Risk Factors Comparison 2024-03-29 to 2023-03-09 Form: 10-K

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We operate in an evolving industry that presents numerous risks beyond our control that are driven by factors that cannot be predicted. Should any of the risks described in this section or in the documents incorporated by reference in this report actually occur, our business, results of operations, financial condition, or stock price could be materially and adversely affected. Investors should carefully consider the risk factors discussed below, in addition to the other information in this report, before making any investment in our securities. Risks Related to our Overall Business We are currently not profitable and historically, we have incurred significant losses. If we incur continued losses, we may have to curtail our operations, which may prevent us from successfully operating and expanding our business. Historically, we have relied upon cash from debt and equity financing activities to fund substantially all of the cash requirements of our activities. As of December 31, ~~2022~~ **2023**, we had an accumulated deficit of approximately $ ~~429~~ **475**. ~~0~~ **4** million. For our fiscal years ended December 31, **2023 and** 2022 ~~and 2021~~, we reported a net loss of $ **46. 4 million, and $** 107. 8 ~~million, and $ 47. 1~~ million respectively. We may incur losses for an indeterminate period of time and may not achieve consistent profitability. We expect to rely on cash on hand, cash, if any, generated from our operations, borrowing availability, if any, under our lines of credit and proceeds from future financing activities, if any, to fund all of the cash requirements of our business. In some market environments, we may have limited access to incremental financing, which could defer or cancel growth projects, reduce business activity or cause us to default on our existing debt agreements if we are unable to meet our payment schedules. An extended period of losses or negative cash flow may prevent us from successfully operating and expanding our business. ~~13~~ Our indebtedness, preference payments, and interest expense could limit cash flow and adversely affect operations and our ability to make full payment on outstanding debt. For the year ended December 31, ~~2022~~ **2023**, we recognized $ ~~21~~ **33**. ~~4~~ **0** million in interest rate expense and $ ~~9~~ **25**. ~~9~~ **3** million in accretion of Series A preferred units (excludes debt related fees and amortization expense). ● Any cash flows after covering ~~the~~ **our** operations ~~if any~~, equity raises if any, and any EB- 5 funding are used to pay principal and interest on debt, thereby reducing the funds available for working capital, capital expenditures, acquisitions, research and development and other general corporate purposes; ● Any Biogas cash flows are used to pay mandatory redemptions under the ~~Credit Facility by reducing~~ **Preferred Unit Purchase Agreement and thus reduce** the funds available to use by us for operations. ● Insufficient cash flows from operations may force us to sell assets, or seek additional capital, which we may not be able to accomplish on favorable terms, if at all; and ● The level of indebtedness may make us more vulnerable to economic or industry downturns. Our business is dependent on external financing and cash from operations to service debt and provide future growth. The adoption of new technologies at our ethanol and biodiesel plants, the development ~~of the Riverbank Carbon Zero Facility and~~ bio- methane digesters at local dairies near our Keyes Plant **, a SAF / RD production plant and CCUS projects**, and our working capital requirements are financed in part through debt or debt- like facilities. We may need to seek significant additional financing to continue or grow our operations and to develop our business. However, generally unfavorable credit market conditions may make it difficult to obtain necessary capital or additional debt financing on commercially viable terms or at all. If we are unable to pay our debt, we may be forced to delay or cancel capital expenditures, sell assets, restructure our indebtedness, seek additional financing, or file for bankruptcy protection. Debt levels or debt service requirements may limit our ability to borrow additional capital, make us vulnerable to increases in prevailing interest rates, subject our assets to liens, limit our ability to adjust to changing market conditions, or place us at a competitive disadvantage to our competitors. Should we be unable to generate enough cash from our operations or secure additional financing to fund our operations and debt service requirements, we may be required to postpone or cancel growth projects, reduce our operations, or may be unable to meet our debt repayment schedules. Any one of these events would likely have a material adverse effect on our operations and financial position. There can be no assurance that our existing cash flow from operations will be sufficient to sustain operations and to the extent that we are dependent on credit facilities to fund operations or service debt, there can be no assurances that we will be successful at securing funding from our senior lender or significant shareholders. Should we require additional financing, there can be no assurances that the additional financing will be available on terms satisfactory to us. Our ability to identify and enter into commercial arrangements with feedstock suppliers in India depends on maintaining our operations agreement with Gemini Edibles and Fats India Private Limited (" Gemini ") and Secunderabad Oils Limited (" SOL "). If we are unable to maintain this strategic relationship, our business may be negatively affected. In addition, the ability of Gemini and SOL to continue to provide us with working capital depends in part on the financial strength of them and their banking relationships. If Gemini and SOL are unable or unwilling to continue to provide us with working capital, our business may be negatively affected. Our ability to enter into commercial arrangements with feedstock suppliers in California depends on maintaining our operations agreement with J. D. Heiskell, who is currently providing us with working capital for our Keyes Plant. If we are unable to maintain this strategic relationship, our business may be negatively affected. In addition, the ability of J. D. Heiskell to continue to provide us with working capital depends in part on the financial strength of J. D. Heiskell and its banking relationships. If J. D. Heiskell is unable or unwilling to continue to provide us with working capital, our business may be negatively affected. Our consolidated financial statements do not include any adjustments to the classification or carrying values of our assets or liabilities that might be necessary as a result of the outcome of this uncertainty. ~~We~~ **8We** may be unable to repay or refinance our Third Eye Capital Notes upon maturity. Under our note facilities with Third Eye Capital, we owe approximately $ ~~161~~ **181**. ~~5~~ **8** million, excluding debt discounts, as of December 31, ~~2022~~ **2023**. Our indebtedness and interest payments under these note facilities are currently substantial and may adversely affect our cash flow, cash position and stock price. The current maturity date **on some** of these notes ~~is~~ **was recently extended to** April ~~2024~~ **2025** ~~if we choose to exercise our extension option~~. We have been able to extend our indebtedness in the past, but we may not be able to continue to extend the maturity of these notes. We may not have sufficient cash available at the time of maturity to repay this indebtedness. We have default covenants that may accelerate the maturities of these notes. We may not have sufficient assets or cash flow available to support refinancing these notes at market rates or on terms that are satisfactory to us. If we are unable to extend the maturity of the notes or refinance on terms satisfactory to us, we may be forced to refinance on terms that are materially less favorable, seek funds through other means such as a sale of some of our assets or otherwise significantly alter our operating plan, any of which could have a material adverse effect on our business, financial condition and results of operations. Additionally, if we are unable to amend our current note purchase agreement with Third Eye Capital, our ability to pay dividends could be restrained. ~~14~~ We are dependent upon our working capital agreements with J. D. Heiskell, Gemini Edibles and Fats India Private Limited and Secunderabad Oils Limited. Our ability to operate our Keyes Plant depends on maintaining our working capital agreement with J. D. Heiskell, our marketing agreement with Murex and our ability to operate the Kakinada Plant depends on maintaining our working capital agreements with Gemini and SOL. The Heiskell Agreement provides for an initial term of one year with automatic one- year renewals; provided, however, that J. D. Heiskell may terminate the agreement by notice 30 days prior to the end of the initial term or any renewal term ~~. The current term extends through December 31, 2023~~. In addition, the agreement may be terminated at any time upon an event of default, such as payment default, bankruptcy, acts of fraud or material breach under one of our related agreements with J. D. Heiskell. The Gemini and SOL agreement may be terminated at any time by either party upon written notice. If we are unable to maintain these strategic relationships, we will be required to locate alternative sources of working capital and corn ~~or milo~~ supply, which we may be unable to do in a timely manner or at all. If we are unable to maintain our current working capital arrangements or locate alternative sources of working capital, our ability to operate our plants will be negatively affected. Our results from operations are primarily dependent on the spread between the feedstock and energy we purchase and the fuel, animal feed and other products we sell. The results of our ethanol production business in the U. S. are significantly affected by the spread between the cost of ~~the~~ corn and natural gas that we purchase and the price of the ethanol, WDG and DCO that we sell. Similarly, in India our biodiesel business is primarily dependent on the price difference between the costs of the feedstock we purchase (principally NRPO and crude glycerin) and the products we sell (principally distilled biodiesel and refined glycerin). The markets for ethanol, biodiesel, WDG, DCO and glycerin are highly volatile and subject to significant fluctuations. Any decrease in the spread between prices of the commodities we buy and sell, whether as a result of an increase in feedstock prices or a reduction in ethanol or biodiesel prices, would adversely affect our financial performance and cash flow and may cause us to suspend production at either of our plants. As of December 31, 2021 we became an " accelerated filer " and are therefore subject to the auditor attestation requirement in the assessment of our internal control over financial reporting. Because the worldwide market value of our common stock held by non- affiliates exceeded $ 75 million (but was less than $ 700 million), as of the last business day of our fiscal quarter ended June 30, 2022, we are an " accelerated filer " as defined by SEC rule. Therefore, we are now subject to the requirement