thus may be deemed to beneficially own and share with Nant Capital the power to vote and direct the vote, and the power to dispose or direct the disposition of, the 946,275 shares beneficially owned by Nant Capital. As a result, Dr. Soon-Shiong may be deemed to beneficially own, in the aggregate, 1,455,593 shares of the Company’s common stock. Dr. Soon-Shiong disclaims beneficial ownership of the shares of common stock beneficially owned by Cambridge Equities and Nant Capital except to the extent of his pecuniary interest. The address of the principal business and principal office, as applicable, of each of Dr. Soon-Shiong, Cambridge Equities, MP 13 Ventures and Nant Capital is 450 Duley Road, El Segundo, CA 90245.
- (3) On February 5, 2023, the Board terminated Bill Gross from his position as Chief Executive Officer of Heliogen. This information is based on a Schedule 13D/A filed with the SEC on February 20, 2024 by Bill Gross, Idealab, a California corporation, and Idealab Holdings, LLC, a wholly-owned subsidiary of Idealab. Includes 462 shares of common stock held by Idealab Studio, LLC (“Idealab Studio”) and 142,313 shares of common stock held by The Gross Goodstein Living Trust, dated April 18, 2006 (“Gross Trust”), of which Mr. Gross and his wife are co-trustees and may be deemed to share voting and dispositive power. The Gross Trust owns a majority of the class of securities entitled to elect two managers to Idealab Studio’s board of managers. Mr. Gross is the chairman and chief executive officer of Idealab Studio. Each of the foregoing persons disclaims beneficial ownership of such securities except to the extent of his or her pecuniary interest therein.
- (4) Represents 22,763 shares issuable for vested and exercisable stock options within 60 days and no shares issuable upon vesting of RSUs within 60 days.
- (5) Effective January 11, 2024, Mr. Kurada resigned from his position as Chief Financial Officer and Head of Strategy.
- (6) Represents 20,482 shares issuable for vested and exercisable stock options within 60 days and no share shares issuable upon vesting of RSUs within 60 days.
- (7) Effective January 26, 2024, Ms. Rosser resigned from her position as Chief Accounting Officer.
- (8) Stacey Abrams has voting and/or investment control over the securities held by Brockington Hall, LLC (“Brockington”) and may be deemed to beneficially own the securities owned by Brockington.
- (9) Consists of (i) 163,302 shares beneficially owned by our current executive officers and directors, (ii) 43,245 shares issuable for vested and exercisable stock options within 60 days and (iii) no shares issuable upon vesting of RSUs within 60 days.

Equity Compensation Plan Information

The following table summarizes our equity compensation plan information as of December 31, 2023. Information is included for equity compensation plans approved by our stockholders. We do not have any equity compensation plans not approved by our stockholders.

Plan Category	(a) Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights	(b) Weighted Average Exercise Price of Outstanding Options, Warrants and Rights ⁽¹⁾	(c) Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a))
Equity compensation plans approved by security holders			
2013 Stock Incentive Plan ⁽²⁾	236,315	\$ 12.64	—
2021 Equity Incentive Plan ⁽³⁾	307,366	—	338,032
2021 Employee Stock Purchase Plan ⁽⁴⁾	—	—	210,174
Equity compensation plans not approved by security holders . . .	—	—	—
TOTAL	543,681	\$ 12.64	548,206

(1) The weighted average exercise price is calculated based solely on outstanding stock options. It does not take into account the shares of our common stock underlying RSU awards, which have no exercise price.

