# GENIE ENERGY LTD.

# 2022 ANNUAL REPORT

Dear Fellow Stockholders,

In 2022, Genie Energy capitalized on the extraordinary volatility in global energy market conditions that challenged many other retail energy market participants to deliver exceptional financial results — including record levels of gross profit, income from operations, Adjusted EBITDA, and EPS.

Our performance enabled us to return $25 million to our stockholders through dividends, repurchases of our Class B Common stock, and redemption of our preferred shares while further strengthening our balance sheet. We ended 2022 with $105 million in cash and restricted cash, $128 million in working capital and no debt.

We have been managing our retail energy supply business since 1994, and over the years, have developed the tools and expertise to navigate and create shareholder value through a wide range of market conditions. With a return to more stable energy market conditions expected in 2023, we are positioned to continue to deliver strong financial results — although likely below 2022's record levels.

Our strategic plan for 2023 also includes continued investments to pursue the abundant opportunities available to grow both our retail energy supply and solar energy businesses.

At Genie Retail, we have already accelerated our customer acquisition engine and are on track to substantially expand our meter base this year. A larger customer base will enable us to leverage our operations more effectively and achieve enduring increases in Genie Retail Energy's bottom line.

At Genie Renewables, we continued to expand our commercial solar business while moving aggressively to build out our project capabilities and capture the high ROI opportunities now available in the community solar and other distributed generation markets.

As I write, we are preparing to begin construction on our first community solar generation project, and expect to receive the notice to proceed on a second site in the next few months. We hope to complete construction and have both these projects ready for the utility to interconnect to the grid later this year.

Simultaneously, we are working to rapidly expand our solar development pipeline: scouting and evaluating potential solar sites, and negotiating the acquisition of development rights for the most promising locations.

Wrapping up, I want to thank my Genie colleagues for their hard work and enthusiasm this past year and acknowledge the invaluable strategic guidance that our Board of Directors consistently provides.

Thanks to their joint efforts, we are in great shape to continue returning robust value to our stockholders in 2023 even as we invest in outstanding opportunities over the longer term. We've never been more excited about Genie's future than we are today.

Sincerely,

Michael Stein
Chief Executive Officer

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

**FORM 10-K**

☒ Annual report pursuant to section 13 or 15(d) of the Securities Exchange Act of 1934
for the fiscal year ended December 31, 2022,

or

☐ Transition report pursuant to section 13 or 15(d) of the Securities Exchange Act of 1934.
Commission File Number:1-35327

# Genie Energy Ltd.

(Exact name of registrant as specified in its charter)

| Delaware | 45-2069276 |
|---|---|
| (State or other jurisdiction of incorporation or organization) | (I.R.S. Employer Identification No.) |

520 Broad Street, Newark, New Jersey 07102
(Address of principal executive offices, zip code)

(973) 438-3500
(Registrant's telephone number, including area code)

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

| Title of each class | Trading Symbol | Name of each exchange on which registered |
|---|---|---|
| Class B common stock, par value $0.1 per share | GNE | New York Stock Exchange |
| Series 2012-A Preferred stock, par value $0.01 per share | GNE-PRA | New York Stock Exchange |

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

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

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

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

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

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

| | |
|---|---|
| Large accelerated filer ☐ | Accelerated filer ☒ |
| Non-accelerated filer ☐ | Smaller reporting company ☒ |
| | Emerging growth company ☐ |

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

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

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

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

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

The aggregate market value of the voting and non-voting stock held by non-affiliates of the registrant, based on the closing price on June 30, 2022 (the last business day of the registrant's most recently completed second fiscal quarter) of the Class B common stock of $9.16 per share, as reported on the New York Stock Exchange, was approximately $196.5 million.

As of March 13, 2023, the registrant had outstanding 24,438,743 shares of Class B common stock and 1,574,326 shares of Class A common stock. Excluded from these numbers are 2,720,537 shares of Class B common stock held in treasury by Genie Energy Ltd.

DOCUMENTS INCORPORATED BY REFERENCE

The definitive proxy statement relating to the registrant's Annual Meeting of Stockholders, to be held May 10, 2023, is incorporated by reference into Part III of this Form 10-K to the extent described therein.

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**Genie Energy Ltd.**

**Annual Report on Form 10-K**

## Part I

As used in this Annual Report, unless the context otherwise requires, the terms “the Company,” “Genie,” “we,” “us,” and “our” refer to Genie Energy Ltd., a Delaware corporation, and its subsidiaries, collectively.

## Item 1. Business.

### BUSINESS OVERVIEW

Genie Energy Ltd. is a global provider of energy services. We manage our business and reports results through two segments.

- Genie Retail Energy (“GRE”) supplies electricity and natural gas to residential and small business customers through retail energy providers (“REPs”) operating in certain portions of deregulated markets within the United States; and
- Genie Renewables, includes the following four lines of businesses:
  - Genie Solar is an integrated solar energy company that develops, constructs and operates solar energy projects for commercial and industrial (“C&I”) customers as well as its own portfolio;
  - CityCom Solar (“CityCom”) is a marketer of community solar energy solutions;
  - Prism Solar Technologies (“Prism”) designs, manufactures and supplies specialized solar panels for wholesale distribution; and
  - Diversegy LLC (“Diversegy”) provides energy brokerage and advisory services to commercial customers.

The Company owns 99.5% of its subsidiary, Genie Energy International Corporation (“GEIC”), which owns 100% of Genie Retail Energy, Inc. and 95.5% of Genie Energy Services, LLC (“GES”). GES holds our interest in the entities comprising the Genie Renewables segment. In March 2021, the Company renamed the GES segment to Genie Renewables. In the third quarter of 2022, the Company ceased to operate a former segment, GRE International (“GREI”). Certain GREI’s assets and liabilities and operations were classified as discontinued operations and the segment’s remaining assets and liabilities were combined with corporate.

GRE owns and operates REPs, including IDT Energy, Inc. (“IDT Energy”), Residents Energy, LLC (“Residents Energy”), Town Square Energy, LLC and Town Square Energy East, LLC (“collectively, “TSE”), Southern Federal Power (“SFP”) and Mirabito Natural Gas, (“Mirabito”). GRE’s REP businesses resell electricity and natural gas to residential and small business and small commercial customers. The majority of GRE’s REPs’ customers are located in the Eastern and Midwestern United States and Texas. Mirabito supplies natural gas to commercial customers in Florida.

Genie Renewables consists of our 100% interest in Genie Solar, an integrated solar energy company, our 92.8% interest in CityCom Solar, a marketer of community solar energy solutions, our 60.0% controlling interest in Prism, a solar solutions company that is engaged in manufacturing of solar panels, solar installation design and solar energy project management and 100% interest in Diversegy, an energy broker for customers.

### DISCONTINUED OPERATIONS IN UNITED KINGDOM, FINLAND AND SWEDEN

Previously, the company had a third segment, GREI, which supplied electricity and natural gas to residential and small business customers in certain markets in Europe.

On November 29, 2021, Orbit Energy Limited (“Orbit”) was declared insolvent and its customers were transferred to the “supplier of last resort.” Effective December 1, 2021, the administration of Orbit has been transferred to third-party Administrators. The accounts of Orbit were deconsolidated from those of the Company effective December 1, 2021.

As a result of volatility in the energy market in Europe, in the third quarter of 2022, the Company decided to discontinue the operations of Lumo Energia Oyj ("Lumo Finland") and Lumo Energi AB ("Lumo Sweden"). In July 2022, the Company entered into a series of transactions to sell most of the electricity swap instruments held by Lumo Sweden. The Company also entered into a series of transactions to transfer the customers of Lumo Finland and Lumo Sweden to other suppliers. The accounts of Lumo Finland were also deconsolidated from those of the Company in November 2022.

We account for the operations in the United Kingdom, Finland and Sweden as discontinued operations.

Following the discontinuance of operations of Lumo Finland and Lumo Sweden, GRE International ceased to be a separate segment and certain GREI's assets and liabilities and operations were classified as discontinued operations and the segment's remaining assets and liabilities and results of continuing operations of GRE International were combined with corporate.

**CORONAVIRUS DISEASE (COVID-19)**

Starting in the first quarter of 2020, the world and the United States experienced the unprecedented impacts of the coronavirus disease 2019 (COVID-19) pandemic.

For the years ended December 31, 2022 and 2021, the impacts of COVID-19 were evident in several key aspect of our business operations and the corresponding financial impact has been mixed. Our customers are predominantly residential, so we benefited from the increased demand for electricity in 2021 as many customers are working from and spending more time in their homes, though that impact began to abate in 2022 as more customers returned to work in corporate offices. On the other hand, like other retail energy providers, the Company suspended its face-to-face customer acquisition programs in March 2020 as public health measures were implemented to combat COVID-19, resulting in a decrease in gross meter acquisitions. The reduction in gross meter acquisitions decreased customer acquisition expenses in 2022 and 2021 and limited growth in domestic meters served. Churn in 2021 decreased, as our competitors also suspended their face-face marketing programs. COVID-19 public health restrictions relaxed in some of GRE's domestic markets in 2021, facilitating a partial reactivation of the previously curtailed customer acquisition channels, and in 2022 the impact of public health restrictions on our meter acquisition programs and churn were substantially diminished and as of December 31, 2022 was not a significant factor.

**REPORTABLE SEGMENTS**

We have two reportable business segments: GRE and Genie Renewables. Our reportable segments are distinguished by types of service, customers and customer geography. Financial information by segment and geographic areas is presented in "Note 18 — Business Segment and Geographic Information" in the Notes to our Consolidated Financial Statements in this Annual Report.

**GENERAL BUSINESS INFORMATION**

Our main offices are located at 520 Broad Street, Newark, New Jersey 07102. Our telephone number is (973) 438-3500 and our web site is *www.genie.com*.

We make available free of charge through the investor relations page of our web site (*http://genie.com/investors/sec-filings/*) our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and all amendments to these reports, and all beneficial ownership reports on Forms 3, 4 and 5 filed by directors, officers and beneficial owners of more than 10% of our equity as soon as reasonably practicable after such material is electronically filed with the Securities and Exchange Commission. We have adopted a Code of Business Conduct and Ethics for all of our employees, including our principal executive officer and principal financial officer. Copies of our Code of Business Conduct and Ethics are available on our web site.

Our web site (https://*genie.com*), including the various pages thereof (e.g. the investor relations pages and the materials available thereon) and the information contained therein or incorporated therein are not incorporated into this Annual Report on Form 10-K or our other filings with the Securities and Exchange Commission.

## KEY EVENTS IN OUR HISTORY

In November 2004, IDT Corporation, or IDT, our former corporate parent, launched a retail energy provider business in New York State under the brand name IDT Energy.

In October 2011, we were spun-off by IDT and became an independent public company with our Class B common stock listed on the New York Stock Exchange.

In November 2016, GRE purchased Retail Energy Holdings, LLC, which operated REPs under the brand name Town Square Energy.

In August 2017, GRE acquired Mirabito Natural Gas, a commercial supplier located in Florida. The acquisition expanded GRE's serviceable markets into Florida.

In October 2018, Genie acquired a 60.0% interest in Prism, a solar solutions company that is engaged in U.S.-based manufacturing of solar panels, solar installation design and project management.

In July 2019, Genie launched its Souther Federal Power REP and entered the energy supply market in Texas.

In 2022, Genie Solar began to focus on developing utility scale solar projects that it will own and separate. Genie will sell the power generated throughout the life of the assets via community solar programs, power purchase agreements ("PPA") or virtual PPAs.

## RECENT DEVELOPMENTS

In July 2022, Genie announced the formation of Sunlight Energy, an investment vehicle to finance ownership of Genie Renewable-originated solar generation projects and projects developed by third parties.

In December 2022, Genie Solar obtained the notice to proceed for its first company-owned project, a 4-megawatt, or MW community solar firm in upstate New York.

## DIVIDENDS

After suspending, in March 2021, payment of a regular dividend on our Class A and Class B common stock to rebuild our cash position in light of the losses incurred from the effects of Winter Storm Uri, in February 2022, the Company reinstated the quarterly dividends on our Class A and Class B Common stock.

The aggregate dividends paid in the year ended December 31, 2022 on our Class A and Class B common stock (the "Common Stock") was $7.8 million, as follows:

- On March 1, 2022, we paid a quarterly Base Dividend of $0.0750 per share on our Common Stock for the fourth quarter of 2021 to stockholders of record at the close of business on February 22, 2022.
- On May 31, 2022, we paid a quarterly Base Dividend of $0.0750 per share on our Common Stock for the first a quarter of 2022 to stockholders of record at the close of business on May 20, 2022.
- On August 26, 2022, we paid a quarterly Base Dividend of $0.0750 per share on our Common Stock for the second quarter of 2022 to stockholders of record at the close of business on August 15, 2022.
- On November 21, 2022, we paid a quarterly Base Dividend of $0.0750 per share on our Common Stock for the third quarter of 2022 to stockholders of record as of the close of business on November 14, 2022.

On March 1, 2023, we paid a quarterly dividend of $0.075 per share on our Common Stock for the fourth quarter of 2022 to stockholders of record as of the close of business on February 21, 2023.

We pay a quarterly dividend on our preferred stock. The aggregate dividend paid in the year ended December 31, 2022 on our Preferred Stock was $1.4 million, as follows:

- On February 15, 2022, we paid a quarterly Base Dividend of $0.1594 per share on our Preferred Stock for the fourth quarter of 2021 to stockholders of record at the close of business on February 7, 2022 of our Preferred Stock.

- On May 16, 2022, we paid a quarterly Base Dividend of $0.1594 per share on the Preferred Stock for the first a quarter of 2022 to stockholders of record at the close of business on May 6, 2022 of our Preferred Stock.
- On August 15, 2022, we paid a quarterly Base Dividend of $0.1594 per share on the Preferred Stock for the second quarter of 2022 to stockholders of record at the close of business on August 8, 2022 of our Preferred Stock.
- On November 15, 2022, we paid a quarterly Base Dividend of $0.1594 per share on the Preferred Stock for the third quarter of 2022 to stockholders of record as of the close of business on November 8, 2022.

On December 31, 2021, the Company accrued Additional Dividends of $0.0848 per share on its Preferred Stock, equal to an aggregate of $0.2 million which was paid with the quarterly Based Dividend on May 16, 2022. The accrual was made in light of the performance of GRE through December 31, 2021.

On December 31, 2022, the Company accrued Additional Dividends of $0.0531 per share on its Preferred Stock, equal to an aggregate of $0.5 million. The accrual was made in light of the performance of GRE through December 31, 2022, which is expected to be paid around May 15, 2023.

On February 15, 2023, we paid a quarterly Base Dividend of $0.1594 per share on the Preferred Stock for the fourth quarter of 2022 to stockholders of record at the close of business on February 7, 2023 in the aggregate amount of $0.2 million.

On February 7, 2022, the Board of Directors of the Company authorized a program to redeem up to $1.0 million per quarter of the Company's Preferred Stock at the liquidation preference of $8.50. per share beginning in the second quarter of 2022. On May 3, 2022, the board of Directors authorized to redeem $2.0 million of Company's Preferred Stock during the second quarter of 2022. As of December 31, 2022, the Company redeemed 1,339,341 Preferred Sotck under this program for an aggregate amount of $11.4 million.

## BUSINESS

### Genie Retail Energy

*Overview*

GRE is comprised of REPs and related businesses. GRE's REP businesses acquire residential and business electricity and natural gas customers in deregulated markets in the United States. Genie purchases electricity and natural gas on the wholesale markets and resells these commodities to GRE's REPs' customers. The positive difference between the net sales price of electricity and natural gas sold to its customers and the cost of their electricity and natural gas supplies and related costs are the REP businesses' gross profits.