that we include in this Annual Report on Form 10- K for the fiscal year ending December 31, 2022, the auditor' s attestation report on assessment of our internal control over financial reporting pursuant to Section 404 of the Sarbanes- Oxley Act. If we do not have a sufficient history for us and our independent registered public accounting firm to test and evaluate our new processes and controls, we may be unable to obtain an unqualified attestation report from our independent registered public accounting firm required under Section 404 of the Sarbanes- Oxley Act. If our independent registered public accounting firm is not able to render an unqualified attestation, it could result in lost investor confidence in the accuracy, reliability, and completeness of our financial reports. We expect that our status as an accelerated filer and compliance with these increased requirements will require management to expend additional time while also condensing the time frame available to comply with certain requirements, which may further increase our legal and financial compliance costs. The price of ethanol is volatile and subject to large fluctuations, and increased ethanol production may cause a decline in ethanol prices or prevent ethanol prices from rising, either of which could adversely impact our results of operations, cash flows and financial condition. The market price of ethanol is volatile and subject to large fluctuations. The market price of ethanol is dependent upon many factors, including the supply of ethanol and the demand for gasoline, which is in turn dependent upon the price of petroleum, which is also highly volatile and difficult to forecast. Fluctuations in the market price of ethanol may cause our profitability or losses to fluctuate significantly. In addition, domestic ethanol production capacity increased significantly in the last decade. Demand for ethanol may not increase commensurately with increases in supply, which could lead to lower ethanol prices. Demand for ethanol could be impaired due to a number of factors, including regulatory developments and reduced gasoline consumption. Reduced gasoline consumption has occurred in the past and could occur in the future as a result of increased gasoline or oil prices. ~~15 Decreasing gasoline prices may negatively impact the selling price of ethanol which could reduce our ability to operate profitably. The price of ethanol tends to change in relation to the price of gasoline. If the price of gasoline decreases in the future, in correlation to the decrease in the price of gasoline, the price of ethanol may decrease. Decreases in the price of ethanol reduce our revenue. Our profitability depends on a favorable spread between our corn and natural gas costs and the price we receive for our ethanol. If ethanol prices fall during times when corn and / or natural gas prices are high, we may not be able to operate profitably.~~ We may be unable to execute our business plan. The value of our long- lived assets is based on our ability to execute our business plan and generate sufficient cash flow to justify the carrying value of our assets. Should we fall short of our cash flow projections **in the future**, we may be required to write down the value of these assets under accounting rules and further reduce the value of our assets. We can make no assurances that future cash flows will develop and provide us with sufficient cash to maintain the value of these assets, thus avoiding future impairment to our asset carrying values. As a result, we may need to write down the carrying value of our long- lived assets. ~~In~~ **9In** addition, we intend to modify or adapt third party technologies at the Keyes Plant and at the Kakinada Plant to accommodate alternative feedstocks and improve operations. After we design and engineer a specific integrated upgrade to either or both plants to allow us to produce products other than their existing products, we may not receive permission from the regulatory agencies to install the process at one or both plants. Additionally, even if we are able to install and begin operations of an integrated advanced fuels and / or bio- chemical plant, we cannot assure you that the technology will work and produce cost effective products because we have never designed, engineered nor built this technology into an existing bio- refinery. Similarly, our plans to develop the **SAF / RD production** ~~Riverbank Carbon Zero Facility, construct a bio-methane digester, pipeline and gas cleanup system near our Keyes plan~~ **plant , CCS** , the integrated microgrid, the MVR ~~project~~ **system** , or the Mitsubishi dehydration system at the Keyes Plant may not be successful as a result of financing ~~,~~ **or** issues in the design or construction process ~~, or our ability to sell liquid CO_2 at cost effective prices or achieve the anticipated energy savings~~ . Any inability to execute our business plan may have a material adverse effect on our operations, financial position, ability to pay dividends, and ability to continue as a going concern. We may not be able to recover the costs of our substantial investments in capital improvements and additions, and the actual cost of such improvements and additions may be significantly higher than we anticipate. Our strategy calls for continued investment in capital improvements and additions. For example, we are currently developing " Carbon Zero " biofuels production plants designed to produce biofuels, including renewable jet and renewable diesel fuel utilizing hydrogen and non- edible renewable oils. We are also building carbon capture sequestration wells to generate low- carbon fuel standard credits by injecting CO_2 into sequestration wells that are monitored for emissions to ensure the long- term sequestration of carbon underground, developing the Carbon Zero Facility in Riverbank, CA to utilize ~~the~~ licensed ~~Technologies~~ **technologies** to convert local California surplus biomass into ultra- low carbon renewable ethanol. ~~We are also constructing a network of biogas digesters, pipelines and gas cleanup systems near our Keyes Plant to convert dairy waste gas into renewable bio- methane and evaluating the Goodland facility in Goodland, KS for construction of an additional ethanol facility.~~ The construction of these capital improvements and additions involves numerous regulatory, environmental, political and legal uncertainties, many of which are beyond our control and may require the expenditure of significant amounts of capital, which may exceed our estimates and we may require significant debt or equity financing. These projects may not be completed at the planned cost, on schedule or at all due to unavailability of needed financing. The construction of new ethanol and other biofuel facilities is subject to construction cost overruns due to labor costs, costs of equipment and materials such as steel, labor shortages or weather or other delays, inflation or other factors, which could be material. In addition, the construction of these facilities is typically subject to the receipt of approvals and permits from various regulatory agencies. Those agencies may not approve the projects in a timely manner, if at all, or may impose restrictions or conditions on the projects that could potentially prevent a project from proceeding, lengthen its expected completion schedule and / or increase its anticipated cost. Moreover, our revenues and cash flows may not increase immediately upon the expenditure of funds on a particular project. For instance, if we expand an existing facility or construct a new facility, the construction may occur over an extended period of time, and we may not receive any material increases in revenues or cash flows until the project is completed. As a result, the new facilities may not be able to achieve our expected investment return, which could adversely affect our results of operations. We are **in the process of developing SAF / RD, CCUS, dairy digester, and other projects, and the success of such projects depends on many factors; as such, cash flows and revenue projections may not be achieved. We are actively developing projects designed to reduce emissions of greenhouse gases. These include (i) a biofuels production plant in Riverbank, California designed to produce SAF / RD using renewable fats and oils obtained from existing Aemetis biofuels plants and other sources, (ii) Carbon Capture and Underground Sequestration (" CCUS ") projects designed to compress and inject CO_2 into deep wells for long- term sequestration of carbon underground, (iii) additional dairy digesters at new locations, along with associated infrastructure for transporting and producing biogas and Renewable Natural Gas. We also plan to develop additional projects beyond those listed here. Each of these development projects depends on completing all necessary development activities, including, but not limited to, obtaining necessary regulatory approvals and permits, acquisition of property rights, contracting, engineering and cost estimating, determination of feasibility, funding of project development costs, construction financing, construction, and startup. There is no certainty that we will successfully complete all the necessary development activities for any particular project, that a project will ultimately be built, that a project will be built or operational according to our planned schedule, or that a project will ultimately generate revenue or contribute to our cash flows, any of which could have a material adverse effect on our business, financial condition, results of operations and cash flow. We rely on the availability of tax credits, carbon credits, grants, and other regulatory and financial incentives. The expiration, elimination, modification, or reduction of these regulations, credits, and incentives could adversely impact our business. U. S. and India federal, state, and local governments provide regulations and incentives for operations and projects that are designed to promote renewable fuels and reduce carbon emissions. Each of our currently operating businesses and development projects are expected to generate revenue, cash, and credits from these government programs. In particular, we have used and plan to continue to use the provisions of the Internal Revenue Code (" IRC ") and the Inflation Reduction Act (" IRA ") amendments to the IRC in 2022 that provide Investment Tax Credits, Production Tax Credits, and other credits, and that allow us to either use the credits or to monetize the credits by selling them to third parties. These include certain transferrable IRA tax credits generated from our qualified biogas facilities. We also currently generate and plan to continue to generate credits under the federal Renewable Fuel Standard (" RFS ") and the California Low Carbon Fuel Standard (" LCFS "). Our India plant produces biofuel to help India meet the goals of its National Policy on Biofuels. The IRA, RFS, LCFS and other regulations, as well as our ability to qualify for and monetize the tax credits, carbon credits, grants and other financial incentives available thereunder, are subject to modifications, additional regulatory requirements or limits, varying interpretations, reduction, expiration, and other changes. These can occur with or without advance notice, may affect our past business activities or future plans, and may occur for a variety of reasons resulting from legislation, new or changing regulations, regulatory interpretation, court cases, and other sources. These regulatory programs, credits,**