- (2) Following the adoption of the 2021 Plan, no additional equity awards have been or will be granted under the 2013 Plan.
- (3) Our 2021 Plan provides that on January 1 of each calendar year, starting on January 1, 2022 through January 1, 2031, the number of shares of common reserved for issuance thereunder is automatically increased by a number equal to (i) 4% of the total number of shares of our common stock outstanding on December 31 of the fiscal year before the date of such automatic increase, or (ii) a lesser number of shares as determined by the Board prior to the applicable January 1. On January 1, 2024, the number of shares of common stock available for issuance under our 2021 Plan increased by 237,852 shares pursuant to these provisions. This increase is not reflected in the table above.
- (4) Our 2021 ESPP provides that on January 1 of each calendar year, starting on January 1, 2022 through January 1, 2031, the number of shares of common reserved for issuance thereunder is automatically increased by a number equal to the lesser of (i) 1% of the total number of shares of our common stock outstanding on December 31 of the preceding calendar year, (ii) 271,638 shares, or (iii) a lesser number of shares than described under (i) or (ii) as determined by the Board. On January 1, 2024, the number of shares of common stock available for issuance under our 2021 ESPP increased by 59,463 shares pursuant to these provisions. This increase is not reflected in the table above.

Item 13. Certain Relationships and Related Transactions, and Director Independence

Certain Transactions with Related Parties

The following is a summary of transactions since January 1, 2022 to which we have been a party, in which the amount involved exceeded or will exceed the lesser of (x) \$120,000 or (y) 1% of the average of our total assets at December 31, 2023 and 2022, and in which any of our directors, executive officers or holders of more than 5% of our capital stock, or an affiliate or immediate family member thereof, had or will have a direct or indirect material interest other than compensation and other arrangements that are described in the sections titled “Executive Compensation” and “Non-Employee Director Compensation.” We also describe below certain other transactions with our directors, former directors, executive officers and stockholders.

Heliogen Transactions and Agreements

Related Party Lease and Other Services

Idealab, a holder of more than 5% of Heliogen’s outstanding voting stock through its wholly owned subsidiary, Idealab Holdings, LLC, provides various services to Heliogen through a services agreement which includes leasing office space, accounting, human resources, legal, information technology, marketing, public relations, and certain other executive services. We are charged a fee for the specific services provided and these fees totaled \$288,885 and \$529,610 for the years ended December 31, 2023 and 2022, respectively.

In May 2021, Heliogen sub-leased a portion of its office space in Pasadena, California to Idealab for a term of seven years. The sub-lease has an initial annual base rent of \$150,000 and contains a 3% per annum escalation clause. The sub-lease is subject to termination by either party upon six months prior written notice. Concurrently with the parties’ entering into the sub-lease agreement, Idealab and Heliogen also entered into certain property management and shared facilities staffing agreements, which provide that Heliogen pays Idealab \$3,000 per month for building management services and \$13,000 per month for shared facilities staff and services (with proportional reimbursement of salaries). Such agreements are subject to termination right by either party with 90 days’ prior written notice.

Related Party Services Agreement

In March 2023, Heliogen entered into an agreement with NantG Power, LLC (“NantG”), an affiliated sister-company to Nant Capital LLC (a holder of more than 5% of Heliogen’s outstanding voting stock), to provide front-end concept design and R&D engineering services. We will be compensated up to \$5 million on a time and materials basis. During the year ended December 31, 2023, we recognized \$103,056 of services revenue from NantG.

Related-Person Transactions Policy

Our Board has adopted a written related-person transactions policy that sets forth our policies and procedures regarding the identification, review, consideration and oversight of related-person transactions. For purposes of our policy, a related-person transaction is a transaction, arrangement or relationship (or any series of similar transactions, arrangements or relationships) in which we and any related person are, were or will be participants, in which the amount involved exceeds the lesser of (x) \$120,000 and (y) 1% of the average of our total assets as of the last calendar day of the two years immediately preceding such transaction.

Under the policy, a related person is any executive officer, director, nominee to become a director or a security holder known by us to beneficially own more than 5% of any class of our voting securities (a “significant stockholder”), including any of their immediate family members and affiliates, including entities controlled by such persons or such person has a 5% or greater beneficial ownership interest.

Each director and executive officer must identify, and we must request each significant stockholder to identify, any related-person transaction involving such director, executive officer or significant stockholder or his, her or its immediate family members and inform our Audit Committee pursuant to this policy before such related person may engage in the transaction.