GRE's REP businesses operate in certain utility territories within the deregulated retail energy markets of eighteen states in the United States: Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island and Texas, as well as in Washington, D.C. As part of our ongoing business development efforts, we routinely evaluate opportunities in other deregulated jurisdictions to accelerate the growth of our customer base and to reduce operational and regulatory risks associated with geographical concentration.

GRE's REP businesses operate under several brand names including IDT Energy, Residents Energy, Town Square Energy, Southern Federal Power and Mirabito. GRE's diverse offerings, in both the electricity and natural gas markets included variable rate or fixed rate offerings or both. Throughout many of their markets, GRE's REPs offer green electricity and green natural gas. Green electricity supply is matched with renewable energy certificates, or RECs that reflect the generation of electricity from renewable sources. Green natural gas supply is matched with carbon offsets certificates generated mostly from greenhouse emission reduction projects.

Historically, GRE has expanded its REP businesses through organic growth of its REPs — adding new customers through customer acquisition programs at a rate faster than customers lost through attrition or churn — as well as through acquisitions of other REPs and books of business. New customers are generally acquired through a combination of marketing and sales channels including door-to-door solicitation, telemarketing, online and digital marketing, direct mail, and by competitive bidding for exclusive contracts awarded by certain municipalities, where authorized by state laws. These municipal aggregation contracts award participating residents' electricity supply to a single supplier at a fixed price that is typically established through a competitive bidding process.

GRE evaluates its customer base both in terms of the numbers of commodity meters served and the number of Residential Customer Equivalents ("RCEs") represented by these meters. An RCE is a unit of measure denoting the typical annual commodity consumption of a single-family residential customer. One RCE represents 1,000 therms of natural gas or 10,000 kWh of electricity.

Customer churn is a significant factor in the REP business. GRE's REPs' monthly churn rates average between four and seven percent per month. Customer churn tends to decrease when commodity prices fall, when weather-driven consumption decreases, when the price to REP customers decreases relative to competitors including the incumbent utility provider, or when the REPs incentivize customer tenure. Customer churn tends to increase when commodity prices rise, when weather driven consumption increases or spikes, or when the price to REP customers increases relative to the prices charged by competitors including incumbent utility providers. Newly acquired customers typically have higher rates of churn than longer-tenured customers.

GRE's revenue represented approximately 96.3% and 96.5% of our total consolidated revenue in 2022 and 2021, respectively. In 2022, GRE generated revenue of $304.0 million comprised of $241.8 million from sales of electricity and $62.1 million from sales of natural gas, as compared with revenue of $311.8 million in 2021, comprised of $273.0 million from the sales of electricity, $38.8 million from the sales of natural gas and a minimal amount of other revenue. GRE's electricity sales as a percentage of total sales have increased in recent years as our sales channels have acquired more electric customers than gas customers. The change in the electric and natural gas proportions is due to the Company's expansion and growth in electricity only states such as Massachusetts and Texas.

GRE's REP revenue is seasonal. Approximately 39.7% and 44.5% of our natural gas revenues in 2022 and 2021, respectively, were generated during the first quarter, when the demand for heating in our service areas tends to be highest. Although the demand for electricity is not as seasonal as natural gas, approximately 30.5% and 30.3% of total revenues from electricity sales in 2022 and 2021, respectively, were generated in the third quarter when the demand for cooling in our service areas tends to be highest.

Unusual weather patterns can significantly impact GRE's financial results. For example, a polar vortex resulted in unusually sustained cold weather in the first quarter of 2014.

Potential global climate change may produce, among other possible conditions, unusual variations in temperature and weather patterns, resulting in unusual weather conditions, more intense, frequent and extreme weather events and other natural disasters. Some climatologists believe that these extreme weather events will become more common and more extreme which will have a greater impact on our operations.

As of December 31, 2022, GRE serviced 275,000 meters (196,000 electric and 79,000 natural gas), compared to 285,000 meters (210,000 electric and 75,000 natural gas) as of December 31, 2021.

*REP Industry Overview*

REPs operate in deregulated retail energy markets in the US. REPs purchase electricity and natural gas on the wholesale markets and resell these commodities to their customers including homeowners, renters and small to mid-sized commercial and governmental operations and institutions. Generally, incumbent local utilities continue to handle electricity and natural gas distribution, billing, and collections. The utilities remit the proceeds collected for the commodity supply portion of their bills less certain fees to the REPs.

REPs generally have no significant fixed assets and low levels of capital expenditure. Their cost of revenue is incurred to purchase electricity and natural gas in their respective wholesale markets and other factors. Selling, general and administrative expenses are primarily related to customer acquisition, customer retention, billing and purchase of receivables, or POR, fees paid to the utilities, and program management.

As of December 31, 2022, there were thirty U.S. states in which there is some level of energy deregulation. We currently market in all the states where residential deregulation covers both electricity and natural gas, and in some states, where residential deregulation covers only one commodity. We are in the process of applying for licenses or setting up operations in certain such states and are constantly evaluating market opportunities in others.

Some competitors in certain REP markets have engaged in unfair business practices in order to recruit new customers. These practices can create an unfavorable impression about our industry with consumers, regulators or political bodies. Further, such practices can lead to regulatory action that negatively impact us and the industry.

*Customers; Marketing*

The services of GRE's REPs — IDT Energy, Residents Energy, TSE, SFP and Mirabito — are made available to customers under several offerings with distinct terms and conditions. The offerings include variable rate programs whose prices change month-to-month, fixed contracts whose unit price remains the same for the agreed upon term and renewable contracts. A significant portion of our customer base is enrolled in variable rate products, which enable us to recover our wholesale costs for electricity and natural gas by adjusting the rates we charge to our customers. The frequency and degree of these rate adjustments are determined by GRE. Variable rate products are available to all customers in all states served by GRE's REPs except for Connecticut.

As of December 31, 2022, customers on variable rate products constituted approximately 66.2% of our revenue. The balance comprised customers on fixed rate agreements.

GRE's REPs offer renewable or green energy supply options in all their markets. Renewable electricity supply is 100% matched with renewable energy certificates, or RECs, that reflect the generation of electricity from sources such as hydro-electric wind, solar and biomass.

The electricity and natural gas we sell through all of our offerings are metered and delivered to customers by the local utilities. The utilities also provide billing and collection services for the majority of our customers. For a small number of customers, we perform our own billing and collection.

In many states, GRE's REPs' receivables are purchased by the utilities in their territories for a percentage of their face value. Over the course of 2022, the associated cost was approximately 1.1% of GRE's revenue in exchange, the utility accepts a first priority lien against the customer receivable without recourse to the REP. Programs operating within this framework are preferred to as purchase of receivables, or POR, programs, and they mitigate our credit risk. At December 31, 2022, 80.5% of GRE's net accounts receivable were under a POR program.

Certain utilities in Connecticut, Ohio, New York, Pennsylvania, Illinois, Washington, D.C., Massachusetts and Maryland offer POR programs, without recourse. These programs permit customers with past-due balances to remain in the POR and consolidated bill programs. However, utilities in New Jersey generally do not permit customers with past-due balances beyond 120 days to enroll or remain in their POR programs. After a certain amount of time (determined based on the specific commodity), the REP becomes responsible for the billing and collection of the commodity portion of the future invoices for its delinquent customers. Certain utilities in Delaware, Illinois, New Hampshire, Ohio and Rhode Island do not offer POR, but they do offer consolidated billing. In Florida and Texas, there are no POR programs and the customers are billed directly.

GRE targets markets in which we can procure energy in an efficient and transparent manner. We seek to purchase wholesale energy where there is a real-time market that reflects a fair commodity price for all participants. This allows GRE to reflect a true market cost base and adjust its rates to its variable rate customers taking into account prevailing market rates.

We regularly monitor deregulated or deregulating markets in states where we do not yet operate to determine whether and under what conditions we could operate profitability. We may initiate the licensing process in a selected region to facilitate entry into that region contingent upon favorable deregulatory developments.

*Procurement and Management of Gas and Electric Supply*

Certain of GRE's REPs are party to an Amended and Restated Preferred Supplier Agreement with BP Energy Company, or BP, through November 30, 2023. Under the agreement, the REPs purchase electricity and natural gas at market rate plus a fee. The obligations to BP are secured by a first security interest in deposits or receivables from utilities in connection with their purchase of the REP's customer's receivables, and in any cash deposits or letters of credit posted in connection with any collateral accounts with BP. The ability to purchase electricity and natural gas under this agreement is subject to satisfaction of certain conditions including the maintenance of certain covenants. At December 31, 2022, the Company was in compliance with such covenants.

GRE is required to meet certain minimum green energy supply criteria in many of the markets in which it operates. We meet those thresholds by acquiring renewable energy certificates, or REC's. In addition, GRE offers green or other renewable energy products to its customers in all of the territories in which we operate. GRE acquires green renewable energy conversion rights or attributes and REC's to satisfy the load requirements for these customers.

GRE does not own electrical power generation, transmission, or distribution facilities, or natural gas production, pipeline or distribution facilities. For their natural gas supply, GRE's REPs currently contract with Dominion Transmission, Inc., National Fuel Supply, Williams Gas Pipeline and Texas Eastern Transmission and others for natural gas pipeline, storage and transportation services. For electricity supply, they, utilize the New York Independent System Operator, Inc., or NYISO, and PJM Interconnection, LLC, or PJM, for electric transmission and distribution. NYISO operates the high-voltage electric transmission network in New York State, and administers and monitors New York's wholesale electricity markets. PJM is a regional transmission organization that coordinates the movement of wholesale electricity in all or parts of thirteen states (including New Jersey, Pennsylvania, Maryland and Illinois) and the District of Columbia. In Texas, SFP acquires power through the Electric Reliability Council of Texas (ERCOT).

For risk management purposes, GRE's REPs utilize forward physical delivery contracts for a portion of their purchases of electricity and natural gas, which are defined as commodity derivative contracts. In addition, GRE's REPs enter into put and call options as hedges against unfavorable fluctuations in market prices of electricity and natural gas.

The ISOs perform real-time load balancing for each of the electrical power grids in which GRE REPs operate. Similarly, load balancing is performed by the utilities or local distribution company, or LDC, for each of the natural gas markets in which GRE operates. Load balancing ensures that the amount of electricity and natural gas that GRE's REPs purchase is equal to the amount necessary to service its customers' demands at any specific point in time. GRE's REPs are charged or credited for balancing the electricity and natural gas purchased and sold for their account by their suppliers and the LDCs. GRE's REPs manage the differences between the actual electricity and natural gas demands of their customers and their bulk or block purchases by buying and selling in the spot market, and through monthly cash settlements and/or adjustments to future deliveries in accordance with the load balancing performed by utilities, LDCs, and/or ISOs.

*Competition*

As an operator of REPs, GRE often competes with the local utility companies in each of the markets in which it provides services and with many other licensed REPs. In some markets, competitor REPs are affiliated with local utilities. GRE also competes with several large vertically integrated energy companies as well as smaller independent operators. Competition with the utilities and REPs impacts GRE's gross margins, customer acquisition rates and customer churn rates.

REPs and utilities offering fixed rate products or guaranteed pricing often are unable to change their sell rates offered to customers in response to underlying commodity price volatility. In a downward moving commodity cost environment, variable rate REPs typically become more competitive as they benefit from the lag that utilities experience in reducing their sell rate to reflect the lower commodity costs, and they may benefit from decreases in margin pressure, improvements in the customer acquisition environment, and lower rates of churn. In a rising commodity cost environment, REPs that offer variable rate products, and reflect real-time commodity costs, will typically become less competitive with fixed rate providers, experience increased margin pressure, a more challenging customer acquisition environment and higher rates of customer churn.

Increasing our market share depends in part on our ability to persuade more customers to switch from other providers to one of our REPs at a higher rate than our customers churn to other providers. Moreover, local utilities and some REPs may have certain advantages such as name recognition, financial strength and long-standing relationships with customers. Persuading potential customers to switch to GRE requires significant marketing and sales operations.

*Regulation*

REPs such as ours must be licensed in each state and utility service territory in which they operate. Each is subject to the rules and regulations governing the operations of REPs in each jurisdiction.

Although the rates charged by GRE's REPs are not regulated in the same way as the rates of utility companies, the manner in which the REPs market to potential customers, and the relationships between the REPs and their customers, are heavily regulated. GRE's REPs must also comply with various quarterly and/or annual reporting requirements in order to maintain their eligibility to provide service. In certain jurisdictions the REPs are required to publish product offers with the applicable regulatory commissions, or in the public domain, generally on a website established for such purpose. In addition to the regulations that govern the relationships between GRE's REPs and their customers, GRE's REPs also maintain specific Terms & Conditions or Terms of Service for each product in each jurisdiction that the parties agree to be bound by.

From time to time, the Company is party to legal proceedings that arise in the ordinary course of business including those with utility commissions or other government regulatory or law enforcement agencies.

As of December 31, 2022, GRE's REPs operate in Washington D.C., New York, Pennsylvania, New Jersey, Maryland, Illinois, Indiana, Ohio, Michigan, New Hampshire, Rhode Island, Connecticut, Florida, Massachusetts, Delaware, Maine, Texas and Georgia. The federal government and related public service/utility commissions, among others, establish the rules and regulations for our REP operations.

Like all operators of REPs, GRE is affected by the actions of governmental agencies, mostly on the state level, by the respective state Public Service/Utility Commissions, and other organizations (such as NYISO, ERCOT and PJM) and indirectly by the Federal Energy Regulatory Commission, or FERC. Regulations applicable to electricity and natural gas have undergone substantial changes over the past several years as a result of restructuring initiatives at both the state and federal levels. We may be subject to new laws, orders or regulations or the revision or interpretation of existing laws, orders or regulations.

*State of Connecticut Public Utilities Regulatory Authority*

<u>Town Square Energy</u>

On September 19, 2018, the State of Connecticut Public Utilities Regulatory Authority ("PURA") commenced an investigation into Town Square following customer complaints of allegedly misleading and deceptive sales practices on the part of Town Square. The Connecticut Office of Consumer Counsel had joined in investigation, Although Town Square denies any basis for those complaints and any wrongdoing on its part, it cooperated with the investigation and responded to subpoenas for discovery. On June 17, 2020, the PURA notified Town Square that it was advancing its investigation by assigning Prosecutorial staff for the purpose of investigating Town Square's compliance with licensed electric supplier billing, marketing, and licensing requirements, and, if appropriate, facilitating settlement discussions among the parties that contains, but it not limited to, an appropriate civil penalty extensive retraining of the supplier's third-party agents, and retention of all sales calls with continued auditing.

In July 2021, the parties settled the dispute. Pursuant to the terms of the settlement agreement, Town Square paid $0.4 million. Town Square has also, and has agreed to voluntarily refrain, from in-person marketing activities in Connecticut for the period of 15 months. As of December 31, 2022, Town Square's Connecticut customer base represented 4.8% of GRE's total meters served and 5.6% of the total RCEs of GRE's customer base. For the year ended December 31, 2022 and 2021, Town Square's gross revenues from sales in Connecticut was $16.6 million and $29.0 million, respectively.

<u>Residents Energy</u>

In August 2020, Residents Energy began marketing retail energy services in Connecticut. For the year ended December 31, 2022, Residents Energy's gross revenues from sales in Connecticut were $0.2 million. During the fourth quarter of 2020, the enforcement division of PURA contacted Residents Energy concerning customer complaints received in connection with alleged door-to-door marketing activities in violation of various rules and regulations. On March 12, 2021, the enforcement division filed a motion against Resident Energy with the adjudicating body of PURA, seeking the assessment of $1.5 million in penalties, along with a suspension of license, auditing of marketing practices upon reinstatement and an invitation for settlement discussions.