and incentives have been and will continue to be material to our business and to our projects under development. Changes to regulations and reductions in or expirations of governmental credits and incentives could adversely impact our revenue, increase cost of materials, and reduce the size of our addressable market, any of which could have a material adverse effect on our business, financial condition, results of operations, and cash flows. 10We are dependent on, and vulnerable to any difficulties of, our principal suppliers and customers. We buy all of the feedstock for the Keyes Plant from one supplier, J. D. Heiskell. Under the Heiskell Supply Agreement, we are only permitted to purchase feedstock from other suppliers upon the satisfaction of certain conditions. In addition, we have contracted to sell all of the WDG, CDS, and corn oil we produce at the Keyes Plant to J. D. Heiskell. J. D. Heiskell, in turn, sells all WDG and syrup produced to A. L. Gilbert. We sell the majority of our fuel ethanol production to one customer, Murex ~~, through individual sales transactions~~ . If J. D. Heiskell were to fail to deliver adequate feedstock to the Keyes Plant or fail to purchase all the contracted product we produce, if Murex were to fail to purchase the majority of the ethanol we produce, if A. L. Gilbert were to fail to purchase all of the WDG and syrup we produce, or if any of them were otherwise to default on our agreements with them or fail to perform as expected, we may be unable to find replacement suppliers or purchasers, or both, in a reasonable time or on favorable terms, any of which could materially adversely affect our results of operations and financial condition. ~~16~~ We may not receive the funds we expect under our EB- 5 program. Our EB- 5 Phase I program allows for the issuance of up to 72 subordinated convertible promissory notes, each in the amount of $ 0. 5 million due and payable four years from the date of the note for a total aggregate principal amount of up to $ 36. 0 million. As of December 31, ~~2022~~ **2023** , $ 35. 5 million have been raised through the EB- 5 program and have been released from escrow and $ 0. 5 million remain to be funded to escrow. Additionally, the USCIS could deny approval of the loans, and then we would not receive some or all of the subscribed funds. If the USCIS takes longer to approve the release of funds in escrow, or does not approve the loans at all, it would have a material adverse effect on our cash flows available for operations, and thus could have a material adverse effect on our results of operations. As of December 31, ~~2022~~ **2023** , $ 37. ~~2~~ **9** million of principal and unpaid interest was outstanding on the EB- 5 Notes under the EB- 5 Phase I funding. On October 16, 2016, we launched our EB- 5 Phase II program, allowing for the issuance of up to 100 subordinated convertible promissory notes, on substantially similar terms and conditions as those issued under our EB- 5 Phase I program, for a total aggregate principal amount of up to $ 50. 8 million. On November 21, 2019, the minimum investment was raised from $ 500, 000 per investor to $ 900, 000 per investor. As of December 31, ~~2022~~ **2023** , $ 4. 0 million ~~have~~ **has** been raised through the EB- 5 Phase II program and have been released from escrow and $ 4. ~~2~~ **3** million of principal and unpaid interest was outstanding on the EB- 5 Notes under the EB- 5 Phase II funding. There can be no assurance that we will be able to successfully raise additional funds under our EB- 5 Phase II program or that such funds, if raised, will be approved by USCIS. If we are unable to raise, receive approval for, or receive any funds under our EB- 5 Phase II program, our business may be negatively affected. We face competition for our bio- chemical and transportation fuels products from providers of petroleum- based products and from other companies seeking to provide alternatives to these products, many of whom have greater resources and experience than we do, and if we cannot compete effectively against these companies, we may not be successful. Our renewable products compete with both the traditional, largely petroleum- based bio- chemical and fuels products that are currently being used in our target markets and with the alternatives to these existing products that established enterprises and new companies are seeking to produce. The oil companies, large chemical companies and well- established agricultural products companies with whom we compete are much larger than we are, and have, in many cases, well developed distribution systems and networks for their products. In the transportation fuels market, we compete with independent and integrated oil refiners, advanced biofuels companies, traditional biofuel companies and biodiesel companies. Refiners compete with us by selling traditional fuel products and some are also pursuing hydrocarbon fuel production using non- renewable feedstocks, such as natural gas and coal, as well as processes using renewable feedstocks, such as vegetable oil and biomass. We also expect to compete with companies that are developing the capacity to produce diesel and other transportation fuels from renewable resources in other ways. With the emergence of many new companies seeking to produce chemicals and fuels from alternative sources, we may face increasing competition from alternative fuels and chemicals companies. As they emerge, some of these companies may be able to establish production capacity and commercial partnerships to compete with us. If we are unable to establish production and sales channels that allow us to offer comparable products at attractive prices, we may not be able to compete effectively with these companies. We also face competition from international suppliers. Ethanol can be imported into the United States duty- free from some countries, which may undermine the domestic ethanol industry. Currently, international suppliers produce ethanol primarily from sugar cane and as such, production costs for ethanol in these countries can be significantly less than those in the United States and the import of lower price or lower carbon value ethanol from these countries may reduce the demand for domestic ethanol and depress the price at which we sell our ethanol. ~~The high concentration of our sales within the ethanol production industry could result in a significant reduction in sales and negatively affect our profitability if demand for ethanol declines. We expect our U. S. operations to be substantially focused on the production of ethanol and its co- products for the near future until the biogas, SAF / Renewable Diesel and Carbon Capture projects are developed. We may be unable to shift our business focus away from the production of ethanol to other renewable fuels or competing products quickly. Accordingly, an industry shift away from ethanol or the emergence of new competing products may reduce the demand for ethanol, which could materially and adversely affect our sales and profitability. 17~~ Our operations are subject to environmental, health, and safety laws, regulations, and liabilities. Our operations are subject to various federal, state and local environmental laws, and regulations, including those relating to the discharge of materials into the air, water and ground, the generation, storage, handling, use, transportation and disposal of hazardous materials, access to and impacts on water supply, and the health and safety of our employees. In addition, our operations and sales in India subject us to risks associated with foreign laws, policies and regulations. Some of these laws and regulations require our facilities to operate under permits or licenses that are subject to renewal or modification. These laws, regulations and permits can require expensive emissions testing and pollution control equipment or operational changes to limit actual or potential impacts to the environment. Violations of these laws, regulations or ~~permit~~ **permits** , or license conditions can result in substantial fines, natural resource damages, criminal sanctions, permit revocations and facility shutdowns. We may not be at all times in compliance with these laws, regulations, permits or licenses or we may not have all permits or licenses required to operate our business. We may be subject to legal actions brought by environmental advocacy groups and other parties for actual or alleged violations of environmental laws, permits or licenses. As we enter into new markets such as USP alcohol and hand sanitizer, we may be subject to several regulations and health and safety laws by TTB and Food and Drug Administration (' FDA "). Failure to comply with these health and safety laws, our license to sell these products may be revoked and we may be subject to certain penalties. In addition, we may be required to make significant capital expenditures on an ongoing basis to comply with increasingly stringent environmental laws, regulations, and permit and license requirements. ~~We~~ **11We** may be liable for the investigation and cleanup of environmental contamination at our facilities and at off- site locations where we arrange for the disposal of hazardous substances. If hazardous substances have been or are disposed of or released at sites that undergo investigation or remediation by regulatory agencies, we may be responsible under CERCLA or other environmental laws for all or part of the costs of investigation and remediation, and for damage to natural resources. We also may be subject to related claims by private parties alleging property damage and personal injury due to exposure to hazardous or other materials at or from those properties. Some of these matters may require us to expend significant amounts for investigation, cleanup or other costs. New laws, new interpretations of existing laws, increased governmental enforcement of environmental laws or other developments could require us to make additional significant expenditures. Continued government and public emphasis on environmental issues can be expected to result in increased future investments for environmental controls at our production facilities. Environmental laws and regulations applicable to our operations now or in the future, more vigorous enforcement policies and discovery of currently unknown conditions may require substantial expenditures that could have a negative impact on our results of operations and financial condition. Our business is affected by greenhouse gas and climate change regulation. Emissions of carbon dioxide resulting from manufacturing ethanol are subject to permit requirements. Climate change continues to attract considerable attention globally. Numerous proposals have been made and could continue to be made at the international, federal, state and local levels to monitor and limit existing emissions of GHG, including carbon dioxide, as well as to restrict or eliminate future emissions. At this stage, it is not possible to accurately estimate either a timetable for implementation of any future regulations or our future compliance costs relating to implementation. Under the 2015 Paris Agreement, parties to the United Nations Framework Convention on Climate Change agreed to undertake ambitious efforts to reduce GHG emissions and strengthen adaptation to the effects of climate change. In February 2021, the U. S. recommitted to the Agreement after having withdrawn in August 2017. In the U. S., the EPA promulgated federal GHG regulations under the Clean Air Act affecting certain sources. The EPA issued mandatory GHG reporting requirements, requirements to obtain GHG permits for certain industrial plants and GHG performance standards for some facilities. Although the EPA recently scaled back certain GHG requirements, addressing climate change is a stated priority of President Biden and as such additional regulations and legislation are likely to be forthcoming at the U. S. federal or state level that could result in increased operating costs for compliance, or required acquisition or trading of emission allowances. Additionally, demand for the products we produce may be reduced. If new laws or regulations are passed relating to the production, disposal or emissions of carbon dioxide, we may be required to incur significant costs to comply with such new laws or regulations. Compliance with future legislation may require us to take action unknown to us at this time that could be costly, and require the use of working capital, which may or may not be available, preventing us from operating as planned, which may have a material adverse effect on our operations and cash flow. ~~The operations at our Keyes Plant will result in the emission of CO_2 into the atmosphere. In March 2010, the EPA released its final regulations on the RFS. We believe the EPA' s final RFS regulations grandfather the Keyes Plant emission levels at its current capacity. 