In considering related-person transactions, our Audit Committee takes into account the relevant available facts and circumstances, which may include, but are not limited to:

- the risk, cost and benefits to us;
- the impact on a director’s independence in the event the related person is a director, immediate family member of a director or an entity with which a director is affiliated;
- the terms of the transaction; and
- the availability of other sources for comparable services or products.

Our Audit Committee will approve only those related-party transactions that, in light of known circumstances, are in, or are not inconsistent with, the best interests of Heliogen and our stockholders, as our Audit Committee determines in the good faith exercise of its discretion.

Director Independence

The Board determined that each of the directors on the Board other than Christiana Obiaya qualify as independent directors, as defined under the NYSE Listing Rules, and the Board consists of a majority of “independent directors,” as defined under the rules of the SEC and NYSE listing rules relating to director independence requirements. In addition, we are subject to the rules of the SEC and NYSE relating to the membership, qualifications and operations of the Audit Committee, as discussed below.

Our independent directors meet in executive session without management present if circumstances warrant when the full Board convenes for a regularly scheduled meeting or a special meeting. The independent director at such executive sessions shall designate an independent director to preside over the executive session.

Item 14. Principal Accounting Fees and Services

The following table represents fees for professional services provided or to be provided to the Company by its independent registered public accounting firms for the years ended December 31, 2023 and 2022. We did not incur any audit-related, tax or other fees with our independent registered public accounting firms for the years ended December 31, 2023 and 2022.

<i>\$ in thousands</i>	Year Ended December 31,	
	2023	2022
PricewaterhouseCoopers LLP	\$ 1,232	\$ 890
BDO USA, LLP	50	1,086
Total audit fees ⁽¹⁾	<u>\$ 1,282</u>	<u>\$ 1,976</u>

(1) “Audit fees” consist of fees in connection with the audit of the Company’s consolidated financial statements, audited financial statements presented in this Annual Report, review of its quarterly financial statements presented in our quarterly reports on Form 10-Q and services that are normally provided by the Company’s independent registered public accounting firm in connection with statutory and regulatory filings or engagements for those fiscal years.

PricewaterhouseCoopers LLP

Effective June 2, 2022, our Audit Committee dismissed BDO USA, LLP (“BDO”) as the Company’s independent registered public accounting firm and appointed PricewaterhouseCoopers LLP (“PwC”) to audit our consolidated financial statements for the year ended December 31, 2022.

BDO USA, LLP

BDO served as our independent registered public accounting firm for part of the year ended December 31, 2022 until BDO’s dismissal effective June 2, 2022 as noted above.

AUDIT COMMITTEE PRE-APPROVAL POLICIES AND PROCEDURES

Our Audit Committee has adopted a policy and procedures for the pre-approval of audit and non-audit services rendered by our independent registered public accounting firm. The policy generally pre-approves specified services in the defined categories of audit services, audit-related services and tax services up to specified amounts. Pre-approval may also be given as part of the Audit Committee’s approval of the scope of the engagement of the independent auditor or on an individual, explicit, case-by-case basis before the independent auditor is engaged to provide each service. The pre-approval of services may be delegated to one or more of the Audit Committee’s members, but the decision must be reported to the full Audit Committee at its next scheduled meeting. The Audit Committee pre-approved all of the non-audit services provided by our independent registered public accounting firm during the fiscal years ended December 31, 2023 and 2022.

Our Audit Committee has determined that the rendering of services other than audit services by our independent registered public accounting firm is compatible with maintaining the principal accountant’s independence.