In June 2021, the parties settled the dispute. Pursuant to the terms of the settlement agreement, Residents Energy paid $0.3 million and volunteered to withdraw from the market in Connecticut for a period of 36 months.

*Employees*

As of March 3, 2023, GRE employed 125 full time employees, 55 of whom are located in the Jamestown, New York office, 41 of whom are located in our New Jersey office, 22 of whom are located in our Arizona office and 7 are located in Texas with SFP.

*Environment*

In March 2021, the Biden Administration announced a framework for the "Build Back Better" agenda. The proposed framework included policies to address climate change across the federal government through the tax code, an energy efficiency and clean energy standard, research and development, among other areas of focus.

In April 2021, President Biden announced that the United States' Nationally Defined Contribution to the international Paris Climate Agreement will be an economy-wide reduction in greenhouse gas emissions ("GHG") emissions of 50-52% by 2030, relative to 2005 levels. In advance of the November 2021 Conference of the Parties 26 meeting in Glasgow, Scotland, the Biden Administration released details on its strategy to achieve those targets as part of the "Build Back Better" agenda.

On August 16, 2022, President Biden signed the Inflation Reduction Act ("IRA"), which aims to reduce U.S. carbon emissions and promote economic development through investments in clean and renewable energy projects. The consumer-facing clean energy tax credits created or expanded by the IRA are intended to drive rapid adoption of energy efficiency, electric transportation, and solar energy which would require the utility industry to expand and modernize infrastructure, systems and services to integrate and optimize these resources.

In addition to climate-related initiatives at the federal level, some states have adopted provisions designed to regulate GHG emissions and renewable and other portfolio standards, which impact the power sector. See discussion below for additional information on renewable and other portfolio standards.

Certain northeast and mid-Atlantic states (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia) currently participate in the Regional Greenhouse Gas Initiative ("RGGI"). The program requires most fossil fuel-fired power plant owners and operators in the region to hold allowances, purchased at auction, for each ton of carbon dioxide emissions. Non-emitting resources do not have to purchase or hold these allowances. Pennsylvania joined RGGI in April 2022.

Broader state programs impact other sectors as well, such as the District of Columbia's Clean Energy DC Omnibus Act and cross-sector GHG reduction plans, which resulted in recent requirements for Pepco to develop 5-year and 30-year decarbonization programs and strategies. Maryland expects to meet and exceed the mandate set in the Greenhouse Gas Emissions Reduction Act to reduce statewide GHG emissions 40% (from 2006 levels) by 2030, and the state's Climate Solutions Now Act of 2022 further updates requirements with a proposal to reduce emissions 60% (from 2006 levels) by 2031. New Jersey accelerated its goals through Executive Order 274, which establishes an interim goal of 50% reductions below 2006 levels by 2030 and affirms its goal of achieving 80% reductions by 2050 and includes programs to drive greater amounts of electrified transportation. Illinois' climate bill, Clean Energy Jobs Act, establishes decarbonization requirements for the state to transition to 100% clean energy by 2050 and supports programs to improve energy efficiency, manage energy demand, attract clean energy investment and accelerate job creation.

The Company cannot predict the nature of future regulations or how such regulations might impact future financial statements.

The adoption and implementation of any foreign laws or regulations imposing obligations on, or limiting GHG emissions from, our equipment and operations could adversely affect pricing or demand for our offerings. We may not be able to pass on increases in costs to customers. In addition, changes in regulatory policies that result in a reduction in the demand for hydrocarbon products and carbon-emitting fuel sources that are deemed to contribute to climate change, or restrict the use of such products or fuel sources, may reduce demand for our offerings or impact the energy supply markets.

**Genie Renewables**

Genie Renewables is comprised of businesses that market and provide renewable energy solutions. Genie Renewables currently consists of (i) our 95.5% in Genie Solar, (ii) our 92.8% in CityCom Solar, (iii) our controlling interest in Prism, and (iv) Diversegy.

*Solar Industry Overview*

Genie Solar, CityCom Solar and Prism are all engaged in different business areas within the solar industry.

Solar energy is one of the fastest growing forms of renewable energy with numerous economic and environmental benefits that make it an attractive complement to and/or substitute for traditional forms of energy generation. In recent years, the price of solar power systems, and accordingly the cost of producing electricity from such systems, has dropped to levels that are competitive with or even below the wholesale price of electricity in many markets. Worldwide solar markets continue to develop, aided by the above factors as well as demand elasticity resulting from declining industry average selling prices, both at the module and system level, which make solar power more affordable.

Multiple markets within the United States, exemplify favorable characteristics for a solar market, including (i) sizeable electricity demand, particularly around growing population centers and industrial areas; (ii) strong demand for renewable energy generation; and (iii) abundant solar resources. In those areas and applications in which these factors are more pronounced, our solar energy solutions compete favorably on an economic basis with traditional forms of energy generation.

*Regulation*

<u>Federal government support for renewable energy</u>

The U.S. federal government provides an uncapped investment tax credit, or "Federal ITC," that originally allowed a taxpayer to claim a credit of 30% of qualified expenditures for a residential or commercial solar generation facility. The Tax Act did not make any changes to the existing laws surrounding tax credits for renewable energy. The Federal ITC is currently at 26% for a solar generation facility. A permanent 10% Federal ITC is available for non-residential solar generation facility construction that begins on or after January 1, 2022.

On August 16, 2023, the Inflation Reduction Act (IRA) was passed. The IRA extended the ITC through December 31, 2025, for solar, wind, geothermal, biogas, combined heat and power ("CHP") facilities, and microgrid projects that begin construction before December 31, 2025. The IRA established a Federal ITC level of 30.0 % for all projects that meet Prevailing Wage and Apprenticeship standards as well as additional 10.0% – 20.0% credits for projects that meet certain domestic materials requirements, placement within an energy community or placement within an environmental justice area. The IRA also allows for interconnection costs within qualified ITC costs and extends the Federal ITC for eligible costs associated with standalone energy storage.

Additionally, a number of federal regulations have increased the cost of fossil generation across the country over the last several decades. The Clean Air Act of 1970 originally provided the EPA with authority to regulate emissions, but it was not until the 2000s that EPA restrictions on sulfur dioxide and nitrogen oxides emissions required installation of scrubbers or other emissions control equipment. More recently, EPA's continued air quality level regulations have driven controls on all types of units along with stringent operational limitations. EPA has also set broader standards for greenhouse gas emissions particularly from new, modified, and reconstructed fossil-fired power plants forcing efficiency improvements and increasing maintenance costs. At the state level, a number of carbon pricing schemes have been implemented, including a cap-and-trade program in California and a carbon tax in the Northeast via the RGGI.

In addition, the Biden Administration continues to propose legislation and both regulatory and executive actions to help accelerate the clean energy transition, including new tax incentives, additional restrictions on methane and other GHG emissions, and other policies intended to combat climate change. For example, in December 2021, President Biden signed an executive order calling for the federal government to achieve net zero emissions by 2050, with a 65% reduction by 2030. The order specifically directs the federal government to use its scale and procurement power to achieve 100% carbon pollution-free electricity by 2030, with at least half coming from locally supplied clean energy, as well as 100% zero-emission vehicle acquisitions by 2035 and a net-zero emissions building portfolio by 2045, all of which may contribute to increased demand for alternative energy technologies, including renewable energy and energy storage. The Administration has also set a goal of economy-wide net zero emissions in the United States by 2050.

State government support for renewable energy

Many states offer a personal and/or corporate investment or production tax credit for renewable energy facilities, which is additive to the Federal ITC. Further, more than half of the states, and many local jurisdictions, have established property tax incentives for renewable energy facilities that include exemptions, exclusions, abatements and credits. Many renewable energy facilities in the U.S. have been financed with a tax equity financing structure, whereby the tax equity investor is a member holding equity in the limited liability company that directly or indirectly owns the solar generation facility or wind power plant and receives the benefits of various tax credits. Additionally, Solar Development often benefit from state incentives that may provide valuable Renewable Energy Certificates, cash refunds and/or guaranteed revenue per unit of electricity produced by utility scale solar projects like Community Solar.

Many states also have adopted procurement requirements for renewable energy production. Thirty states, Washington, D.C., and two territories have active renewable or clean energy requirements, while an additional 3 states and 1 territory have set voluntary renewable energy goals. Renewable portfolio standard (“RPS”) legislation has seen two opposing trends in recent years. On one hand, many states with RPS targets are expanding or renewing those goals. Since 2018, 15 states, 2 territories, and Washington, D.C., have passed legislation to increase or expand their renewable or clean energy targets. On the other hand, eleven states and one territory have allowed their RPS targets to expire.

There are 41 states that have a regulatory policy known as net metering. Net metering typically allows our customers to interconnect their on-site solar generation facilities to the utility grid and offset their utility electricity purchases by receiving a bill credit at the utility’s retail rate for energy generated by their solar generation facility in excess of electric load that is exported to the grid. Some states require utilities to provide net metering to their customers until the total generating capacity of net metered systems exceeds a set percentage of the utilities’ aggregate customer peak demand.

*Genie Solar*

Genie Solar is an integrated solar energy company that develops constructs and operates solar energy projects for commercial and industrial (“C&I”) customers as well its own portfolio.

**Scope of Services and Business Overview**

For its clients, Genie Solar identifies, develops, and in some cases operates solar generation sites to provide solar electricity to its customers. The project development scope typically includes sight identification — typically a rooftop or land already owned by the client, design and planning, obtaining relevant state and local permits, procuring panels and other materials, directing contractors during installation, and coordinating with the incumbent utility to interconnect with the existing power grid. Genie Solar offers a variety of solutions to finance project construction. However, most customers choose to finance projects on their own to take advantage of solar incentives offered by federal and local governments.

For its operating portfolio, Genie Solar targets projects with attractive return characteristics that are usually in the 3-15 MW range. Many of our initial development projects are community solar. Community solar refers to local solar facilities shared by multiple community subscribers who receive credit on their electricity bills for their share of the power produced.

Genie’s community solar projects are usually 3-10 MW. The project development path begins with site identification and control and includes design, permitting, construction, and interconnection with the local utility grid. In addition to this scope of work, we are also responsible for enrolling customers within the same utility territory to consume the project’s power production. Through government incentives, the developer is usually able to offer the customers a percentage discount off the cost of their utility bill. Genie typically self-finances community solar projects or supplements its own capital with investments from third parties.

Genie Solar currently has site control and plans to construct — subject to permitting — its first utility-scale (non-community solar) solar project. The Company is pursuing a buyer of the expected 30 MW of electric output through a long-term PPA. The Company expects to have all permitting and approvals necessary for construction toward the end of 2023.

**Market Differentiation**

Genie Solar markets projects directly to potential C&I customers, emphasizing its ability to help them achieve sustainability goals, lower their cost of energy and leverage tax and other solar generation incentives from federal, state, and local governments.

We differentiate ourselves by targeting medium-sized to large scale C&I facilities including buildouts if system generating 400 kilowatt or more by offering vertically integrated solution. Our solution uniquely includes in house panel manufacturing and panel procurement through Prism and procurement of additional energy not covered by the solar project through our Diversegy Energy brokerage business. We also offer customer software solution that enables property operators to obtain detailed insights into their electricity consumption patterns and to optimize production to further reduce expenses. Finally, Genie Solar offers third-party project financing and/or can directly provide financing.

While we have the expertise and the wherewithal to build across the US, our C&I sales efforts are focused on the Northeast and the majority of our projects — completed and in our pipeline — are located there.

In the community solar market, Genie operates in states with robust community solar and utility scale solar regulatory frameworks and incentives — currently New York and Pennsylvania.

Genie differentiates its community solar offerings from other developers by offering an end-to-end solution including CityCom's customer acquisition engine and, in some instances, through Genie Retail's ability to resell output to meet customer demands for renewably generated electricity.

As of December 31, 2022, Genie Solar and its affiliates had over 65 MWs of solar projects in its development pipeline. Genie expects to expand its pipeline significantly in 2023.

In 2022, Genie Solar accounted for 1.1% and 30.8% of our consolidated revenue and Genie Renewables segment's revenue, respectively.

*CityCom — Community Solar*

CityCom operates primarily as a project level customer acquisition solution for the rapidly expanding community solar industry, and, through a joint venture partnership, also provides customer billing and management to community solar projects.

According to the U.S. Department of Energy, forty states had at least one community solar project at year end 2021 and twenty two states had enacted community solar incentives or regulations. Three quarters of the output of these projects was generated in four states: Florid, Minnesota, New York and Massachusetts.

CityCom acquires community solar customers — residential, small business and commercial consumers — on behalf of the community solar project's developers. CityCom employs a variety of sales channels to achieve its sales goals including door-to-door, through third party brokers, and through digital advertising. By leveraging these sales channels and the customer acquisition expertise that Genie Retail developed while acquiring its customer base, CityCom is often able to acquire customers more efficiently than other providers.

CityCom is compensated for its services through a combination of upfront commissions and residual fees. Currently, CityCom is actively acquiring community solar customers on behalf of project owners in Illinois, New Jersey, New York, Maine, Maryland, Massachusetts, and Virginia. Additionally, CityCom expects to expand its geographic footprint in 2023 by pursuing customer acquisition contracts for projects in development in California, Colorado, Delaware, New Mexico, and Ohio. Some of this expansion is dependent on further community solar legislation pending at the state level.

In 2022, CityCom accounted for 1.3% and 35.9% of our consolidated revenue and Genie Renewables segment's revenue, respectively.

*Prism Solar Technologies*

The Company acquired a 60.0% controlling interest in Prism in October 2018. On April 12, 2019, Prism restructured its ownership. The Company now holds 60.0% interest in Plus EnerG which owns 100% of Prism.

Prism is a solar module manufacturing company with over a decade's experience in manufacturing and application of bifacial solar modules.

Prism bifacial modules are engineered and designed in the U.S. utilizing domestic and overseas manufacturing facilities using high efficiency P-type PERC bifacial cells. This technology results in a reduction in the average cost per kilowatt hour. Elements of the technology that Prism uses are protected U.S. patents.

Unlike traditional solar modules, where photo-voltaic ("PV") cells can only use the sunlight that strikes the front of the module, Prism's bifacial modules generate energy on both faces, capturing a substantial amount of light scattered from surrounding surfaces. Bifacial panels solutions are particularly valuable when mounted over highly reflective backgrounds, such as a white roof, snow, sand, or other light-colored surfaces. For that reason, they are frequently utilized on commercial rooftops where they achieve significantly increased energy gain from the commercial white roofs, thereby making the rooftop an integral contributor to the solar system's generative capacity. Bifacial residential applications include solar awnings, skylights, canopies and sun decks.

Recently Prism has expanded its product line up to include frameless bifacial, framed clear back sheet bifacial and ultra-black solar modules. These offerings enable Prism to offer solutions optimized for additional residential, commercial and industrial applications including parking canopies, electric vehicle car ports, vertically mounted fencing and exterior cladding on buildings.

Prism's modules are sold directly to business customers — typically for applications requiring a high-quality custom solution. Prism is expanding its customer base by emphasizing the superior performance and aesthetics of its modules supported by unparalleled customer service.

In 2022, Prism accounted for 0.4% and 10.4% of our consolidated revenue and Genie Renewables segment's revenue, respectively.

*Diversegy*

Diversegy is a commercial energy broker and advisor to industrial, commercial and municipal customers across deregulated energy markets in the U.S. It also offers ancillary energy services in both deregulated and regulated state markets.