18~~ A change in government policies may cause a decline in the demand for our products. The domestic ethanol industry is highly dependent upon a myriad of federal and state regulations and legislation, and any changes in legislation or regulation could adversely affect our results of operations and financial position. Other federal and state programs benefiting ethanol generally are subject to U. S. government obligations under international trade agreements, including those under the World Trade Organization Agreement on Subsidies and Countervailing Measures, and may be the subject of challenges, in whole or in part. Growth and demand for ethanol and biodiesel is largely driven by federal and state government mandates or blending requirements, such as the RFS, which was implemented pursuant to the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007 (the " EISA "). The RFS program sets annual quotas for the quantity of renewable fuels (such as ethanol) that must be blended into motor fuels consumed in the United States. However, legislation aimed at reducing or eliminating the renewable fuel use required by the RFS has been introduced in the United States Congress. Any change in government policies could have a material adverse effect on our business and the results of our operations. Waivers of the RFS minimum levels of renewable fuels included in gasoline or of the requirements by ~~obligate~~ **obligated** parties to comply with the regulations could have a material adverse effect on our results of operations. Under the Energy Policy Act, the U. S. Department of Energy, in consultation with the Secretary of Agriculture and the Secretary of Energy, may waive the renewable fuels mandate with respect to one or more states if the Administrator of the EPA determines that implementing the requirements would severely harm the economy or the environment of a state, a region or the nation, or that there is inadequate supply to meet the requirement. Additionally, the EPA has exercised the authority to waive the requirements of the RFS for certain small refiners. Any waiver of the RFS with respect to one or more states would reduce demand for ethanol and could cause our results of operations to decline and our financial condition to suffer. Further activity by the EPA to waive the requirements for small refiners could cause softening of pricing in the industry and cause our results of operations to similarly decline. A critical state program is California' s LCFS, which is designed to reduce greenhouse gas emissions associated with transportation fuels used in California by ensuring that the fuel sold meets declining targets for such emissions. The regulation quantifies lifecycle greenhouse gas emissions by assigning a **carbon**

intensity (" CI **")** score to each transportation fuel based on that fuel' s lifecycle assessment. Each petroleum fuel provider, generally the fuel' s producer or importer (the " Regulated Party "), is required to ensure that the overall CI score for its fuel pool meets the annual carbon intensity target for a given year. A Regulated Party' s fuel pool can include gasoline, diesel, and their blend stocks and substitutes. This obligation is tracked through credits and deficits. Fuels with a CI score lower than the annual standard earn a credit, and fuels that are higher than the standard result in a deficit. Credits can be traded. Any changes to California' s LCFS could cause our results of operations, particularly in ethanol and biogas, to decline and cause our financial condition to suffer. ~~Concerns~~ **12Concerns** regarding the environmental impact of biofuel production could affect public policy which could impair our ability to operate at a profit and substantially harm our revenues and operating margins. Under the EISA, the EPA is required to produce a study every three years of the environmental impacts associated with current and future biofuel production and use, including effects on air and water quality, soil quality and conservation, water availability, energy recovery from secondary materials, ecosystem health and biodiversity, invasive species and international impacts. Should such EPA triennial studies, or other analyses find that biofuel production and use has resulted in, or could in the future result in, adverse environmental impacts, such findings could also negatively impact public perception and acceptance of biofuel as an alternative fuel, which also could result in the loss of political support. To the extent that state or federal laws are modified or public perception turns against biofuels, use requirements such as RFS and LCFS may not continue, which could materially harm our ability to operate profitably. We may encounter unanticipated difficulties in converting the Keyes Plant to accommodate alternative feedstocks, new chemicals used in the fermentation and distillation process or new mechanical production equipment. In order to improve the operations of the Keyes Plant and execute on our business plan, we intend to modify the Keyes Plant to accommodate alternative feedstocks and new chemical and / or mechanical production processes, including an integrated microgrid, an MVR distillation system, the Mitsubishi dehydration system and other technologies. We may not be able to successfully implement these modifications, and they may not function as we expect them to. These modifications may cost significantly more to complete than our estimates. The Keyes Plant may not operate at nameplate capacity once the changes are complete. If any of these risks materialize, they could have a material adverse effect on our results of operations and financial position. ~~Aemetis has entered into new markets for alcohol, including the sanitizer market and other industrial alcohol segments. These new markets, along with existing transportation / energy markets Aemetis already serves, are highly volatile and have significant risk associated with current market conditions. We have limited experience in marketing and selling high grade alcohol and hand sanitizer. As such, we may not be able to compete successfully with existing or new competitors in supplying high- grade alcohol to potential customers. We may not be able to reach USP grade alcohol to compete further in the high- grade alcohol and hand sanitizer market. If we are unable to establish production and sales channels that allow us to offer comparable products at attractive prices, we may not be able to compete effectively in the market. Furthermore, there can be no assurance that our high- grade alcohol business will ever generate significant revenues or maintain profitability. The failure to do so could have a material adverse effect on our business and results of operations. 19~~ We could be adversely affected by violations of the U. S. Foreign Corrupt Practices Act. Our operations in countries outside the United States, including our operations in India, are subject to anti- corruption laws and regulations, including restrictions imposed by the U. S. Foreign Corrupt Practices Act (the " FCPA "). The FCPA and similar anti- corruption laws in other jurisdictions generally prohibit companies and their intermediaries from making improper payments to government officials for the purpose of obtaining or retaining business. We operate in parts of the world that have experienced governmental corruption to some degree and, in certain circumstances, strict compliance with anti- corruption laws may conflict with local customs and practices. Our employees and agents interact with government officials on our behalf, including interactions necessary to obtain licenses and other regulatory approvals necessary to operate our business. These interactions create a risk that actions may occur that could violate the FCPA or other similar laws. Although we have policies and procedures designed to promote compliance with local laws and regulations as well as U. S. laws and regulations, including the FCPA, there can be no assurance that all of our employees, consultants, contractors and agents will abide by our policies. If we are found to be liable for violations of the FCPA or similar anti- corruption laws in other jurisdictions, either due to our own acts or out of inadvertence, or due to the acts or inadvertence of others, we could suffer from criminal or civil penalties which could have a material and adverse effect on our results of operations, financial condition and cash flows. A substantial portion of our assets and operations are located in India, and we are subject to regulatory, economic and political uncertainties in India. Certain of our principal operating subsidiaries are incorporated in India, and substantial portions of our assets are located in India. We intend to continue to develop and expand our facilities in India. The Indian government has exercised and continues to exercise significant influence over many aspects of the Indian economy. India' s government has traditionally maintained an artificially low price for certain commodities, including diesel fuel, through subsidies, but has recently begun to reduce such subsidies, which benefits us. We cannot assure you that liberalization policies will continue. Various factors, such as changes in the current federal government, could trigger significant changes in India' s economic liberalization and deregulation policies and disrupt business and economic conditions in India generally and our business in particular. In particular, the Indian government' s 2018 National Biofuels Policy stated a plan to increase Biodiesel blending to 5 % of the diesel market, equal to more than 1. 