Part IV

Item 15. Exhibits and Financial Statement Schedules

- (a) The following documents are filed as part of this report or incorporated by reference:
- (1) The consolidated financial statements and accompanying notes are included in Part II, Item 8 of this Annual Report on Form 10-K.
 - (2) All other schedules have been omitted because they are not applicable or the required information is shown in the consolidated financial statements or the accompanying notes.
 - (3) Exhibits:

EXHIBIT INDEX

Exhibit Number	Description	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
2.1†	Business Combination Agreement, dated as of July 6, 2021, by and among Athena Technology Acquisition Corp., Heliomax Merger Sub, Inc. and Heliogen, Inc.	8-K	001-40209	2.1	July 7, 2021
3.1	Second Amended and Restated Certificate of Incorporation of Heliogen, Inc.	8-K	001-40209	3.1	January 6, 2022
3.2	Certificate of Amendment of Certificate of Incorporation of Heliogen, Inc., dated August 31, 2023.	8-K	001-40209	3.1	August 31, 2023
3.3	Second Amended and Restated Bylaws of Heliogen, Inc.	10-Q	001-40209	3.2	November 8, 2022
3.4	Certificate of Designations of Series A Junior Participating Preferred Stock of Heliogen, Inc.	8-K	001-40209	3.1	April 17, 2023
4.1*	Specimen Common Stock Certificate of Heliogen, Inc.				
4.2	Form of Warrant Certificate of Heliogen, Inc.	S-1	001-40209	4.2	January 24, 2022
4.3	Warrant Agreement, dated March 16, 2021, by and between Athena Technology Acquisition Corp. and Continental Stock Transfer & Trust Company.	8-K	001-40209	4.1	March 22, 2021
4.4	Description of Securities registered under Section 12 of the Securities Exchange Act of 1934.	10-K	001-40209	4.4	March 31, 2022
4.5	Rights Agreement, dated as of April 16, 2023, between Heliogen, Inc. and Continental Stock Transfer & Trust Company, as rights agent.	8-K	001-40209	4.1	April 17, 2023
10.1	Form of Subscription Agreement.	8-K	001-40209	10.3	July 7, 2021
10.2	Registration Rights and Lock-Up Agreement.	8-K	001-40209	10.5	January 6, 2022
10.3#	Form of Indemnification Agreement of Heliogen, Inc.	8-K	001-40209	10.6	January 6, 2022
10.4#	2013 Equity Incentive Plan.	S-4	333-258606	99.2	August 9, 2021
10.5#	2021 Equity Incentive Plan.	8-K	001-40209	10.8	January 6, 2022
10.6	2021 Employee Stock Purchase Plan.	8-K	001-40209	10.9	January 6, 2022
10.7#	Form of Stock Option Grant Package under 2013 Equity Incentive Plan.	S-8	001-40209	99.3	March 7, 2022
10.8#	Form of RSU Grant Package under 2013 Equity Incentive Plan.	S-8	001-40209	99.4	March 7, 2022

Exhibit Number	Description	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
10.9#	Form of Stock Option Grant Package under 2021 Equity Incentive Plan.	8-K	001-40209	10.10	January 6, 2022
10.10#	Form of RSU Grant Package under 2021 Equity Incentive Plan.	8-K	001-40209	10.11	January 6, 2022
10.11	Registration Rights Agreement, dated March 16, 2021, by and among Athena Technology Acquisition Corp. and Athena Technology Sponsor LLC.	8-K	001-40209	10.3	March 22, 2021
10.12	Amendment to Registration Rights Agreement, dated March 16, 2021, by and among Athena Technology Acquisition Corp. and Athena Technology Sponsor LLC.	8-K	001-40209	10.15	January 6, 2022
10.13#	Executive Employment Agreement, dated November 19, 2021, by and between William T. “Bill” Gross and Heliogen, Inc.	S-4/A	333-258606	10.15	November 19, 2021
10.14#	Executive Employment Agreement, dated March 29, 2023, by and between Heliogen, Inc. and Christie Obiaya.	10-K	001-40209	10.14	March 29, 2023
10.15#	Executive Employment Agreement, dated July 6, 2023, by and between Sagar Kurada and Heliogen, Inc.	8-K	001-40209	10.1	July 10, 2023
10.16	Transition Agreement, dated as of January 11, 2024, by and between Heliogen, Inc. and Sagar Kurada.	8-K	001-40209	10.1	January 12, 2024
10.17#	Executive Employment Agreement, dated March 29, 2023, by and between Heliogen, Inc. and Thomas Doyle.	10-K	001-40209	10.15	March 29, 2023
10.18#	Executive Employment Agreement, dated April 13, 2023, by and between Heliogen, Inc. and Kelly Rosser.				
10.19#	Non-Employee Director Compensation Policy dated March 2, 2023.	10-K	001-40209	10.16	March 29, 2023
10.20†	Collaboration Agreement-Australia, dated March 28, 2022, by and between Heliogen Holdings, Inc. and Woodside Energy Technologies Pty. Ltd.	10-Q	001-40209	10.1	May 23, 2022
10.21†***	Commercial-Scale Demonstration Agreement, dated March 28, 2022, by and between Heliogen, Inc. and Woodside Energy (USA) Inc.	10-Q	001-40209	10.2	May 23, 2022
10.22	Warrant to Purchase Class A Common Stock of Heliogen, Inc. in connection with Commercial-Scale Demonstration Agreement, dated March 28, 2022, by and between Heliogen, Inc. and Woodside Energy (USA) Inc.	10-Q	001-40209	10.3	May 23, 2022
10.23	Warrant to Purchase Class A Common Stock of Heliogen, Inc. in connection with Collaboration Agreement, dated March 28, 2022, by and between Heliogen, Inc. and Woodside Energy (USA) Inc.	10-Q	001-40209	10.4	May 23, 2022
21.1	List of Subsidiaries	10-K	001-40209	21.1	March 31, 2022
23.1*	Consent of PricewaterhouseCoopers LLP, independent registered public accounting firm.				
24.1*	Power of Attorney (included on signature page).				