Diversegy works with clients to maximize the benefits afforded by energy deregulation through the solicitation and analysis of competing offers from its supplier-partners. This service is typically provided at no cost to our clients.

At the conclusion of the evaluation process, Diversegy clients may enroll in multi-year fixed-rate contracts with Diversegy's partner-suppliers although in some instances, Diversegy may take a more managed approach with ongoing hedging and purchasing strategies. In either case, its partner-suppliers are fully responsible for risk management, billing, and collection. Diversegy's partner-suppliers compensate Diversegy for referrals either as an upfront payment or as a residual over the life of the customer's contract.

Diversegy's ancillary energy services, including offerings provided by its network of supplier-partners, include LED retrofits, on- and off-site solar generation, and a full suite of utility bill auditing services.

Historically, Diversegy marketed its services through an in-house sales force supplemented by a network of independent third-party brokers and agents.

In 2022, Diversegy accounted for 0.8% and 22.9% of our consolidated revenue and Genie Renewables segment's revenue, respectively.

**Growth Strategy**

Diversegy is gradually building out its in-house sales team by adding experienced sales representative and recruiting independent sales agents and brokers with existing books of business.

To attract new clients directly, Diversegy utilizes customer marketing campaigns focused on propriety pricing software.

It recruits affinity groups, associations and organization in specific market verticals for cross-sell opportunities.

Diversegy is well-positions to increase in market share by leveraging its custom energy software, energy market expertise and strong agent customers support.

*Customers and Marketing*

The services of Genie Renewables are made available to customers via multiple channels and under several offerings. The majority of our customer base consists of medium to large commercial customers who are looking to be more efficient with their energy consumption. Our sales channels and marketing activities include a direct sales force, commission-only referral agents, telemarketing, digital marketing and radio advertising.

*Sources of Material and Manufacturing*

We have designed our manufacturing processes to produce high quality products that meet our customers' requirements at competitive costs.

At Genie Solar Energy and Prism, customers have the choice of buying their solar systems either by paying for the system themselves or by financing it with third parties. Genie Renewables is responsible for sales, manufacturing, project management of the installation, and collection of payment from the customers.

*Competition*

In the solar energy space, the market is competitive and continually evolving. In the last year, we faced increased competition, resulting in price reductions in the market and reduced margins, which may continue and could lead to loss of market share.

We also face competition from resellers that have developed related offerings that compete with our product and service offerings, or have entered into strategic relationships with other existing solar power system providers. We compete for limited government funding for research and development contracts, customer tax rebates and other programs that promote the use of solar, and other renewable forms of energy with other renewable energy providers and customers.

At Diversegy, the energy brokerage market is highly competitive with a number of different competition types.

*Employees*

As of March 3, 2023, Genie Renewables employed 22 full time employees, all of whom are located in our New Jersey office.

**Climate Change**

As indicated by the Intergovernmental Panel on Climate Change, emissions of GHG, including carbon dioxide, are very likely changing the world's climate. Climate change could affect customer demand for the Company's product offerings. It might also cause physical damage to the energy production ecosystem that the Company's REPs rely on to procure electricity and natural gas for their customers. Additionally, climate change could affect the availability of risk management products and services that the Company REPs rely on to manage its risk position.

In September 2016, the U.S. joined in adopting the agreement reached on December 12, 2015, at the United Nations Framework Convention on Climate Change meetings in Paris to reduce GHGs. The Paris Agreement's non-binding obligations to limit global warming to below two degrees Celsius became effective on November 4, 2016. Genie cannot currently estimate the financial impact of climate change policies, although potential legislative or regulatory programs restricting CO2 emissions, or litigation alleging damages from GHG emissions, could require material capital and other expenditures or result in changes to its operations.

In December 2009, the U.S. Environmental Protection Agency (EPA) released its final "Endangerment and Cause or Contribute Findings for GHGs under the Clean Air Act (CAA)," concluding that concentrations of several key GHGs constitute an "endangerment" and may be regulated as "air pollutants" under the CAA and mandated measurement and reporting of GHG emissions from certain sources, including electric generating units (EGU). Subsequently, the EPA released its final Clean Power Plan (CPP) regulations in August 2015 to reduce CO2 emissions from existing fossil fuel-fired EGUs and finalized state regulations imposing CO2 emission limits for new, modified, and reconstructed fossil fuel-fired EGUs. Numerous states and private parties filed appeals and motions to stay the CPP with the D.C. Circuit in October 2015. On February 9, 2016, the U.S. Supreme Court stayed the rule during the pendency of the challenges to the Washington D.C. Circuit and U.S. Supreme Court. On March 28, 2017, an executive order, entitled "Promoting Energy Independence and Economic Growth," instructed the EPA to review the CPP and related rules addressing GHG emissions and suspend, revise or rescind the rules if appropriate. On June 19, 2019, the EPA repealed the CPP and replaced it with the affordable clean energy (ACE) rule that established guidelines for states to develop standards of performance to address GHG emissions from existing coal-fired generation. On January 19, 2021, the Washington D.C. Circuit vacated and remanded the ACE rule declaring that the EPA was "arbitrary and capricious" in its rule making and, as such, the ACE rule is no longer in effect and all actions thus far taken by states to implement the federally mandated rule are now null and void. The D.C. Circuit decision is subject to legal challenge. Depending on the outcomes of further appeals and how any final rules are ultimately implemented, the future cost of compliance may be material.

In December 2021, President Biden signed an executive order calling for the federal government to achieve net zero emissions by 2050, with a 65% reduction by 2030. The order specifically directs the federal government to use its scale and procurement power to achieve 100% carbon pollution-free electricity by 2030, with at least half coming from locally supplied clean energy, as well as 100% zero-emission vehicle acquisitions by 2035 and a net-zero emissions building portfolio by 2045, all of which may contribute to increased demand for alternative energy technologies, including renewable energy and energy storage.

Additionally, a number of other federal and state regulations have increased the cost of fossil generation across the country over the last several decades. The Clean Air Act of 1970 originally provided the EPA with authority to regulate emissions, but it was not until the 2000s that EPA restrictions on sulfur dioxide and nitrogen oxides emissions required installation of scrubbers or other emissions control equipment. More recently, EPA's continued air quality level regulations have driven controls on all types of units along with stringent operational limitations. EPA has also set broader standards for greenhouse gas emissions particularly from new, modified, and reconstructed fossil-fired power plants forcing efficiency improvements and increasing maintenance costs. At the state level, a number of carbon pricing schemes have been implemented, including a cap-and-trade program in California and a carbon tax in the Northeast via the RGGI.

The cost to the Company to comply with any legislation, regulations or initiatives limiting GHG or emissions or otherwise seeking to limit the impact of climate change could be substantial. Moreover, regulations imposing obligations on, or limiting GHG emissions from, our equipment and operations could adversely affect pricing or demand for our offerings. We may not be able to pass on increases in costs to customers. In addition, changes in regulatory policies that result in a reduction in the demand for hydrocarbon products and carbon-emitting fuel sources that are deemed to contribute to climate change, or restrict the use of such products or fuel sources, may reduce demand for our offerings or impact the energy supply markets.

Additionally, on March 21, 2022, the U.S. Securities and Exchange Commission issued a proposed rule regarding the enhancement and standardization of mandatory climate-related disclosures for investors. The proposed rule would require registrants to include certain climate-related disclosures in their registration statements and periodic reports, including, but not limited to, information about the registrant's governance of climate-related risks and relevant risk management processes; climate-related risks that are reasonably likely to have a material impact on the registrant's business, results of operations or financial condition and their actual and likely climate-related impacts on the registrant's business strategy, model and outlook; climate-related targets, goals and transition plan (if any); certain climate-related financial statement metrics in a note to their audited financial statements; Scope 1 and Scope 2 GHG emissions; and Scope 3 GHG emissions and intensity, if material, or if the registrant has set a GHG emissions reduction target, goal or plan that includes Scope 3 GHG emissions. Although the proposed rule's ultimate date of effectiveness and the final form and substance of these requirements is not yet known and the ultimate scope and impact on our business is uncertain, compliance with the proposed rule, if finalized, may result in increased legal, accounting and financial compliance costs, make some activities more difficult, time-consuming and costly, and place strain on our personnel, systems and resources.

Further, legislative and regulatory initiatives are underway to that purpose. The Inflation Reduction Act of 2022 ("IRA"), signed into law in August 2022, appropriates significant federal funding for renewable energy initiatives and, for the first time ever, imposes a fee on GHG emissions from certain oil and gas sources and facilities. The emissions fee and funding provisions of the law could increase operating costs within the oil and gas industry and accelerate a transition away from fossil fuels, which could in turn adversely affect our business and results of operations. The U.S. Congress has also considered legislation that would control GHG emissions through a "cap and trade" program and several states have already implemented programs to reduce GHG emissions. Additionally, following the U.S. Supreme Court finding that GHG emissions fall within the CAA definition of an "air pollutant," the EPA has adopted regulations that, among other things, establish construction and operating permit review for GHG emissions from certain large stationary sources, require the monitoring and annual reporting of GHG emissions from certain petroleum and natural gas system sources, and together with the United States Department of Transportation, implement GHG emissions limits on vehicles manufactured for operation in the United States. The EPA has also proposed rules in November 2021 and 2022 intended to reduce methane emissions from new and existing oil and gas sources. Furthermore, many state and local leaders have intensified or stated their intent to intensify efforts to support international climate commitments and treaties, in addition to developing programs that are aimed at reducing GHG emissions by means of cap and trade programs, carbon taxes or encouraging the use of renewable energy or alternative low-carbon fuels.

**Employees and Human Capital Resources**

Attracting and retaining qualified personnel familiar with our businesses who head our different businesses units is critical to our success. As of March 3, 2023, we had172 employees located in United States.

Our human capital resources objectives include, as applicable, identifying, recruiting, retaining, incentivizing and integrating our existing and new employees, advisors and consultants. To accomplish that, our compensation practices are designed to attract and retain qualified and motivated personnel and align their interests with the goals of the Company and with the best interests of our stockholders. Our compensation philosophy is to provide compensation to attract the individuals necessary for our current needs and growth initiatives, and provide them with the proper incentives to motivate those individuals to achieve our long-term plans, which includes among other things, equity and cash incentive plans that attract, retain and reward personnel through the granting of stock-based and cash-based compensation awards.

We believe that talent attraction and retention are critical to our ability to achieve our strategy and that a trained, diverse and inspired workforce is integral to delivering on our objectives. Our recruiting process reaches a wide array of potential employees, and we employ a rigorous screening process to ensure that we identify and hire quality professionals.

We are committed to diversity and inclusion in the workforce include a policy of non-discriminatory treatment and respect of human rights for all current and prospective employees. Discrimination on the basis of an individual's race, religion, creed, color, sex, sexual orientation, age, marital status, disability, national origin or veteran's status is not permitted by us and is illegal in many jurisdictions. We respect the human rights of all employees and strives to treat them with dignity consistent with standards and practices recognized by the international community.

**Intellectual Property**

We rely on a combination of patents, copyrights, trademarks, domain name registrations and trade secret laws in the United States and other jurisdictions and contractual restrictions to protect our intellectual property rights and our brand names. All of our employees sign confidentiality agreements. These agreements provide that the employee may not use or disclose our confidential information except as expressly permitted in connection with the performance of his or her duties for us, or in other limited circumstances. These agreements also state that, to the extent rights in any invention conceived of by the employee while employed by us do not vest in us automatically by operation of law, the employee is required to assign his or her rights to us.

## Item 1A. Risk Factors.

## RISK FACTORS

Our business, operating results or financial condition could be materially adversely affected by any of the following risks as well as the other risks highlighted elsewhere in this document, particularly the discussions about regulation, competition and intellectual property. The trading price of our Class B common stock and Series 2012-A Preferred Stock could decline due to any of these risks.

### Risks Related to Genie Retail Energy

*The REP business is highly competitive, and we may be forced to reduce prices or incur additional costs.*

GRE's REP businesses face substantial competition both from the traditional incumbent utilities as well as from other REPs, including REP affiliates of the incumbent utilities in specific territories. As a result, we may be forced to reduce prices, incur increased costs or lose market share and cannot always pass along increases in commodity costs to customers. We compete on the basis of provision of services, customer service and price. Present or future competitors may have greater financial, technical or other resources which could put us at a disadvantage. Additionally, our experience has shown that utilities do not change their rates offered to customers immediately in response to increased prices for the underlying commodities.

Increasing our market share depends in part on our ability to persuade more customers to switch to GRE's services than those that churn from us to other providers or back to the local utility. Moreover, local utilities and some REPs may have certain advantages such as name recognition, financial strength and long-standing relationships with customers. Persuading potential customers to switch to GRE's REPs requires significant marketing and sales operations. As we enter new international markets, we will face additional competitive environment. If GRE is not successful in convincing customers to switch both domestically and internationally, our REP businesses, results of operations and financial condition will all be adversely affected.

*Our strategy is based on current regulatory conditions and assumptions, which could change or prove to be incorrect.*

From time to time, various states may propose or modify legislation regulations which could adversely affect our marketing practices and ability to acquire and serve customers. The Company and the REP industry as a whole is working with government representatives, legislators, and advocacy interest groups to lobby for legislation and regulation that most effectively protects customer interests while preserving the competitive structure of deregulated markets. We also seek to expand and diversify into new markets with regulatory structures that are more favorable to the competitive retail supply of energy.

For example, on April 16, 2021, the New York Public Service Commission ("PSC") issued an order limiting the types of services energy retailer marketers may offer new customers or renewals, in terms of pricing for non-renewable commodities and renewable product offerings (the "2021 Orders"). Such compliance could impact customer acquisition and renewal revenue and profitability. The Company is working to ensure that its products and services are fully compatible with the 2021 Orders. As of December 31, 2022, New York represented 22.4% of GRE's total meters served and 18.8% of the total residential customer equivalents ("RCEs") of GRE's customer base. For the years ended December 31, 2022 and 2021, gross revenue from New York was $63.5 million and $52.9 million, respectively.

Any legislative or regulatory changes that negatively impacts the sale of fossil fuels or electricity derived therefrom would adversely affect the results of our operations and financial conditions.

*Unusual weather conditions, which may become more commonplace, may have significant direct and indirect impacts on GRE's and GREI's business and results of operations.*

Potential global climate change may produce, among other possible conditions, unusual variations in temperature and weather patterns, resulting in unusual weather conditions, more intense, frequent and extreme weather events and other natural disasters.

Because our variable pricing plan resulted in increased prices charged to customers, we experienced an increase in customer churn as utilities and fixed price REPs appeared to have more attractive pricing, although those increased churn levels have peaked. A failure to mitigate an increase in churn could result in decreases in meters served and revenues.

The retail electricity price increases discussed above resulted in large numbers of customers filing informal and formal complaints to state utility commissions, state attorneys general and state legislators. IDT Energy was served with several thousand formal and informal customer complaints to state utility commission and state attorneys general related to the winter retail price increases.

In certain markets, we contractually commit to provide customers with a fixed price, irrespective of our cost of supply in the wholesale energy markets. Even under variable contracts, we seek to manage customer price expectations by using reasonable efforts to avoid or mitigate potential pass-throughs related to unforeseeable weather events (even where such pass-throughs are contractually permissible). Although we use our best efforts to reasonably hedge our commodity positions to absorb weather-related cost spikes, we cannot always anticipate unforeseeable extreme weather events, and we may be forced to absorb these cost increases in order to serve our customers.

For example, a confluence of issues in January and February 2014 associated with the winter season's polar vortex resulted in extraordinarily large spikes in the prices of wholesale electricity and natural gas in markets where GRE and other retail providers purchase their supply. Repeats of the circumstances or similar circumstances could similarly harm margins and profitability in the future, and we could find it necessary to take similar or other actions that would have a negative impact on our financial condition and results of operations.