2 billion gallons per year. We cannot assure you that this policy will continue, nor can we assure you that we will continue to be able to procure biodiesel supply contracts with the Indian state- owned oil marketing companies through the public tender process. Our financial performance may be adversely affected by any such changes or other changes to the general economic conditions and economic and fiscal policy in India, including changes in exchange rates and controls, interest rates and taxation policies, as well as social stability and political, economic or diplomatic developments affecting India in the future. Currency fluctuations between the Indian rupee and the U. S. dollar could have a material adverse effect on our results of operations. A substantial portion of our revenues is denominated in Indian rupees. We report our financial results in U. S. dollars. The exchange rates between the Indian rupee and the U. S. dollar have changed substantially in recent years and may fluctuate substantially in the future. We do not currently engage in any formal currency hedging of our foreign currency exposure, and our results of operations may be adversely affected if the Indian rupee fluctuates significantly against the U. S. dollar. We could be subject to strict restrictions on the movement of cash and the exchange of foreign currencies which could limit our access to cash held in our Indian subsidiary to fund our U. S. operations or otherwise make investments where needed. Our Indian operations could be subject to strict restrictions on the movement of cash and the exchange of foreign currencies, which would limit our ability to use this cash across our global operations. For instance, cash and cash equivalents were $ ~~4~~ **2** . ~~3~~ **7** million at December 31, ~~2022~~ **2023** , of which $ ~~1~~ **2** . 6 million was held in our North American entities and $ ~~2~~ **0** . ~~7~~ **1** million was held in our ~~Indian~~ - **India** subsidiary. Cash held in our Indian subsidiary may not otherwise be available for servicing debt obligations, potential investment or use for operations in the United States. Moreover, even if we were to repatriate this cash back to the United States for use in U. S. investments, this cash could be subject to additional withholding taxes. Due to various methods by which cash could be repatriated to the United States in the future, the amount of taxes attributable to the cash is dependent on circumstances existing if and when remittance occurs. Due to the various methods by which such earnings could be repatriated in the future, it is not practicable to determine the amount of applicable taxes that would result from such repatriation. In addition, Indian regulations may impose restrictions on the movement and exchange of foreign currencies which could further limit our ability to use such funds for repayment of debt, operations or capital or other strategic investments. Our inability to access our cash where and when needed could impede our ability to service our debt obligations, make investments and support our operations. ~~20 We are~~ **13Aemetis, Inc. is** a holding **and management** company and there are significant limitations on our ability to receive distributions from our subsidiaries. We conduct substantially all of our operations through subsidiaries and are dependent on cash distributions, dividends or other intercompany transfers of funds from our subsidiaries to finance our operations. Our subsidiaries have not made significant distributions to us and may not have funds available for dividends or distributions in the future. The ability of our subsidiaries to transfer funds to us will be dependent upon their respective abilities to achieve sufficient cash flows after satisfying their respective cash requirements, including subsidiary- level debt service on their respective credit agreements. Our current credit agreement, the Third Eye Capital Note Purchase Agreement, as amended from time to time, as described in the Notes to Consolidated Financial Statements, requires us to obtain the prior consent of Third Eye Capital, as the Administrative Agent of the Note holders, to make cash distributions or any intercompany fund transfers. The ability of our Indian operating subsidiary to transfer funds to us is restricted by Indian laws and may be adversely affected by U. S. federal income tax laws. Under Indian laws, our capital contributions, or future capital contributions, to our Indian operation cannot be remitted back to the U. S. Remittance of funds by our Indian subsidiary to us may subject us to significant tax liabilities under U. S. federal income tax laws ~~. Our Chief Executive Officer has outside business interests that could require time and attention. Eric McAfee, our Chairman and Chief Executive Officer, has outside business interests which include his ownership of McAfee Capital. Although Mr. McAfee' s employment agreement requires that he devote reasonable business efforts to our company and prohibits him from engaging in any competitive employment, occupational and consulting services, this agreement also permits him to devote time to his outside business interests consistent with past practice. As a result, these outside business interests could interfere with Mr. McAfee' s ability to devote time to our business and affairs~~ . Our ability to utilize our NOL carryforwards may be limited. Under the Internal Revenue Code of 1986, as amended (the " Code "), a corporation is generally allowed a deduction in any taxable year for net operating losses (" NOL ") carried over from prior taxable years. As of December 31, ~~2022~~ **2023** , we had U. S. federal NOL carryforwards of approximately $ ~~231~~ **253** . 0 million and state NOL carryforwards of approximately $ ~~300~~ **336** . 0 million. As of December 31, ~~2022~~ **2023** , the federal ~~NOL~~ **NOLs** ~~' s~~ of $ ~~200~~ **187** . 0 million and the state ~~NOL~~ **NOLs** ~~' s~~ of $ ~~300~~ **348** . 0 million expire on various dates between 2027 and 2042. Due to the 2017 U. S. Tax Reform, U. S. federal NOLs ~~post~~ **after** 2017 in the amount of $ ~~31~~ **85** . 0 million have no expiration date. The Section 163 (j) excess interest expense carryover does not expire (similar to ~~NOL~~ **NOLs** ~~' s~~). However, the Section ~~163j~~ - **163 (j)** excess interest expense carryover is subject to allowed amounts and the Section 382 change of ownership rules, similar to ~~NOL~~ **NOLs** ~~' s~~ and tax credits. The annual computation for how much interest expense **is** allowed includes the prior year interest carry over plus current year interest. The amount allowed is generally 30 % (**the** law was modified for 2019 and 2020 to 50 % due to COVID) of adjusted taxable income before the interest. Due to the ongoing interest expense every year, our ability **to continue to carry forward the interest expense to next year** may be limited ~~just to continue to carry forward the interest expense to next year~~ . Our ability to deduct these NOL carryforwards against future taxable income could be limited if we experience an " ownership change, " as defined in Section 382 of the Code. In general, an ownership change may result from one or more transactions increasing the aggregate ownership of certain persons (or groups of persons) in our stock by more than 50 percentage points over a testing period (generally three years). **Past or** ~~Future~~ **future** direct or indirect changes in the ownership of our stock, including sales or acquisitions of our stock by certain stockholders and purchases and issuances of our stock by us, some of which are not in our control **and / or may occur or have already occurred in the public markets** , could result in an ownership change. Any resulting limitation on the use of our NOL carryforwards could result in the payment of taxes above the amounts currently estimated ~~and could have a negative effect on our future results of operations and financial position~~ . Non- U. S. stockholders of our common stock, in certain situations, could be subject to U. S. federal income tax on the gain from the sale, exchange or other disposition of our common stock. Our Keyes Plant (which constitutes a U. S. real property interest for purposes of determining whether we are a U. S. real property holding corporation (a " USRPHC ") under the Foreign Investment in Real Property Tax Act (" FIRPTA ")), currently accounts for a significant portion of our assets. The value of our Keyes Plant relative to our real property located outside of the United States and other assets used in our trade or business may be uncertain and may fluctuate over time. Therefore, we may be, now or at any time while a non- U. S. stockholder owns our common stock, a USRPHC. If we are a USRPHC, certain non- U. S. stockholders may be subject to U. S. federal income tax on gain from the disposition of our stock under FIRPTA, in which case such non- U. S. stockholders would also be required to file U. S. federal income tax returns with respect to such gain. Whether the FIRPTA provisions apply depends on the stock that a non- U. S. stockholder owns and whether, at the time such non- U. S. stockholder disposes of our common stock, such common stock is regularly traded on an established securities market within the meaning of the applicable U. S. Treasury regulations. Non- U. S. stockholders should consult with their own tax advisors concerning the U. S. federal income tax consequences of the sale, exchange or other disposition of our common stock. ~~21~~ We are subject to covenants and other operating restrictions under the terms of our debt, which may restrict our ability to engage in some business transactions. Our debt facilities contain covenants restricting our ability, among others, to: ● incur additional debt; ● make certain capital expenditures; ● incur or permit liens to exist; ● enter into transactions with affiliates; ● guarantee the debt of other entities, including joint ventures; ● pay dividends; ● merge or consolidate or otherwise combine with another company; and ● transfer, sell or lease our assets. These restrictions may limit our ability to engage in business transactions that may be beneficial to us or may restrict our ability to execute our business plan. We may be subject to liabilities and losses that may not be covered by insurance. Our employees and facilities are subject to the hazards associated with producing ethanol and biodiesel. Operating hazards can cause personal injury and loss of life, damage to, or destruction of, property, plant and equipment and environmental damage. We maintain insurance coverage in amounts, against the risks that we believe are consistent with industry practice ~~,~~ and maintain an active safety program. However, we could sustain losses for uninsurable or uninsured risks, or in amounts in excess of existing insurance coverage. Events that result in significant personal injury or damage to our property or to property owned by third parties or other losses that are not fully covered by insurance could have a material adverse effect on our results of operations and financial position. ~~Insurance~~ **14Insurance** liabilities are difficult to assess and quantify due to unknown factors, including the severity of an injury, the determination of our liability in proportion to other parties, the number of incidents not reported and the effectiveness of our safety program. If we were to experience insurance claims or costs above our coverage limits or that are not covered by our insurance, we might be required to use working capital to satisfy these claims rather than to maintain or expand our operations. To the extent that we experience a material increase in the frequency or severity of accidents or workers' compensation claims, or unfavorable developments