Exhibit Number	Description	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
31.1*	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
31.2*	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
32.1**	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
32.2**	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
97.1*	Incentive Recoupment Compensation Policy				
101.INS*	Inline XBRL Instance Document				
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document				
101.SCH*	Inline XBRL Taxonomy Extension Schema Document.				
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document				
101.LAB*	Inline XBRL Taxonomy Extension Labels Linkbase Document				
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document				
104*	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).				

* Filed herewith.

** Furnished herewith and not deemed to be “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act (whether made before or after the date of this Annual Report on Form 10-K), irrespective of any general incorporation language contained in such filing.

*** Certain portions of this exhibit (indicated by asterisks) have been excluded pursuant to Item 601(b)(10) of Regulation S-K because they are both not material and are the type that the Registrant treats as private or confidential.

† Certain of the exhibits and schedules to this Exhibit have been omitted in accordance with Regulation S-K Item 601. The Company agrees to furnish a copy of all omitted exhibits and schedules to the SEC upon its request.

Indicates management contract or compensatory plan, contract or arrangement.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on March 26, 2024.

Heliogen, Inc.

By: /s/ Christiana Obiaya
Christiana Obiaya
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Christiana Obiaya and Alan Gahm, and each of them, his or her true and lawful attorneys-in-fact and agents, each with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that each of said attorneys-in-fact and agents, or his or her substitute or substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated on March 26, 2024.

<u>Signature</u>	<u>Position</u>
<u>/s/ Christiana Obiaya</u> Christiana Obiaya	Chief Executive Officer <i>(Principal Executive Officer)</i>
<u>/s/ Alan Gahm</u> Alan Gahm	Interim Chief Financial Officer <i>(Principal Financial Officer)</i>
<u>/s/ Wilda Siu</u> Wilda Siu	Chief Accounting Officer <i>(Principal Accounting Officer)</i>
<u>/s/ Julie M. Kane</u> Julie M. Kane	Chairperson of the Board of Directors
<u>/s/ Stacey Abrams</u> Stacey Abrams	Director
<u>/s/ Barbara J. Burger</u> Barbara J. Burger	Director
<u>/s/ Robert Kavner</u> Robert Kavner	Director
<u>/s/ Roger Lazarus</u> Roger Lazarus	Director
<u>/s/ Phyllis W. Newhouse</u> Phyllis W. Newhouse	Director
<u>/s/ Suntharesan Padmanathan</u> Suntharesan Padmanathan	Director