Additionally, in mid-February of 2021, the State of Texas experienced unprecedented cold weather and snow. With the grid overtaxed and rolling blackouts being enforced, by order of ERCOT, real-time commodity prices during the crisis escalated astronomically. Although our supply commitment for our customers in Texas was reasonably hedged for expected winter weather conditions, the extreme usage spike exposed us to further unexpected cost increases. Despite our cost increases related to the unprecedented price volatility in real-time electricity prices, we maintained customer rates under current agreements with customers. The impact on our consolidated profitability for the year ended December 31, 2022 was approximately $10.6 million.

*GRE's business is subject to physical, market and economic risks relating to potential effects of climate change, and policies at the national, regional and state levels to regulate GHG emissions and mitigate climate change could adversely impact our results of operations, financial condition and cash flows.*

Fluctuations in weather and other environmental conditions, including temperature and precipitation levels, may affect consumer demand for electricity or natural gas. In addition, the potential physical effects of climate change, such as increased frequency and severity of storms, floods and other climatic events, could disrupt GRE's operations and supply chain, and cause it to incur significant costs in preparing for or responding to these effects. These or other changes in climate could lead to increased operating costs or capital expenses. GRE's customers may also experience the potential physical impacts of climate change and may incur significant costs in preparing for or responding to these efforts, including increasing the mix and resiliency of their energy solutions and supply.

Hazards customary to the power production industry include the potential for unusual weather conditions, which could affect pricing and availability for electricity and natural gas. The contribution of climate change to the frequency or intensity of weather-related events could affect our operations and financial results and condition.

*The physical risks associated with climate change may have an adverse impact on our business operations, financial condition and cash flows*

Climate change poses potential physical risks. Scientific studies forecast that these risks include increases in sea levels, stresses on water supply, rising average temperatures and other changes in weather conditions, such as increases in precipitation and extreme weather events, such as floods, heat waves, hurricanes and other tropical storms and cyclones. The projected physical effects of climate change have the potential to be destructive to the suppliers from which we purchased our electricity and natural gas supply. An extreme weather event within our REPs service areas can also cause disruption in service to customers due to downed wires and poles or damage to other equipment. For all of these reasons, these physical risks could have an adverse financial impact on our business operations, financial condition and cash flows. Climate change poses other financial risks as well. To the extent weather conditions are affected by climate change, customers' energy use could increase or decrease depending on the duration and magnitude of the changes. Increased energy use due to weather changes may require us to purchase additional power and natural gas. Additionally, decreased energy use due to weather changes may affect our financial condition through decreased rates, revenues, margins or earnings. However, because the nature and timing of changes in extreme weather events (such as increased frequency, duration, and severity) are uncertain, it is not possible for us to estimate reliably the future financial risk to our operations caused by these potential physical risks.

*Fixed Rate Products or Guaranteed Pricing Programs could result in losses or decreased profits if GRE fails to estimate future commodity prices and commodity consumption accurately.*

REPs and utilities offering fixed rate products or guaranteed pricing often are unable to change their sell rates offered to customers in response to volatility in the prices of the underlying commodities or changes in the regulatory environment. Sudden spikes in commodity prices, particularly when coupled with rapid, unexpected increases in consumptions, expose us to the risk that we will incur significant unforeseen costs in performing fixed rate contracts. During the year ended December 31, 2022, GRE's meters enrolled in offerings with fixed rate characteristics constituted approximately 24.1% and 7.1% of GRE's electric and natural gas load, respectively. Fixed rate products are becoming a greater part of our offering as they are currently preferred by many customers and regulators.

However, it is difficult to predict future commodity costs. Any shortfalls resulting from the risks associated with fixed rate programs will reduce our working capital and profitability. Our inability to accurately estimate the cost of providing services under these programs could have an adverse effect on our profitability and cash flows. We employ an active and robust hedging program. Within this exercise there are inherent assumptions about consumption and pricing. There is risk that volatility with take place outside of the range of potential outcomes contemplated by the program. In these instances, the hedge will not be sufficient to control for risk and losses may occur.

*Commodity price volatility could have an adverse effect on our cost of revenues and our results of operations.*

Volatility in the markets for certain commodities can have an adverse impact on our costs for the purchase of the electricity and natural gas that GRE sells to its customers as what occurred in Texas and Japan during January and February of 2021. Similar or increased unprecedented volatility events can have a material adverse impact on our financial condition because of our fixed or guaranteed price products, we cannot, and in our variable price products, due to customer or competitive factors, we may not always be able or choose to, pass along increases in costs to our customers. This would have an adverse impact on our margins and results of operations. Alternatively, volatility in pricing for GRE's electricity and natural gas related to the cost of the underlying commodities can lead to increased customer churn. In times of high commodity costs, our variable pricing model and commodity purchasing approach can lead to competitive disadvantages as we must pass along all or some portion of our increased costs to our customers.

*The Russian invasion of Ukraine is recent and the implications on the global economy and energy supplies are uncertain but may prove to negatively impact our operations.*

The short and long-term implications of Russia's invasion of Ukraine are difficult to predict at this time. The imposition of sanctions and counter sanctions may have an adverse effect on energy and economic markets generally and could result in an even greater impact related to global supply and pricing of electricity and natural gas.

To the extent the war in Ukraine may adversely affect our business as discussed above, it may also have the effect of heightening many of the other risks described in this Item IA such as those relating to cyber security, supply chain, inflationary and other volatility in commodity, and the condition of the markets including as related to our ability to access additional capital, any of which could negatively affect our business. Because of the highly uncertain and dynamic nature of these events, it is not currently possible to estimate the impact of the Russian — Ukraine war on our business.

*Our business, results of operation and financial conditions could be adversely affected by the coronavirus COVID-19 pandemic and the restrictions put in place in connection therewith.*

We have responded to the global outbreak of COVID-19 by taking steps to mitigate the potential risks to us posed by its spread and the impact of the restrictions put in place by governments to protect the population. We continue to execute our business continuity plan and have implemented a comprehensive set of actions for the health and safety of our customers, employees and business partners. We have implemented work from home policies where appropriate.

We continue to implement strong physical and cyber-security measures to ensure our systems remain functional to both serve our operational needs with a remote workforce and to provide uninterrupted service to our customers. We face challenges due to the need to operate with the remote workforce and are addressing those challenges so as to minimize the impact on our ability to operate.

For the year ended December 31, 2022, the impacts of COVID-19 on our operations and financial results were minimal.

We benefited from the increased demand for electricity by residential customers due to more people working from their homes in 2021, though that impact began to abate in 2022 as more customers returned to work in corporate offices. On the other hand, like other retail providers, we suspended our face-to-face customer acquisition programs in March 2020 as public health measures were implemented to combat COVID-19, resulting in a decrease in gross meter acquisitions and a slight reduction in the U.S. domestic meters served. The reduction in gross meter acquisitions decreased our customer acquisition expenses in 2021. Churn for in 2021 decreased as our competitors suspended their face-to-face marketing programs. COVID-19 public health restrictions relaxed in some of GRE's domestic market in 2021, facilitating a partial reactivation of the previously curtailed customer acquisition channels, and in 2022 the impact of public health restrictions on our meter acquisition programs and churn were substantially diminished and as of December 31, 2022 was not a significant factor.

If the COVID-19 pandemic continues for a prolonged period, or impact the territories we serve more significantly than it has today, our business, operations and financial condition could be impacted in more significant ways. The continued spread of COVID-19 and efforts to contain the virus could have the following impacts, in addition to exacerbating the impacts described above:

- Adversely impact our strategic business plans and growth strategy;
- Result in increases in purchase of receivable, or POR fees and allowance for credit bad debt expense as a result of delayed or non-payment from our customers, both of which could be magnified by federal or state government legislation that requires us to extend suspensions of disconnections for non-payment;
- Reduce the availability and productivity of our employees and third-party resources;
- Cause us to experience an increase in costs as a result of our emergency measures;
- Cause a deterioration of the credit quality of our counterparties, including power purchase agreement counterparties, contractors or retail customers, that could result in credit losses;
- Cause impairment of long-lived assets; and
- Cause a deterioration in our financial metrics or the business environment that adversely impacts our credit ratings.

The situation remains fluid and it is difficult to predict with certainty the potential impact of COVID-19 on our business, results of operations, financial condition and cash flows.

*Regulatory conditions can affect the amount of taxes and fees we need to pay and our pricing advantage*

We are subject to audits in various jurisdictions for various taxes, including income tax, utility excise tax and sales and use tax. Aggressive stances taken recently by regulators increase the likelihood of our having to pay additional taxes and fees in connection with these audits. In the future, we may seek to pass such charges along to our customers, which could have an adverse impact on our pricing advantages.

*GRE's growth depends in part on its ability to enter new markets.*

New markets, both domestic and international, are evaluated based on many factors, which include the regulatory environment, as well as GRE's REP businesses' ability to procure energy in an efficient and transparent manner. We seek to purchase wholesale energy where there is a real time market that reflects a fair price for the commodity for all participants. Once new markets are determined to be suitable for GRE's REP businesses, we expend substantial efforts to obtain necessary licenses and will incur significant customer acquisition costs and there can be no assurance that we will be successful in new markets. Furthermore, there are regulatory differences between the markets that we currently operate in and new markets, including, but not limited to, exposure to credit risk, additional churn caused by tariff requirements, rate-setting requirements and incremental billing costs. A failure to identify, become licensed in, and enter new territories may have a material negative impact on our growth, financial condition and results of operations.

*Demand for REP services and consumption by customers are significantly related to weather conditions.*

Typically, colder winters and hotter summers create higher demand and consumption for natural gas and electricity, respectively. Milder than normal winters and/or summers may reduce the demand for our energy services, thus negatively impacting our financial results.

*GRE is subject to litigation that may limit its operations.*

In connection with the 2013-2014 events described in the Risk Factor above entitled "*Unusual weather conditions which may become more commonplace, may have significant direct and indirect impacts on GRE's and GREI's business and results of operations,*" IDT Energy was also sued in separate putative class action suits in New York, New Jersey and Pennsylvania, partially related to the price increases during the winter of 2014. From time to time, IDT Energy is also subject to inquiries, investigation or action from public utility commissions or other governmental regulatory or law enforcement agencies related to compliance of its practices with statutory or regulatory schemes. These matters are more fully discussed in Note 15 of the Notes to Consolidated Financial Statements included in this Annual Report on Form 10-K, including that IDT Energy entered into a settlement in connection with the three putative class actions, and with multiple regulators and governmental bodies terminating litigation with no admission of liability or finding of wrongdoing by IDT Energy.

IDT Energy does not believe that it was at fault or acted in any way improperly with respect to the events of winter 2014 or in connection with any other practices that are subject to investigation or litigation. Although we have taken action to insulate us and our customers from future similar events, we cannot assure that those actions will be effective and we will not be subject to litigation in the future.

Such class action lawsuits or other claims against us could have a material adverse impact on our financial condition, competitive position or results of operations.

*Transition risks associated with climate change, including those related to regulatory mandates could negatively impact our financial results*

Where federal or state legislation mandates the use of renewable fuel sources, such as wind and solar and such legislation does not also provide for adequate cost recovery, it could result in significant changes in our business, including material increases in REC and power purchase costs. Such mandatory renewable portfolio requirements may have an adverse effect on our financial condition and results of operations.

A number of regulatory and legislative bodies have introduced requirements and/or incentives to reduce peak demand and energy consumption. Such conservation programs could result in customer consumption reduction and adversely impact our financial results in different ways.

In the past, we have been adversely impacted by reduced electric usage due in part to energy conservation efforts such as the use of efficient lighting products such as CFLs, halogens and LEDs. We are unable to determine what impact, if any, conservation will have on our financial condition or results of operations.

*We face risks that are beyond our control due to our reliance on third parties both domestically and internationally and our general reliance on the electrical power and transmission infrastructure within the United States.*

Our ability to provide energy delivery and commodity services depends on the operations and facilities of third parties, including, among others, BP, NYISO and PJM. Our reliance on the electrical power generation and transmission infrastructure within the United States makes us vulnerable to large-scale power blackouts. The loss of use or destruction of third party facilities that are used to generate or transmit electricity due to extreme weather conditions, breakdowns, war, acts of terrorism or other occurrences could greatly reduce our potential earnings and cash flows.

*The REP business, including our relationship with our suppliers, is dependent on access to capital and liquidity.*

Our business involves entering into contracts to purchase large quantities of electricity and natural gas. Because of seasonal fluctuations, we are generally required to purchase electricity or natural gas in advance and finance that purchase until we can recover such amounts from revenues. Certain of GRE's REPs have a Preferred Supplier Agreement with BP pursuant to which we purchase electricity and natural gas at market rate plus a fee. The agreement has been modified and extended since 2009, and is scheduled to terminate on November 30, 2023, subject to renewal by agreement of the parties. In addition to other advantages of this agreement, we are only required to post security with BP. There can be no assurance that we will be able to maintain the required covenants, that BP will be able to maintain their required credit rating, or that the agreement will be renewed upon its expiration. In addition, the security requirements outside of the BP agreement may increase as we enter other markets. Difficulty in obtaining adequate credit and liquidity on commercially reasonable terms may adversely affect our business, prospects and financial conditions.

*A revision to certain utility best practices and programs in which we participate and with which we comply could disrupt our operations and adversely affect our results and operations.*

Certain retail access "best practices" and programs proposed and/or required by state regulators have been implemented by utilities in most of the service territories in which we operate. One such practice is participation in purchase of receivables programs under which certain utilities purchase customer receivables for approximately 98.0% of their face value in exchange for a first priority lien in the customer receivables without recourse against a REP. This program is a key to our control of bad debt risk in our REP business.

*The REP business depends on maintaining the licenses in the states in which we operate and any loss of those licenses would adversely affect our business, prospects and financial conditions.*

GRE's REP businesses require licenses from public utility commissions and other regulatory organizations to operate its business. Those agencies may impose various requirements to obtain or maintain licenses. Further, certain non-governmental organizations have been focusing on the REP industry and the treatment of customers by certain REPs. Any negative publicity regarding the REP industry in general, including, but not limited to, legislatures potentially seeking to restrict the activities of REPs and GRE in particular or any increase in customer complaints regarding GRE's REP businesses could negatively affect our relationship with the various commissions and regulatory agencies and could negatively impact our ability to obtain new licenses to expand operations or maintain the licenses currently held. In the aftermath of the polar vortex, several regulatory bodies adopted more aggressive policies toward REPs, including the action against IDT Energy in Pennsylvania described elsewhere in this Annual Report on Form 10-K. Any loss of our REP licenses would cause a negative impact on our results of operations, financial condition and cash flow.

*The REP business depends on the continuing efforts of our management team and our personnel with strong industry or operational knowledge and our efforts may be severely disrupted if we lose their services.*

Our success depends on key members of our management team, the loss of whom could disrupt our business operation. Our business also requires a capable, well-trained workforce to operate effectively. There can be no assurance that we will be able to retain our qualified personnel, the loss of whom may adversely affect our business, prospects and financial conditions.