on existing claims, our operating results and financial condition could be materially and adversely affected. ~~The widespread outbreak of an illness, pandemic (such as COVID- 19) or any other public health crisis may have material adverse effects on our financial position, results of operations or cash flows. The spread of COVID- 19 has caused global business disruptions beginning in January 2020, including disruptions in the energy and natural gas industry. The COVID- 19 pandemic has negatively impacted the global economy, disrupted global supply chains, reduced global demand of goods and services, and created significant volatility and disruption of financial and commodity markets. The extent of the impact of the COVID- 19 pandemic on our operational and financial performance, including our ability to execute our business strategies and projects in the expected time frame, continues to be uncertain and depends on various factors, including the demand for ethanol, WDG, CDS and DCO, the availability of personnel, equipment and services critical to our ability to operate our properties and the impact of potential governmental restrictions on travel, transports and operations. We continue to monitor federal, state, and local government recommendations and have made modifications to our normal operations as a result of COVID- 19. The degree to which the COVID- 19 pandemic or any other public health crisis adversely impacts our results will depend on future developments, which are highly uncertain and cannot be predicted, including, but not limited to, the duration and spread of the outbreak, appearance of variants, its severity, the actions to contain the virus or treat its impact, its impact on the economy and market conditions, and how quickly and to what extent normal economic and operating conditions can resume. Therefore, the degree of the adverse financial impact cannot be reasonably estimated at this time. We have facilities located in California and India, and the employees working in those facilities may be at greater risk for exposure to and for contracting COVID- 19. The spread of COVID- 19 in these locations may result in our employees being forced to work from home or missing work if they or a member of their family contract COVID- 19. Additionally, the spread of COVID- 19 may result in economic downturns in the markets in which we sell our products and lead to reduced demand for gasoline in such markets, each of which may impair demand for ethanol, harm our operations and negatively impact our financial condition. 22~~ Our mergers, acquisitions, partnerships, and joint ventures may not be as beneficial as we anticipate. We have increased our operations through mergers, acquisitions, partnerships and joint ventures and intend to continue to explore these opportunities in the future. For example, in December 2020, we announced an investment in Nevo Motors, Inc. pursuant to a Strategic Electric Vehicle Production Facilities Agreement that will utilize our current and future manufacturing facilities and fueling stations, as well as renewable natural gas and electricity produced by us. The anticipated benefits of these transactions might take longer to realize than expected and these may never be fully realized, or even realized at all. Furthermore, partnerships and joint ventures generally involve restrictive covenants on the parties involved, which may limit our ability to manage these agreements in a manner that is in our best interest. Future mergers, acquisitions, partnerships, and joint ventures may involve the issuance of debt or equity, or a combination of the two, as payment for or financing of the business or assets involved, which may dilute ownership interest in our business. Any failure to adequately evaluate and address the risks of and execute on our mergers, acquisitions, partnerships, and joint ventures could have an adverse material effect on our business, results of operations, and financial condition. In connection with such acquisitions and strategic transactions, we may incur unanticipated expenses, fail to realize anticipated benefits, have difficulty incorporating the acquired businesses, our management may become distracted from our core business, and we may disrupt relationships with current and new employees, customers and vendors, incur significant debt, or have to delay or not proceed with announced transactions. The occurrence of any of these events could have an adverse effect on our business. Our business may be significantly disrupted upon the occurrence of a catastrophic event or cyberattack. Our Keyes and Kakinada Plants are highly automated and they rely extensively on the availability of our network infrastructure and internal technology systems. The failure of our systems due to a catastrophic event, such as an earthquake, fire, flood, tsunami, weather event, telecommunications failure, power failure, cyberattack or war, could adversely impact our business, results of operations and financial condition. We have developed disaster recovery plans and maintain backup systems in order to reduce the potential impact of a catastrophic event. However, there can be no assurance that these plans and systems would enable us to return to normal business operations. Our network infrastructure and internal technology systems may also be subject to other risks such as computer viruses, physical or electronic vandalism or other similar disruptions that could cause system interruptions and loss of critical data. Cybersecurity threats and incidents can range from uncoordinated individual attempts to gain unauthorized access to our networks and systems to more sophisticated and targeted measures directed at us or our third- party service providers. Despite the implementation of cybersecurity measures including access controls, data encryption, vulnerability assessments, employee training, continuous monitoring, and maintenance of backup and protective systems, our network infrastructure and internal technology systems may still be vulnerable to cybersecurity threats and other electronic security breaches. While we have taken reasonable efforts to protect ourselves, and to date, we have not experienced any material breaches or material losses related to cyberattacks, we cannot assure that any of our security measures would be sufficient in the future. Adverse weather conditions, including as a result of climate change, may adversely affect the availability, quality and price of agricultural commodities and agricultural commodity products, as well as our operations and operating results. Adverse weather conditions have historically caused volatility in the agricultural commodity industry and consequently in our operating results by causing crop failures or significantly reduced harvests, which may affect the supply and pricing of the agricultural commodities that we sell and use in our business and negatively affect the creditworthiness of agricultural producers who do business with us, including corn, feed and dairy producers. ~~23~~ Severe adverse weather conditions, such as hurricanes or severe storms, may also result in extensive property damage, extended business interruption, personal injuries and other loss and damage to us. Our operations also rely on dependable and efficient transportation services. A disruption in transportation services, as a result of weather conditions or otherwise, may also significantly adversely impact our operations. Additionally, the potential physical impacts of climate change are uncertain and may vary by region. These potential effects could include changes in rainfall patterns, water shortages, changing sea levels, changing storm patterns and intensities, and changing temperature levels that could adversely impact our costs and business operations, the location, costs and competitiveness of global agricultural commodity production and related storage and processing facilities and the supply and demand for agricultural commodities. These effects could be material to our results of operations, liquidity or capital resources. We may be unable to protect our intellectual property. We rely on a combination of patents, trademarks, trade name, confidentiality agreements, and other contractual restrictions on disclosure to protect our intellectual property rights. We also enter into confidentiality agreements with our employees, consultants, and corporate partners, and control access to and distribution of our confidential information. These measures may not preclude the disclosure of our confidential or proprietary information. Despite efforts to protect our proprietary rights, unauthorized parties may attempt to copy or otherwise obtain and use our proprietary information. Monitoring unauthorized use of our confidential information is difficult, and we cannot be certain that the steps we have taken to prevent unauthorized use of our confidential information, particularly in foreign countries where the laws may not protect proprietary rights as fully as in the U. S., will be effective. Companies in our industry aggressively protect and pursue their intellectual property rights. From time to time, we receive notices from competitors and other operating companies, as well as notices from " non- practicing entities, " or NPEs, that claim we have infringed upon, misappropriated or misused other parties' proprietary rights. Our success and future revenue growth will depend, in part, on our ability to protect our intellectual property. It is possible that competitors or other unauthorized third parties may obtain, copy, use or disclose our technologies and processes, or confidential employee, customer or supplier data. Any of our existing or future patents may be challenged, invalidated or circumvented. ~~We~~ **15We** may not be able to successfully develop and commercialize our technologies, which may require us to curtail or cease our research and development activities. Since 2007, we have been developing patent- pending enzyme technology to enable the production of ethanol from a combination of starch and cellulose, or from cellulose alone. In July 2011, we acquired Zymetis, Inc., a biochemical research and development firm, with several patents pending and in- process R & D utilizing the Z- microbe ™ to produce renewable chemicals and advanced fuels from renewable feedstocks ~~. In December 2018, the Company wrote off $ 0. 9 million of patents associated with the Z-microbeTM and enzymatic processes to facilitate the degradation of certain plant biomass as the Company no longer plans to commercially develop the technologies itself and to free up resources to pursue other methods~~ . In 2018, in cooperation with a federally funded agency, we secured a grant from the California Energy Commission to optimize and demonstrate the effectiveness of ionic liquids technologies for breaking down biomass to produce ethanol. To date, we have not completed a large- scale commercial prototype of our technology and are uncertain at this time when completion of a commercial scale prototype or commercial scale production will occur. Commercialization risks include economic financial feasibility at commercial scale, availability of funding to complete large- scale commercial plant, ability of ionic liquids to function at commercial scale and market acceptance of product. Technological advances and changes in production methods in the biomass-based biofuel industry and renewable chemical industry could render our plants obsolete and adversely affect our ability to compete. It is expected that technological advances in biomass- based biofuel production methods will continue to occur and new technologies for biomass- based diesel production may develop. Advances in the process of converting oils and fats into biodiesel and renewable diesel, including co- processing, could allow our competitors to produce advanced biofuels more efficiently and at a substantially lower cost. New standards or production technologies may require us to make additional capital investments in, or modify, plant operations to meet these standards. If we are unable to adapt or incorporate technological advances into our operations, our production facilities could become less competitive or obsolete. Further, it may be necessary for us to make significant expenditures to acquire any new technology and retrofit our plants in order to incorporate new technologies and remain competitive. In order to execute our strategy to expand into the production of renewable chemicals, additional advanced biofuels, next generation feedstocks and related renewable products, we may need to acquire licenses or other rights to technology from third parties. We can provide no assurance that we will be able to obtain such licenses or rights on favorable terms. If we are unable to obtain, implement or finance new technologies, our production facilities could be less efficient than our competitors, and our ability to sell biomass- based diesel may be harmed, negatively impacting our revenues and profitability. ~~24~~ Disruption in the supply chain could materially adversely affect our business. We rely on our suppliers for our business, ~~from~~ **including** feedstocks ~~to~~ **and** materials for our ~~infrastructure~~ **development and efficiency** projects. Future delays or interruptions in the supply chain due **may be cause by** ~~to the COVID- 19 pandemic or~~ world events ~~, including~~ **such as** the ~~Russo~~ **Russian** - ~~Ukrainian~~ **Ukraine** conflict, ~~could~~ **Gaza war, and Red Sea vessel attacks. These** expose us to ~~the~~ various risks ~~which~~ **that** ~~would~~ **could** ~~likely significantly~~ increase our costs and / or impact our operations or business plans including: ● we or our suppliers may have excess or inadequate inventory of feedstocks for operation of our plants; ● we may face delays in construction or development of our infrastructure projects; ● we may not be able to timely procure parts or equipment to upgrade, replace, or repair our plants and technology system; and **●** our suppliers may encounter financial hardships unrelated to our demand, which could inhibit their ability to fulfill our orders and meet our requirements. Failure to remediate a material weakness in, or inherent limitations associated with, internal accounting controls could result in material misstatements in our financial statements. Our management has identified a material weakness in our internal control over financial reporting related to our complex business transactions processes. See “ Item 9A. Controls and Procedures ”. 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 the company’ s annual or interim financial statements will not be prevented or detected on a timely basis. As a result, management has concluded that, due to such material weakness, our disclosure controls and procedures were not effective as of December 31, ~~2022~~ **2023** ~~.~~ . Our efforts to improve our internal controls are ongoing; however, there are inherent limitations in all control systems and no evaluation of controls can provide absolute assurance that all deficiencies have been detected. If we are unable to maintain effective internal control over financial reporting, or after having remediated such material weakness, fail to maintain the effectiveness of our internal control over financial reporting or our disclosure controls and procedures, we could lose investor confidence in the accuracy and completeness of our financial reports, the market price of our common stock could decline, and we could be subject to regulatory scrutiny, civil or criminal penalties or litigation. Continued or future failure to maintain effective internal control over financial reporting could also result in financial statements that do not accurately reflect our financial condition or results of operations and may also restrict our future access to the capital markets. There can be no assurance that we will not conclude in the future that this material weakness continues to exist or that we will not identify any significant deficiencies or other material weaknesses that will impair our ability to report our financial condition and results of operations accurately or on a timely basis. ~~Risks~~ **16Risks** related to ownership of our stock Our stock price is highly volatile, which could result in substantial losses for investors purchasing shares of our common stock and in litigation against us. The market price of our common stock has fluctuated significantly in the past and may continue to fluctuate significantly in the future. The market price of our common stock may continue to fluctuate in response to one or more of the following factors, many of which are beyond our control: ● fluctuations in the market prices of ethanol and its co- products including WDG and corn oil; ● the cost of key inputs to the production of ethanol, including corn and natural gas; ● the volume and timing of the receipt of orders for ethanol from major customers; ● competitive pricing pressures; ● our ability to produce, sell and deliver ethanol on a cost- effective and timely basis; ● the announcement, introduction and market acceptance of one or more alternatives to ethanol; ● losses resulting from adjustments to the fair values of our outstanding warrants to purchase our common stock; ● changes in market valuations of companies similar to us; ● stock market price and volume fluctuations generally; ● regulatory developments or increased enforcement; ● fluctuations in our quarterly or annual operating results; ● additions or departures of key personnel; ● our inability to obtain financing; and ● our financing activities and future sales of our common stock or other securities. The price at which you purchase shares of our common stock may not be indicative of the price that will prevail in the trading market. You may be unable to sell your shares of common stock at or above your purchase price, which may result in substantial losses to you **,** and which may include the complete loss of your investment. In the past, securities class action litigation has often been brought against a company following periods of high stock price volatility. We may be the target of similar litigation in the future. Securities litigation could result in substantial costs and divert management’ s attention and our resources away from our business. Any of the risks described above could have a material adverse effect on our results of operations or the price of our common stock, or both. ~~25~~ We do not intend to pay dividends. We have not paid any cash dividends on any of our securities since inception and we do not anticipate paying any cash dividends on any of our securities in the foreseeable future. Our principal shareholders hold a substantial amount of our common stock. Eric A. McAfee, our Chief Executive Officer and ~~Chairman~~ --- **Chair** of the Board, **and** ~~beneficially owns 7. 7 % of~~ our ~~outstanding common stock. In addition, the~~ other **officers** ~~members of our Board~~ and **directors** ~~management, in the aggregate, excluding Mr. McAfee,~~ beneficially own ~~approximately 0. 3 %~~ **, in the aggregate, a portion** of our ~~common~~ **outstanding** stock **as further described in our proxy that is incorporated by reference into this 10- K** . As a result, these shareholders, acting together, ~~will~~ **may** be able to influence ~~many~~ matters requiring shareholder approval, including the election of directors and approval of mergers and acquisitions and other significant corporate transactions. See “ Security Ownership of Certain Beneficial Owners and Management. ” The interests of these shareholders may differ from yours and this concentration of ownership enables these shareholders to exercise influence over many matters requiring shareholder approval, may have the effect of delaying, preventing or deterring a change in control, deprive you of an opportunity to receive a premium for your securities as part of a sale of the company and may affect the market price of our securities. The ~~conversion of convertible securities and the~~ exercise of outstanding options and warrants to purchase our common stock could substantially dilute your investment and reduce the voting power of your shares, impede our ability to obtain additional financing and cause us to incur additional expenses. **There are outstanding options and warrants to acquire** ~~Our Series B convertible preferred stock is convertible into~~ our common stock **issued** ~~. As of December 31, 2022, there were 1. 3 million shares of our Series B convertible Preferred Stock outstanding, convertible into 127 thousand shares of our common stock on a 10~~ to ~~1 ratio~~ **employees and directors** . **Additionally,** ~~Certain~~ **certain** of our financing arrangements, such as our EB- 5 notes are convertible into shares of our common stock at fixed prices. ~~Additionally, there are outstanding~~

~~warrants and options to acquire our common stock issued to employees and directors. As of December 31, 2022 there were outstanding warrants and options to purchase 5. 0 million shares of our common stock.~~ Such securities allow their holders an opportunity to profit from a rise in the market price of our common stock such that conversion of the securities will result in dilution of the equity interests of our common stockholders. The terms on which we may obtain additional financing may be adversely affected by the existence and potentially dilutive impact of our outstanding convertible **securities** ~~and other promissory notes, Series B convertible preferred stock, options and warrants~~ . ~~In addition, holders of our outstanding promissory notes and certain warrants have registration rights with respect to the common stock underlying those notes and warrants, the registration of which involves substantial expense. Our~~ **17Our** certificate of incorporation designates the Court of Chancery of the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or other employees. Our certificate of incorporation provides that, with certain limited exceptions, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for any stockholder to bring (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of fiduciary duty owed by any director or officer of the Company owed to us or our stockholders, creditors or other constituents, (iii) any action asserting a claim against us or any director or officer of the Company arising pursuant to any provision of the Delaware General Corporation Law or our certificate of incorporation or our bylaws, or (iv) any action asserting a claim against the Company or any director or officer of the Company governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock is deemed to have received notice of and consented to the foregoing provisions. This choice of forum provision may limit a stockholder' s ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and employees. Alternatively, if a court