*We could be harmed by network disruptions, security breaches, or other significant disruptions or failures of our IT infrastructure and related systems or of those we operate for certain of our customers*

To be successful, we need to continue to have available, for our and our customers' use, a high capacity, reliable and secure network. We face the risk, as does any company, of a security breach, whether through cyber-attack, malware, computer viruses, sabotage, or other significant disruption of our IT infrastructure and related systems. As such, there is a risk of a security breach or disruption of the system we operated, including possible unauthorized access to our and our customers' proprietary or classified information. We are also subject to breaches of our network resulting in unauthorized utilization of our services or products, which subject us to the costs of providing those products or services, which are likely not recoverable. The secure maintenance and transmission of our and our customers' information is a critical element of our operations. Our information technology and other systems that maintain and transmit customer information, or those of service providers or business partners, may be compromised by a malicious third party penetration of our network security, or that of a third party service provider or business partner, or impacted by advertent or inadvertent actions or inactions by our employees, or those of a third party service provider or business partner. As a result, our or our customers' information may be lost, disclosed, accessed or taken without the customers' consent or our product and service may be used without payment.

Although we make significant efforts to maintain the security and integrity of these types of information and systems, there can be no assurance that our security efforts and measures will be effective or that attempted security breaches or disruptions would not be successful or damaging, especially in light of the growing sophistication of cyber-attacks and intrusions sponsored by state or other interests. We may be unable to anticipate all potential types of attacks or intrusions or to implement adequate security barriers or other preventative measures. Certain of our business units have been the subject of attempted and successful cyber-attacks in the past. We have researched the situations and do not believe any material internal or customer information has been compromised.

Network disruptions, security breaches and other significant failures of the above-described systems could (i) disrupt the proper functioning of our networks and systems and therefore our operations or those of certain of our customers; (ii) result in the unauthorized use of our services or products without payment, (iii) result in the unauthorized access to, and destruction, loss, theft, misappropriation or release of proprietary, confidential, sensitive or otherwise valuable information of ours or our customers, including trade secrets, which others could use to compete against us or for disruptive, destructive or otherwise harmful purposes and outcomes; (iv) require significant management attention or financial resources to remedy the damages that result or to change our systems and processes; (v) subject us to claims for contract breach, damages, credits, fines, penalties, termination or other remedies; or (vi) result in a loss of business, damage our reputation among our customers and the public generally, subject us to additional regulatory scrutiny or expose us to litigation. Any or all of which could have a negative impact on our results of operations, financial condition and cash flows.

*Our growth strategy depends, in part, on our acquiring complementary businesses and assets and expanding our existing operations, which we may be unable to do.*

Our growth strategy is based, in part, on our ability to acquire businesses and assets that are complementary to our existing operations. We may also seek to acquire other businesses. The success of this acquisition strategy will depend, in part, on our ability to accomplish the following:

- identify suitable businesses or assets to buy;
- complete the purchase of those businesses on terms acceptable to us;
- complete the acquisition in the time frame we expect;
- improve the results of operations of the businesses that we buy and successfully integrate their operations into our own; and
- avoid or overcome any concerns expressed by regulators, including antitrust concerns.

There can be no assurance that we will be successful in pursuing any or all of these steps. Our failure to implement our acquisition strategy could have an adverse effect on other aspects of our business strategy and our business in general. We may not be able to find appropriate acquisition candidates, acquire those candidates that we find or integrate acquired businesses effectively or profitably.

*Uncertainty related to our exit in the U.K. market.*

We face uncertainty related to our exit from the U.K. market. The Administrators of Orbit are currently engaged in a process to identify and settle creditors' claims. Unknown claims and liabilities could arise during the course of the process. Delays in the settlement of creditors' claims could increase the operations cost of the administration. It is unknown at this time how much of the funds that the Administrators are currently holding are ultimately going to be required to satisfy liabilities and the costs of administration, making it uncertain how much cash will be returned to us.

**Risks Related to Genie Renewables**

*Competition in solar markets globally and across the solar value chain is intense, and could remain that way for an extended period of time.*

We face significant competition both in the C&I market where we are attracting customers to our products as well as in the operating market where we are competing for access to land rights or attractive development projects.As the demand for solar energy grows, more companies and investors enter the market, increasing competition and potentially lowering prices and profits.

*Changes in government regulations and policies can impact the financial viability of solar projects.*

The success of solar energy projects is highly dependent government regulations and policies that impact the financial viability of the projects. This can include changes to tax incentives, subsidies, grid access and net metering policies. It can also include changes in building and safety codes, environmental regulations, and land use policies that impact the ability to construct and operate solar projects. The reduction, modification or elimination of any of these policies in one or more of our customer markets would materially and adversely affect the growth of such markets or result in increased price competition, either of which could cause our revenue to decline and materially adversely affect our financial results.

*We may be unable to profitably provide new solar offerings or achieve sufficient market penetration with such offerings.*

We may expand our portfolio of offerings to include solutions that build upon our core competencies but for which we have not had significant historical experience, including variations in our traditional product offerings or other offerings related to commercial and industrial customers and community solar. We cannot be certain that we will be able to ascertain and allocate the appropriate financial and human resources necessary to grow these business areas. We could invest capital into growing these businesses but fail to address market or customer needs or otherwise not experience a satisfactory level of financial return. Also, in expanding into these areas, we may be competing against companies that previously have not been significant competitors, such as companies that currently have substantially more experience than we do in the residential, commercial and industrial, or other targeted offerings. If we are unable to achieve growth in these areas, our overall growth and financial performance may be limited relative to our competitors and our operating results could be adversely impacted.

*An increase in interest rates or tightening of the supply of capital in the global financial markets could increase the cost of borrowing and negatively impact our projects.*

C&I customers may depend on debt and/or equity financing to fund the initial capital expenditure required to purchase a system. Additionally, Genie Solar intends to utilize long-term debt financing for its operating portfolio. As a result, an increase in interest rates, or a reduction in the supply of project debt financing could reduce the number of solar projects that we are able to construct and operate.

*Problems with product quality or performance may cause us to incur significant and/or unexpected contractual damages and/or warranty and related expenses, damage our market reputation, and prevent us from maintaining or increasing our market share.*

We perform a variety of quality and life tests under different conditions upon which we base our assessments and warranty. However, if our products perform below expectations, we could experience significant warranty and related expenses, damage to our market reputation, and erosion of our market share.

If any of the assumptions used in estimating our warranties prove incorrect, we could be required to accrue additional expenses, which could adversely impact our financial position, operating results, and cash flows. Although we have taken significant precautions to avoid a manufacturing excursion from occurring, any manufacturing excursions, including any commitments made by us to take remediation actions in respect of affected modules beyond the stated remedies in our warranties, could adversely impact our reputation, financial position, operating results, and cash flows.

Any widespread product failures may damage our market reputation, cause our net sales to decline, require us to repair or replace the defective products or provide financial remuneration, and result in us taking voluntary remedial measures beyond those required by our standard warranty terms to enhance customer satisfaction, which could have a material adverse effect on our operating results.

*Several of our key raw materials and components are either single-sourced or sourced from a limited number of suppliers, and their failure to perform could cause manufacturing delays and impair our ability to deliver solar modules to customers in the required quality and quantities and at a price that is profitable to us.*

Our failure to obtain raw materials and components that meet our quality, quantity, and cost requirements in a timely manner could interrupt or impair our ability to manufacture our solar modules or increase our manufacturing costs. Several of our key raw materials and components are either single-sourced or sourced from a limited number of suppliers. As a result, the failure of any of our suppliers to perform could disrupt our supply chain and adversely impact our operations. In addition, some of our suppliers are smaller companies that may be unable to supply our increasing demand for raw materials and components as we expand our business. We may be unable to identify new suppliers or qualify their products for use on our production lines in a timely manner and on commercially reasonable terms. A constraint on our production may result in our inability to meet our capacity plans and/or our obligations under our customer contracts, which would have an adverse impact on our business. Additionally, reductions in our production volume may put pressure on suppliers, resulting in increased material and component costs.

**Risk Related to Our Financial Condition and Reporting**

*We had a material weakness in our internal control over financial reporting in previous years and cannot assure you that additional material weaknesses will not be identified in the future.*

We reported in our Annual Report on Form 10-K as of December 31, 2020, a material weakness in internal control specifically related to management's review of the income tax provision. During 2021, we implemented certain remediation measures related to the material weakness, however, we concluded that our internal control over financial reporting was ineffective as of December 31, 2021 (see *Item 9A Control and Procedures* in this Annual Report on Form 10-K). During 2022, we implemented certain additional remediation measures related to the material weakness and concluded that our internal control over financial reporting was effective as of December 31, 2022.

We also reported in our Annual Report on Form 10-K as of December 31, 2018, a material weakness in internal control related to an application, which the Company uses to process a wide variety of functions for GRE related to customer enrollment, customer programs and price plans, rebate programs, sales commissions, invoicing, and invoice payment information. During 2019, we completed the remediation measures related to the material weakness and concluded that our internal control over financial reporting was effective as of December 31, 2019.

Completion of remediation does not provide assurance that our remediation or other controls will continue to operate properly.

While we aim to work diligently to ensure a robust internal control that is devoid of significant deficiencies and material weaknesses, given the complexity of the accounting rules, we may, in the future, identify additional significant deficiencies or material weaknesses in our disclosure controls and procedures and internal control over financial reporting. Any failure to maintain or implement required new or improved controls, or any difficulties we encounter in their implementation, could result in additional significant deficiencies or material weaknesses, cause us to fail to meet our periodic reporting obligations or result in material misstatements in our financial statements. Any such failure could also adversely affect the results of periodic management evaluations and annual auditor attestation reports regarding the effectiveness of our internal control over financial reporting required under Section 404 of the Sarbanes-Oxley Act of 2002 and the rules promulgated under Section 404. The existence of a material weakness could result in errors in our financial statements that could result in a restatement of financial statements, cause us to fail to meet our reporting obligations and cause investors to lose confidence in our reported financial information, leading to a decline in our stock price. See Item 9A Controls and Procedures for a further discussion of our assessment of our internal controls over financial reporting.

**Risks Related to Our Capital Structure**

*Holders of our Class B common stock and Series 2012-A Preferred Stock have significantly less voting power than holders of our Class A common stock.*

Holders of our Class B common stock and Series 2012-A Preferred Stock are entitled to one-tenth of a vote per share on all matters on which our stockholders are entitled to vote, while holders of our Class A common stock are entitled to three votes per share. As a result, the ability of holders of our Class B common stock and Series 2012-A Preferred Stock to influence our management is limited.

*Holders of our Series 2012-A Preferred Stock are entitled to an annual dividend and such payments may have a negative impact on our cash flow.*

Holders of our Series 2012-A Preferred Stock are entitled to receive an annual dividend, payable quarterly in cash. The payment of such dividend could have a negative impact on our cash flow and cash balances. If dividends on any shares of the Series 2012-A Preferred Stock are in arrears for six or more quarters, whether or not consecutive, holders of the Series 2012-A Preferred Stock shall have the right to elect two (2) additional directors to serve on our Board, and this could have a negative impact on the market price of our equity securities.

*Eight trusts for the benefit of sons and daughters of Howard S. Jonas, our Chairman of the Board of Directors, hold shares that, in the aggregate, represent more than a majority of the combined voting power of our outstanding capital stock, which may limit the ability of other stockholders to affect our management.*

Eight trusts for the benefit of children of Howard S. Jonas, (the “Trusts”), our Chairman of the Board, collectively have voting power over 5,123,374 shares of our common stock, (which is all the issued and outstanding shares of the Class A common stock), which are convertible into shares of our Class B common stock on a 1-for-1 basis, and 3,549,048 shares of our Class B common stock representing approximately 70.0% of the combined voting power of our outstanding capital stock, as of March 13, 2023. In addition, as of March 13, 2023, Howard S. Jonas holds 3,683,869 shares of our Class B common stock.

Howard Jonas serves as our Chairman of the Board, which is not an officer position. However, he is our founder and served as an executive officer, including our Chief Executive Officer, for a very significant time period, and the members of the Board and management often look to him for guidance on major financial, operational and strategic matters.

Howard S. Jonas does not have the right to direct or control the voting of the shares of our common stock that is held by the Trusts, and the independent trustees hold sole voting and dispositive power over the common stock held by the Trusts. However, he is the trustor of the trusts and is the father of each of the beneficiaries of the Trusts and his views may be taken into account by the trustees and others related to the Trusts.

We are not aware of any voting agreement between or among any of the Trusts and/or Howard S. Jonas, but if such a voting agreement or other similar arrangement exists or were to be consummated, if all or several or all of the Trusts were to act in concert, or if we issued additional Class A common stock, certain or all of the Trusts and/or Howard S. Jonas along with holders of the Class A common stock would be able to control matters requiring approval by our stockholders, including the election of all of the directors, amendment of organizational documents and the approval of significant corporate transactions, including any merger, consolidation or sale of all or substantially all of our assets. As a result, the ability of any of our other stockholders to influence our management may be limited. In addition, our dual class structure has an anti-takeover effect, and accordingly, the holders of the shares of Class A common stock have the ability to prevent any change in control transactions that may otherwise be in the best interest of stockholders.

**Item 1B. Unresolved Staff Comments.**

None.

## Item 2. Properties.

Our headquarters are located at 520 Broad St., Newark, New Jersey. Our lease for our office space at 520 Broad Street expires in April 2025 and is for 8,631 square feet and includes two parking spots per thousand square feet of space leased. The annual base rent is $198,513. We have the right to terminate the lease upon four months' notice and upon early termination Genie will pay a penalty equal to 25% of the portion of the rent due over the course of the remaining term. Upon expiration of the lease, we have the right to renew the lease for another 5 years on substantially the same terms, with a 2% increase in the rental payments.

GRE's Jamestown, New York offices are located at 3315 North Main Street where we lease approximately 12,000 square feet of space. GRE's Arizona office is located in Chandler, Arizona where we lease approximately 3,300 square feet. GRE's Texas office is located in Houston, Texas where we lease approximately 4,200 square feet.

## Item 3. Legal Proceedings.

Certain legal proceedings in which we are involved are discussed in the Notes to Consolidated Financial Statements — Notes 16, *Legal and Regulatory Proceedings,* in this Annual Report on Form 10-K, which is incorporated by reference.

## Item 4. Mine Safety Disclosures.

Not applicable.

**Part II**

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

### CLASS B COMMON STOCK

Our Class B common stock trades on the New York Stock Exchange under the symbol "GNE".

On March 13, 2023, there were 308 holders of record of our Class B common stock and 8 holders of record of our Class A common stock. All shares of Class A common stock are beneficially owned by eight trusts or the benefit of children of Howard Jonas, our Chairman of the Board. These numbers do not include the number of persons whose shares are in nominee or in "street name" accounts through brokers. On March 13, 2023, the last sales price reported on the New York Stock Exchange for the Class B common stock was $8.96 per share.

### PREFERRED STOCK

The Series 2012-A Preferred Stock is listed and traded on the NYSE under the symbol "GNEPRA". Trading began on the NYSE on October 24, 2012.

On March 13, 2023, there were 3 holders of record of our Series 2012-A Preferred Stock. These numbers do not include the number of persons whose shares are in nominee or in "street name" accounts through brokers. On March 13, 2023, the last sales price reported on the New York Stock Exchange for the Series 2012-A Preferred Stock was $10.51 per share.

Additional information regarding dividends required by this item is incorporated by reference from the Management's Discussion and Analysis section in Item 7 to Part II and Note 12 to the Consolidated Financial Statements in Item 8 to Part II of this Annual Report.

The information required by Item 201(d) of Regulation S-K will be contained in our Proxy Statement for our Annual Stockholders Meeting, which we will file with the Securities and Exchange Commission within 120 days after December 31, 2022, and which is incorporated by reference herein.

### Performance Graph of Stock

We are a smaller reporting company as defined by Rule 12b-2 of the Securities and Exchange Act of 1934 and are not required to provide the information under this item.

### Issuer Purchases of Equity Securities

The following table provides information with respect to purchases by us of our shares during the fourth quarter of the year ended December 31, 2022.

| | Total Number of Shares Purchased | Average Price per Share | Total Number of Shares Purchased as part of Publicly Announced Plans or Programs | Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs(1) |
|---|---|---|---|---|
| **October 1 – 31, 2022** | **4,668,973** | **$ —** | **—** | **4,668,973** |
| **November 1 – 30, 2022** | **14,906(2)** | **10.61** | **—** | **4,668,973** |
| **December 1 – 31, 2022** | **—** | **—** | **—** | **4,668,973** |
| **Total** | **4,683,879** | **$ 0.03** | | |

(1) Under our existing stock repurchase program, approved by our Board of Directors on March 11, 2013, we were authorized to repurchase up to an aggregate of 7 million shares of our Class B common stock.

(2) Pertains to 14,906 shares of Class B common stock that were tendered by employees of ours to satisfy the tax withholding obligations in connection with the lapsing of restrictions on awards of restricted stock. Such shares were repurchased by us based on their fair market value on the trading day immediately prior to the vesting date.

**Item 6. Selected Financial Data.**

We are a smaller reporting company as defined by Rule 12b-2 of the Securities and Exchange Act of 1934 and are not required to provide the information under this item.

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

This Annual Report contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, including statements that contain the words "believes," "anticipates," "expects," "plans," "intends" and similar words and phrases. These forward-looking statements are subject to risks and uncertainties that could cause actual results to differ materially from the results projected in any forward-looking statement. In addition to the factors specifically noted in the forward-looking statements, other important factors, risks and uncertainties that could result in those differences include, but are not limited to, those discussed under Item 1A to Part I "Risk Factors" in this Annual Report. The forward-looking statements are made as of the date of this Annual Report, and we assume no obligation to update the forward-looking statements, or to update the reasons why actual results could differ from those projected in the forward-looking statements. Investors should consult all of the information set forth in this report and the other information set forth from time to time in our reports filed with the Securities and Exchange Commission pursuant to the Securities Act of 1933 and the Securities Exchange Act of 1934, including our reports on Forms 10-Q and 8-K.

The following discussion should be read in conjunction with the Consolidated Financial Statements and Notes thereto included in Item 8 of this Annual Report.

**Overview**

We are comprised of Genie Retail Energy ("GRE") and Genie Renewables. In the third quarter of 2022, we discontinued the operations of Lumo Finland and Sweden as discussed below. Following this discontinuance of operations, Genie Retail Energy International ("GRE International") ceased to be a segment and the remaining assets and liabilities and results of any continuing operations of GRE International were combined with corporate.

GRE owns and operates retail energy providers ("REPs"), including IDT Energy, Residents Energy, Town Square Energy ("TSE"), Southern Federal and Mirabito Natural Gas. GRE's REPs' businesses resell electricity and natural gas primarily to residential and small business customers, with the majority of the customers in the Midwestern and Eastern United States and Texas.

Genie Renewables holds Genie Solar Energy, an integrated solar energy company, a 93.5% interest in CityCom Solar, a marketer of community solar energy solutions, Diversegy, an energy broker for commercial, and a 60.0% controlling interest in Prism Solar, a solar solutions company that is engaged in manufacturing of solar panels, solar installation design and solar energy project management.

**Discontinued Operations in Finland and Sweden**

As a result of sustained volatility in the energy markets in Europe, in the third quarter of 2022, we decided to discontinue the operations of Lumo Energia Oyj ("Lumo Finland") and Lumo Energi AB ("Lumo Sweden"). From July 13, 2022 to July 19, 2022, the Company entered into a series of transactions to sell most of the electricity swap instruments held by Lumo Sweden for a gross aggregate amount of €41.1 million (equivalent to approximately $41.4 million at the dates of the transactions) before fees and other costs. The sale price is to be settled monthly based on the monthly commodity volume specified in the instruments from September 2022 to March 2025. The net book value of the instruments sold was €34.2 million (equivalent to $35.8 million).

In July 2022, Lumo Sweden entered into a transaction to transfer, effective August 5, 2022, its customers to a third party for nominal consideration. In August 2022 Lumo Finland entered in a transaction to transfer its variable rate customers to a third party for €$1.9 million (equivalent to $2.0 million), and transferred the fixed rate customers to other utilities for no considerations.

We determined that exiting the Finland and Sweden markets represented a strategic shift that would have a major effect on our operations and accordingly, presented the results of operations and related cash flows as discontinued operations for all periods presented. The assets and liabilities of the discontinued operations have been presented separately, and are reflected within assets and liabilities from discontinued operations in the accompanying consolidated balance sheets as of December 31, 2022 and 2021. Lumo Finland and Lumo Sweden will continue to liquidate their remaining receivables and settle any remaining liabilities.

In November 2022, Lumo Finland declared bankruptcy and the administration of Lumo Finland was transferred to an administrator ("Lumo Administrator"). All assets and liabilities of Lumo Finland remain with Lumo Finland, in which Genie retains its interest, however, the management and control of Lumo Finland were transferred to the Lumo Administrator. Since the Company lost control of the management of Lumo Finland in favor of the Lumo Administrator, the accounts of Lumo Finland were deconsolidated effective November 9, 2022.

Net loss from discontinued operations of Lumo Finland and Lumo Sweden, net of taxes were $30.4 million and $7.7 million for the years ended December 31, 2022 and 2021, respectively

Following the discontinuance of operations of Lumo Finland and Lumo Sweden, GRE International ceased to be a segment and the remaining assets and liabilities and the results of continuing operations of GRE internal were combined with corporate.

**Discontinued U.K. Operations**

In 2021, the natural gas and energy market in the United Kingdom deteriorated which prompted us to suspend the then contemplated spin-off of our international operations and start the process of orderly withdrawal from the U.K. market. In October 2021, as part of the orderly exit process from the U.K. market, Orbit and Shell U.K. Limited ("Shell") agreed to terminate the exclusive supply contract between them. As part of the termination agreement, Orbit was required to unwind all physical forward hedges with Shell which resulted in net cash proceeds after settlement of all related liabilities with Shell. A portion of the net cash proceeds was transferred to us (see Notes 16, *Legal and Regulatory Proceedings,* to our financial statements included elsewhere in this Annual Report on Form 10-K).

Following the termination of the contract between Orbit and Shell, we filed a petition with the High Court of Justice Business and Property of England and Wales (the "Court") to declare Orbit insolvent based on the Insolvency Act of 1986. On November 29, 2021, the Court declared Orbit insolvent based on the Insolvency Act of 1986, revoked Orbit's license to supply electricity and natural gas in the United Kingdom, ordered that Orbit's current customers be transferred to a "supplier of last resort" and transferred the administration of Orbit to Administrators effective December 1, 2021. All of the customers of Orbit were transferred to a third-party supplier effective December 1, 2021 as ordered by the Court. All assets and liabilities of Orbit, including cash and receivables remain with Orbit, the management and control of which was transferred to Administrators.

We determined that exiting the United Kingdom represented a strategic shift that would have a major effect on our operations and accordingly, presented the results of operations and related cash flows as discontinued operations for all periods presented. The assets and liabilities of the discontinued operations have been presented separately, and are reflected within assets and liabilities from discontinued operations in the accompanying consolidated balance sheets as of December 31, 2022 and 2021.

**Coronavirus Disease (COVID 19)**

Starting in the first quarter 2021, the world and the United States experienced the unprecedented impacts of the coronavirus disease 2020 (COVID-19) pandemic.

For the year ended December 31, 2022, the impacts of COVID-19 are evident in several key aspects of our business operations and the corresponding financial impact has been mixed. Our consolidated revenues for the year ended December 31, 2022 decreased by $7.7 million or 2.4 compared to 2021.

Our customer base is predominantly residential, so we benefited from the increased demand for electricity when customers are working from their homes. On the other hand, like other retail energy providers, we suspended our face-to-face customer acquisition programs in March 2020 as public health measures were implemented to combat COVID-19, resulting in a decrease in gross meter acquisitions and a decrease in U.S. domestic meters served. The reduction in gross meter acquisitions decreased our customer acquisition expense in the year ended December 31, 2022 and 2021 compared to the period before the pandemic.

We did not experience any significant changes in our workforce composition and were able to implement our business continuity plans with no significant impact to our ability to maintain our operations. We continue to maintain strong physical and cybersecurity measures in order to both serve our operational needs with a remote workforce and to ensure that we continue to provide services to our customers. We face challenges due to the need to operate with a remote workforce and are continuing to address those challenges so as to minimize the impact on our ability to operate.

Beginning in 2021, public health restrictions have begun to ease in some of our markets which allow us to resume face-to-face sales and marketing. We believe that the impact of the public health restrictions on our meter acquisition efforts has dissipated, however, any reversal of the easing of restrictions would impact that situation.

There are many uncertainties regarding the impacts of the COVID-19 pandemic, and we are closely monitoring those impacts of on all aspects of its business, including how it will impact our customers, employees, suppliers, vendors, and business partners. We are currently unable to predict the impact that COVID-19 will have on our financial position and operating results due to the complexities of the impacts and numerous uncertainties that are beyond the Company's control. We expect to continue to assess the evolving impact of COVID-19 on our business and assets and intend to make adjustments accordingly.

**Genie Retail Energy**

GRE operates REPs that resell electricity and/or natural gas to residential and small business customers in Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Texas, Rhode Island, and Washington, D.C. GRE's revenues represented approximately 96.3% and 96.5% of our consolidated revenues in the years ended December 31, 2022 and 2021, respectively

GRE's cost of revenues consists primarily of natural gas and electricity purchased for resale. Certain of GRE's REPs are party to an Amended and Restated Preferred Supplier Agreement with BP Energy Company, or BP, which is in effect through November 30, 2023. Those REPs ability to purchase electricity and natural gas under this agreement is subject to satisfaction of certain conditions including the maintenance of certain covenants.

As an operator of REPs, GRE does not own electrical power generation, transmission, or distribution facilities, or natural gas production, pipeline or distribution facilities. Instead, GRE's REPs contract with various pipeline and distribution companies for natural gas pipeline, storage and transportation services, and utilizes NYISO, PJM, ISO New England and MISO for electric transmission and distribution. GRE's cost of revenues includes scheduling costs, ISO fees, pipeline costs and utility service charges for the purchase of these services.

For risk management purposes, GRE's REPs utilize put and call options and swaps as hedges against unfavorable fluctuations in market prices of electricity and natural gas and to reduce exposure from price fluctuations. The put and call options and swaps are recorded at fair value as a current asset or liability and any changes in fair value are recorded in cost of revenues. The impact of these options and swaps on cost of revenues is relatively small in comparison to the purchases of gas and electricity for resale.

The electricity transmission and distribution operators perform real-time load balancing for each of the electrical power grids in which GRE's REPs operate. Similarly, the utility or the local distribution company, or LDC, performs load balancing for each of the natural gas markets in which GRE's REPs operate. Load balancing ensures that the amount of electricity and natural gas that GRE's REPs purchase is equal to the amount necessary to service their customers' demands at any specific point in time. GRE's REPs manage the differences between the actual electricity and natural gas demands of its customers and its bulk or block purchases by buying and selling in the spot market, and through monthly cash settlements and/or adjustments to futures deliveries in accordance with the load balancing performed by utilities, LDCs, and electricity transmission and distribution operators. Suppliers and the LDC's charge or credit GRE for balancing the electricity and natural gas purchased and sold for its account.

Local utilities generally meter and deliver electricity and natural gas to GRE's REPs' customers. The local utilities also provide billing and collection services on GRE's REPs behalf for most of customers and certain local utilities offer purchase of receivables, or POR, programs. GRE's REPs receive the proceeds less the utility's fees for purchase of receivables billing and other ancillary services, where applicable.

Volatility in the electricity and natural gas markets affects the wholesale cost of the electricity and natural gas that GRE's REPs sell to customers. GRE's REPs may not always choose to pass along increases in costs to their customers for various reasons including competitive pressures and for overall customer satisfaction. In addition, GRE's REPs offer fixed rate products or guaranteed pricing and may be unable to change their sell rates offered to fixed rate and guaranteed pricing customers in response to volatility in the prices of the underlying commodities. This can adversely affect GRE's gross margins and results of operations. Alternatively, increases in GRE's REPs rates charged to customers may lead to increased customer churn.

GRE's REPs' selling expense consists primarily of sales commissions paid to independent agents and marketing costs, which are the primary costs associated with the acquisition of customers. Selling, general and administrative expense includes compensation, benefits, utility fees for billing and collection, professional fees, rent and other administrative costs.

*Seasonality and Weather; Climate Change*

The weather and the seasons, among other things, affect GRE's REPs' revenues. Weather conditions have a significant impact on the demand for natural gas used for heating and electricity used for heating and cooling. Typically, colder winters increase demand for natural gas and electricity, and hotter summers increase demand for electricity. Milder winters and/or summers have the opposite effect. Unseasonable temperatures in other periods may also impact demand levels. Potential changes in global climate may produce, among other possible conditions, unusual variations in temperature and weather patterns, resulting in unusual weather conditions, more intense, frequent and extreme weather events and other natural disasters. Some climatologists believe that these extreme weather events will become more common and more extreme which will have a greater impact on our operations. Natural gas revenues typically increase in the first quarter due to increased heating demands and electricity revenues typically increase in the third quarter due to increased air conditioning use. Approximately 39.7% and 44.5% of GRE's natural gas revenues for the relevant years were generated in the first quarter of 2022 and 2021, respectively, when demand for heating was highest. Although the demand for electricity is not as seasonal as natural gas (due, in part, to usage of electricity for both heating and cooling), approximately 30.5% and 30.3% of GRE's electricity revenues for 2022 and 2021, respectively, were generated in the third quarters of those years. GRE's REPs' revenues and operating income are subject to material seasonal variations, and the interim financial results are not necessarily indicative of the estimated financial results for the full year.

In addition to the direct physical impact that climate change may have on our business, financial condition and results of operations because of the effect on pricing, demand for our offerings and/or the energy supple markets, we may also be adversely impacted by other environmental factors, including: (i) technological advances designed to promote energy efficiency and limit environmental impact; (ii) increased competition from alternative energy sources; (iii) regulatory responses aimed at decreasing greenhouse gas emissions; and (iv) litigation or regulatory actions that address the environmental impact of our energy products and services.

*Winter Storm in Texas*

In February of 2021, the State of Texas experienced unprecedented cold weather and snow, which was named Winter Storm Uri. With the grid overtaxed due to demand and weather-related reduced supply and rolling blackouts being enforced, by order of the Electricity Reliability Council of Texas ("ERCOT"), real-time commodity prices during the crisis escalated significantly. Although GRE's commitment for their customers in Texas was hedged for foreseen winter weather conditions, the market conditions exposed the Company to significant unexpected cost increases. In the year ended December 31, 2021, GRE recognized approximately $13.0 million in additional costs related to the situation, which were included in the cost of revenue in the consolidated statements of operation.

In June 2021, the legislature of the State of Texas passed House Bill 4492 ("HB 4492") which includes certain provisions for financing certain costs associated with electric markets caused by Winter Storm Uri. Pursuant to HB 4492, two categories of charges associated with Winter Storm Uri are to be securitized and the proceeds of the securitization will be provided to the load serving entities who originally incurred the charges. Under HB 4492, the Company is entitled to recover a portion of the costs incurred from the effect of Winter Storm Uri with a calculated range of $1.5 million to $2.6 million. In the second quarter of 2021, the Company recorded a reduction in cost of revenues of $1.5 million.