were to find this choice of forum provision inapplicable to, or unenforceable in respect of, 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 adversely affect our business, financial condition or results of operations. ~~26~~ Provisions in our certificate of incorporation and bylaws may inhibit a takeover of us, which could limit the price investors might be willing to pay in the future for our common stock and could entrench management. Our certificate of incorporation and bylaws contain provisions that may discourage unsolicited takeover proposals that stockholders may consider to be in their best interests. Our board of directors is divided into three classes, each of which will generally serve for a term of three years with only one class of directors being elected in each year. As a result, at a given annual meeting only a minority of the board of directors may be considered for election. Since our " staggered board " may prevent our stockholders from replacing a majority of our board of directors at any given annual meeting, it may entrench management and discourage unsolicited stockholder proposals that may be in the best interests of stockholders. Moreover, our board of directors has the ability to designate the terms of and issue new series of preferred stock, which could be used to dilute the stock ownership of a potential hostile acquirer. Although we have opted out of the anti- takeover provisions under Section 203 of the Delaware General Corporation Law, we have adopted anti- takeover provisions that are substantially similar to such provisions, which could delay or prevent a change of control. Together these provisions may make more difficult the removal of management and may discourage transactions that otherwise could involve payment of a premium over prevailing market prices for our securities. General Risk Factors Our success depends in part on recruiting and retaining key personnel and, if we fail to do so, it may be more difficult for us to execute our business strategy. Our success depends on our continued ability to attract, retain and motivate highly qualified management, manufacturing and scientific personnel, in particular our Chairman and Chief Executive Officer, Eric McAfee. We maintain key person insurance on our Mr. McAfee as our Chief Executive Officer for purposes of loan compliance, but do not maintain any key person insurance on our other executives. Competition for qualified personnel in the renewable fuel and bio- chemicals manufacturing fields is intense. Our future success will depend on, among other factors, our ability to retain our current key personnel, and attract and retain qualified future key personnel, particularly executive management. Failure to attract or retain key personnel could have a material adverse effect on our business and results of operations. ~~27~~ Our operations subject us to risks associated with foreign laws, policies, regulations, and markets. Our sales and manufacturing operations in foreign countries are subject to the laws, policies, regulations, and markets of the countries in which we operate. As a result, our foreign manufacturing operations and sales are subject to inherent risks associated with the countries in which we operate. Risks involving our foreign operations include differences or unexpected changes in regulatory requirements, political and economic instability, terrorism and civil unrest, work stoppages or strikes, natural disasters, interruptions in transportation, restrictions on the export or import of technology, difficulties in staffing and managing international operations, variations in tariffs, quotas, taxes, and other market barriers, longer payment cycles, changes in economic conditions in the international markets in which our products are sold, and greater fluctuations in sales to customers in developing countries. Any inability to effectively manage the risks associated with our foreign operations may have a material adverse effect on our results of operations or financial condition. Operational difficulties at our facilities may negatively impact our business. Our operations may experience unscheduled downtimes due to technical or structural failure, political and economic instability, terrorism and civil unrest, natural disasters, and other operational hazards inherent to our operations. These hazards may cause personal injury or loss of life, severe damage to or destruction of property, equipment, or the environment, and may result in the suspension of operations or the imposition of civil or criminal penalties. Our insurance may not be adequate to cover such potential hazards and we may not be able to renew our insurance on commercially reasonable terms or at all. In addition, any reduction in the yield or quality of the products we produce could negatively impact our ability to market our products. Any decrease in the quality, reduction in volume, or cessation of our operations due to these hazards would have a material adverse effect on the results of our business and financial condition. ~~Our~~ **18Our** success depends on our ability to manage the growth of our operations. Our strategy envisions a period of rapid growth that may impose a significant burden on our administrative and operational resources and personnel, which, if not effectively managed, could impair our growth. The growth of our business will require significant investments of capital and management' s close attention. If we are unable to successfully manage our growth, our sales may not increase commensurately with capital expenditures and investments. Our ability to effectively manage our growth will require us to substantially expand the capabilities of our administrative and operational resources and to attract, train, manage and retain qualified management, technicians and other personnel. In addition to our plans to adopt technologies that expand our operations and product offerings at our biodiesel and ethanol plants, we may seek to enter into strategic business relationships with companies to expand our operations. If we are unable to successfully manage our growth, we may be unable to achieve our business goals, which may have a material adverse effect on the results of our operations and financial condition. Our business may be subject to natural forces beyond our control. Earthquakes, floods, droughts, tsunamis, and other unfavorable weather conditions may affect our operations. Natural catastrophes may have a detrimental effect on our supply and distribution channels, causing a delay or preventing our receipt of raw materials from our suppliers or delivery of finished goods to our customers. In addition, weather conditions may adversely impact the planting, growth, harvest, storage, and general availability of any number of the products we may process at our facilities or sell to our customers. The severity of these occurrences, should they ever occur, will determine the extent to which and if our business is materially and adversely affected. U. S. tax law changes could materially affect the tax aspects of our business and the industries in which we compete. Continued developments in U. S. tax reform could adversely affect our results of operations and cash flows. It is also possible that provisions of U. S. tax reform could be subsequently amended in a way that is adverse to the Company. Although we believe that our income tax provisions and accruals are reasonable and in accordance with generally accepted accounting principles in the United States, and that we prepare our tax filings in accordance with all applicable tax laws, the final determination with respect to any tax audits and any related litigation, could be materially different from our historical income tax provisions and accruals. The results of a tax audit or litigation could materially affect our operating results and cash flows in the periods for which that determination is made. In addition, future period net income may be adversely impacted by litigation costs, settlements, penalties, and interest assessments. ~~28~~ Future sales and issuances of rights to purchase common stock by us could result in additional dilution of the percentage ownership of our stockholders and could cause our stock price to fall. We may issue equity or convertible securities in the future. To the extent ~~,~~ **that** we do so, our stockholders may experience substantial dilution. We may sell common stock, convertible securities, or other equity securities in one or more transactions at prices and in a manner, we determine from time to time. If we sell common stock, convertible securities, or other equity securities in more than one transaction, investors may be materially diluted by subsequent sales and new investors could gain rights superior to our existing stockholders. Inflation may adversely affect us by increasing costs of our business. Inflation can adversely affect us by increasing costs of feedstock, equipment, materials, and labor. In addition, inflation is often accompanied by higher interest rates. In an inflationary environment, such as the current economic environment, depending on other economic conditions, we may be unable to raise prices of our fuels or products to keep up with the rate of inflation, which would reduce our profit margins. Given the inflation rates in fiscal year 2022, we have experienced, and continue to experience, increases in prices of feedstock, equipment, materials, and labor. Continued inflationary pressures could impact our profitability. Interest rates could change substantially, materially impacting our profitability. Our borrowings expose us to interest rate risk, which could adversely ~~affecting~~--- **affect** our profitability. We monitor and manage this exposure as part of our overall risk management program, but the changes in interest rates cannot always be predicted, hedged, or offset with price increases to eliminate earnings volatility. Inflation, including as a result of commodity price inflation or supply chain constraints due to the war in Ukraine, may adversely impact our results of operations. We have experienced inflationary impacts on key production inputs, feedstock, wages and other costs of labor, equipment, services, and other business expenses. Commodity prices in particular have risen significantly over the past year. Inflation and its negative impacts could escalate in future periods. In addition, inflation is often accompanied by higher interest rates. Ukraine is the third largest exporter of grain in the world. Russia is one of the largest producers of natural gas and oil. The commodity price impact of the war in Ukraine has been a sharp rise in grain and energy prices, including corn and natural gas, two of our primary production input commodities. In addition, the war in Ukraine has and may continue to adversely affect global supply chains resulting in further commodity price inflation for our production inputs. Also, given high global grain prices, U. S. farmers may prefer to lock in prices and export additional volumes, reducing domestic grain supplies and resulting in further inflationary pressures. In an inflationary environment, such as the current economic environment, depending on other economic conditions, we may be unable to raise prices of our fuels or products to keep up with the rate of inflation, which would reduce our profit margins. As a result, inflation may have a material adverse effect on our results of operations and financial condition. **19**