In September 2021, the Public Utility Commission of Texas ("PUC") approved the Debt Obligation Order to grant ERCOT's application for a debt financing mechanism to pay for certain costs associated with Winter Storm Uri. Under the Debt Obligation Order, the amount that the Company is entitled to recover increased to approximately $3.4 million. In the third quarter of 2021, the Company recorded an additional reduction in the cost of revenues of $1.9 million for an aggregate amount of $3.4 million for the year ended December 31, 2021. In June 2022, the Company received a $3.5 million refund related to the cost of Winter Storm Uri.

*Purchase of Receivable*

Utility companies offer purchase of receivable, or POR, programs in most of the service territories in which we operate. GRE's REPs reduce their customer credit risk by participating in POR programs for a majority of their receivables. In addition to providing billing and collection services, utility companies purchase those REPs' receivables and assume all credit risk without recourse to those REPs. GRE's REPs' primary credit risk is therefore nonpayment by the utility companies. In the year ended December 31, 2022, the associated cost was approximately 1.1% of GRE's revenue. At December 31, 2022, 80.5% of GRE's net accounts receivables were under a POR program.

*Concentration of Customers and Associated Credit Risk*

GRE's REPs reduce their customer credit risk by participating in purchase of receivable programs for a majority of their receivables. In addition to providing billing and collection services, some utility companies purchase those REPs' receivables and assume all credit risk without recourse to those REPs for those purchased receivables. GRE's REPs primary credit risk with respect to those purchased receivables is therefore nonpayment by the utility companies. Certain of the utility companies represent significant portions of our consolidated revenues and consolidated gross trade accounts receivable balance during certain periods, and such concentrations increase our risk associated with nonpayment by those utility companies.

The following table summarizes the percentage of consolidated trade receivable by customers that equal or exceed 10.0% of consolidated net trade receivables at December 31, 2022 and 2021 (no other single customer accounted for 10.0% or greater of our consolidated net trade receivable as of December 31, 2022 and 2021).

| | December 31, | |
|---|---|---|
| | **2022** | **2021** |
| Customer A | **10.2%** | 12.5% |

na — less than 10.0% of consolidated net trade receivables

The following table summarizes the percentage of consolidated revenues from customers that equal or exceed 10% or greater of the Company's consolidated revenues in the period (no other single customer accounted for more than 10% of consolidated revenues in these periods):

| | Year ended December 31, | |
|---|---|---|
| | **2022** | **2021** |
| Customer A | **10.1%** | na% |
| Customer B | **na** | 11.7 |

na — less than 10.0% of consolidated revenues in the period

*Class Action Lawsuits*

Although GRE endeavors to maintain best sales and marketing practices, such practices have been the subject of certain class action lawsuits in the past.

Most recently, on February 18, 2020, named Plaintiff Danelle Davis filed a putative class action complaint against Residents Energy and GRE in United States District of New Jersey alleging violations of the Telephone Consumer Protection Act, 47 U.S.C § 227 et seq. Although Residents Energy and GRE denies any wrongdoing in connection with the complains, the parties settled the matter for a minimal amount which was included in selling, general and administrative expenses in the first quarter of 2021.

See Notes 15, *Legal and Regulatory Proceedings,* in this Annual Report on Form 10-K, which is incorporated by reference.

*Agency and Regulatory Proceedings*

From time to time, the Company responds to inquiries or requests for information or materials from public utility commissions or other governmental regulatory or law enforcement agencies related to investigations under statutory or regulatory schemes. The Company cannot predict whether any of those matters will lead to claims or enforcement actions or whether the Company and the regulatory parties will enter into settlements before a formal claim is made. See Notes 15, *Legal and Regulatory Proceedings,* in this Annual Report on Form 10-K, which is incorporated by reference, for further detail on agency and regulatory proceedings.

*State of Connecticut Public Utilities Regulatory Authority*

Town Square Energy

On September 19, 2018, the State of Connecticut Public Utilities Regulatory Authority ("PURA") commenced an investigation into Town Square following customer complaints of allegedly misleading and deceptive sales practices on the part of Town Square. The Connecticut Office of Consumer Counsel joined in the investigation. On June 17, 2020, the PURA notified Town Square that it was advancing it's investigation by assigning Prosecutorial ("PRO") staff for the purpose of investigating Town Square's compliance with licensed electric supplier billing, marketing, and licensing requirements, and, if appropriate, facilitating settlement discussions among the parties.

Although Town Square denies any basis for those complaints and any wrongdoing on its part, in June 2021, it settled the matter with PURA. Pursuant to the terms of the settlement, Town Square paid $0.4 million and has agreed to voluntarily refrain, from in-person marketing activities in Connecticut for the period of 15 months. As of December 31, 2022, Town Square's Connecticut customer base represented 2.8% of GRE's total meters served and 3.1% of the total RCEs of GRE's customer base. For the year ended December 31, 2022 and 2021 Town Square's gross revenues from sales in Connecticut were $16.6 million and $29.0 million, respectively.

An RCE represents a natural gas customer with annual consumption of 100 mmbtu or an electricity customer with annual consumption of 10 MWh. Because different customers have different rates of energy consumption, RCEs are an industry standard metric for evaluating the consumption profile of a given retail customer base.

Residents Energy

In August 2020, Residents Energy began marketing retail energy services in Connecticut. For the year ended December 31, 2022, Residents Energy's gross revenues from sales in Connecticut was $0.2 million. During the fourth quarter of 2020, the enforcement division of PURA contacted Residents Energy concerning customer complaints received in connection with alleged door-to-door marketing activities in violation of various rules and regulations. On March 12, 2021, the enforcement division filed a motion against Resident Energy with the adjudicating body of PURA, seeking the assessment of $1.5 million in penalties, along with a suspension of license for eighteen months, auditing of marketing practices upon reinstatement and an invitation for settlement discussions.

In May 2021, the parties reached a settlement, pursuant to which, Residents Energy paid $0.3 million and volunteered to withdraw from the market in Connecticut for a period of 36 months.

## CRITICAL ACCOUNTING POLICIES

Our financial statements and accompanying notes are prepared in accordance with accounting principles generally accepted in the United States of America, or U.S. GAAP. The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses as well as the disclosure of contingent assets and liabilities. Critical accounting policies are those that require application of management's most subjective or complex judgments, often as a result of matters that are inherently uncertain and may change in subsequent periods. Our critical accounting policies include those related to the allowance for doubtful accounts, goodwill and income taxes. Management bases its estimates and judgments on historical experience and other factors that are believed to be reasonable under the circumstances. Actual results may differ from these estimates under different assumptions or conditions. See Note 1 to the Consolidated Financial Statements in this Annual Report for a complete discussion of our significant accounting policies.

## Revenue Recognition

*Revenues from the Sale of Electricity and Natural Gas*

Revenue from the single performance obligation to deliver a unit of electricity and/or natural gas is recognized as the customer simultaneously receives and consumes the benefit. Variable quantities in requirements contracts are considered to be options for additional goods and services because the customer has a current contractual right to choose the amount of additional distinct goods to purchase.GRE and Genie Japan (during the period prior to its sale in May 2021) record unbilled revenues for the estimated amount customers will be billed for services rendered from the time meters were last read to the end of the respective accounting period. The unbilled revenue is estimated each month based on available per day usage data, the number of unbilled days in the period and historical trends.

Many utility companies in the U.S. offer purchase of receivable, or POR, programs in most of the service territories in which we operate, and GRE's REPs participate in POR programs for a majority of their receivables. We estimate variable consideration related to our rebate programs using the expected value method and a portfolio approach. Our estimates related to rebate programs are based on the terms of the rebate program, the customer's historical electricity and natural gas consumption, the customer's rate plan, and a churn factor. Taxes that are imposed on our sales and collected from customers are excluded from the transaction price.

We recognize the incremental costs of obtaining a contract with a customer as an asset if it expects the benefit of those costs to be longer than one year. We determined that certain sales commissions to acquire customers meet the requirements to be capitalized. For GRE, we apply a practical expedient to expense costs as incurred for sales commissions to acquire customers as the period would have been one year or less.

*Revenues from Solar Panels*

Our revenues from sales of solar panels are recognized at a point in time following the transfer of control of the solar panels to the customer, which typically occurs upon shipment or delivery depending on the terms of the underlying contracts. For sales contracts that contain multiple performance obligations, such as the shipment or delivery of solar modules, we allocate the transaction price to each performance obligation identified in the contract based on relative standalone selling prices, or estimates of such prices, and recognize the related revenue as control of each individual product is transferred to the customer, in satisfaction of the corresponding performance obligations.

## Allowance for Doubtful Accounts

We maintain an allowance for doubtful accounts for estimated losses that result from the inability or unwillingness of our customers to make required payments. The allowance for doubtful accounts was $4.8 million at December 31, 2022 and $6.1 million at December 31, 2021. Our allowance is determined based on known troubled accounts, historical experience and other currently available evidence. Our estimates of recoverability of customer accounts may change due to new developments, changes in assumptions or changes in our strategy, which may impact our allowance for doubtful accounts balance. We continually assess the likelihood of potential amounts or ranges of recoverability and adjust our allowance accordingly, however, actual collections and write-offs of trade accounts receivable may materially differ from our estimates.

## Goodwill

Our goodwill balance was $10.0 million at December 31, 2022 and 2021. Goodwill is not amortized since it is deemed to have an indefinite life. It is reviewed annually (or more frequently under various conditions) for impairment using a fair value approach.

Goodwill is the excess of the acquisition cost of businesses over the fair value of the identifiable net assets acquired. Goodwill and other indefinite lived intangible assets are not amortized. These assets are reviewed annually (or more frequently under various conditions) for impairment using a fair value approach.

The fair value of the reporting unit is estimated using discounted cash flow methodologies, as well as considering third party market value indicators. Calculating the fair value of the reporting units requires significant estimates and assumptions by management. Should the estimates and assumptions regarding the fair value of the reporting units prove to be incorrect, the Company may be required to record impairments to its goodwill in future periods and such impairments could be material.

We perform our annual goodwill impairment test as of October 1. In reviewing goodwill for impairment, we have the option, for any or all of our reporting units that carry goodwill — to first assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not (i.e. greater than 50%) that the estimated fair value of a reporting unit is less than its carrying amount. If we elect to perform a qualitative assessment and determines that an impairment is more likely than not, we then required to perform the quantitative impairment test, otherwise no further analysis is required. We also may elect not to perform the qualitative assessment and, instead, proceed directly to quantitative impairment test. The ultimate outcome of the goodwill impairment review for a reporting unit should be the same whether we choose to perform the qualitative assessment or proceeds directly to the quantitative impairment test. In 2022 and 2021, we elected to perform a qualitative analysis for our GRE reporting unit as of October 1. The Company determined, after performing a qualitative analysis, that there was no evidence that it is more likely than not that the fair value of any identified reporting unit was less that the carrying amounts, therefore, it was not necessary to perform a quantitative impairment test. We determined, after performing qualitative analysis, that there was no evidence that it is more likely than not that the fair value of any identified reporting unit was less that the carrying amounts, therefore, it was not necessary to perform a quantitative impairment test.

The determination of the fair value of our reporting units is based on an income approach that utilizes discounted cash flows for each reporting unit and other Level *3* inputs as specified in the fair value hierarchy in ASC Topic *820, Fair Value Measurements and Disclosure*. Under the income approach, we determine fair value based on the present value of the most recent cash flow projections for the reporting unit as of the date of the analysis and calculate a terminal value utilizing a terminal growth rate. The significant assumptions under this approach include, among others: income projections, which are dependent on future sales, new customers, customer behavior, competitor pricing, operating expenses, the discount rate, and the terminal growth rate. The cash flows used to determine fair value are dependent on a number of significant management assumptions such as the expectations of future performance and the expected future economic environment, which are partly based upon our historical experience. The estimates are subject to change given the inherent uncertainty in predicting future results. Additionally, the discount rate and the terminal growth rate are based on judgment of the rates that would be utilized by a hypothetical market participant.

**Income Taxes**

Our current and deferred income taxes and associated valuation allowance are impacted by events and transactions arising in the normal course of business as well as in connection with special and non-routine items. Assessment of the appropriate amount and classification of income taxes is dependent on several factors, including estimates of the timing and realization of deferred income tax assets, the results of Internal Revenue Service audits of our federal income tax returns, and changes in tax laws or regulations.

The valuation allowance on our deferred income tax assets was $10.2 million and $10.3 million at December 31, 2022 and 2021, respectively. We employ a tax strategy that enables us to currently deduct losses from our foreign subsidiaries against our profitable U.S. operations and we assess the realizability of deferred taxes quarterly. Because of our current projections, we concluded that we meet the criteria of more likely than not in order to utilize our deferred federal income tax assets in the foreseeable future and have released the valuation on the assets that we will utilize.

We use a two-step approach for recognizing and measuring tax benefits taken or expected to be taken in a tax return. We determine whether it is more-likely-than-not that, a tax position will be sustained upon examination, including resolution of any related appeals or litigation processes, based on the technical merits of the position. In evaluating whether a tax position has met the more-likely-than-not recognition threshold, we presume that the appropriate taxing authority that has full knowledge of all relevant information will examine the position. Tax positions that meet the more-likely-than-not recognition threshold are measured to determine the amount of tax benefit to recognize in the financial statements. The tax position is measured at the largest amount of benefit that is greater than 50 percent likely of being realized upon ultimate settlement. Differences between tax positions taken in a tax return and amounts recognized in the financial statements will generally result in one or more of the following: an increase in a liability for income taxes payable, a reduction of an income tax refund receivable, a reduction in a deferred tax asset, or an increase in a deferred tax liability. We review and adjust our liability for unrecognized tax benefits based on our best estimate and judgment given the facts, circumstances and information available at each reporting date. To the extent that the outcome of these tax positions is different from the amounts recorded, such differences may affect income tax expense and actual tax payments.

### RECENTLY ISSUED ACCOUNTING STANDARDS

Information regarding new accounting pronouncements are included in Note 1 — *Description of Business and Summary of Significant Accounting Policies*, to the Consolidated Financial Statements included in this Annual Report on Form 10-K.

### RESULTS OF OPERATIONS

We evaluate the performance of our operating business segments based primarily on income (loss) from operations. Accordingly, the income and expense line items below income (loss) from operations are only included in our discussion of the consolidated results of operations.

#### Year Ended December 31, 2022 compared to Year Ended December 31, 2021

*Genie Retail Energy Segment*

| | Year ended December 31, | | Change | |
|---|---|---|---|---|
| **(amounts in thousands)** | **2022** | **2021** | **$** | **%** |
| Revenues: | | | | |
| Electricity | **$ 241,828** | $ 273,019 | $ (31,191) | (11.4)% |
| Natural gas | **62,144** | 38,812 | 23,332 | 60.1 |
| Total revenues | **303,972** | 311,831 | (7,859) | (2.5) |
| Cost of revenues | **150,990** | 220,951 | (69,961) | (31.7) |
| Gross profit | **152,982** | 90,880 | 62,102 | 68.3 |
| Selling, general and administrative | **60,425** | 56,185 | 4,240 | 7.5 |
| Income from operations | **$ 92,557** | $ 34,695 | $ 57,862 | 166.8 |

*Revenues*. GRE's electricity revenues decreased in 2022 compared to 2021. The decrease in electricity revenues in 2022 compared to 2021 was the result of a decrease in electricity consumption partially offset by an increase in the average price charged to customers. Electricity consumption by GRE's REPs' customers decreased 33.4% in 2022 compared to 2021. The decrease in electricity consumption reflected a decrease in the average number of meters served, which decreased by 30.8% in 2022 compared to 2021 and a 3.8% decrease in average electricity consumption per meter in 2022 compared to 2021. The reduction in meters served was driven, in part, by our decision to suspend certain customer acquisition efforts and allow certain lower margin customers, including those acquired through municipal aggregate deals to move to other suppliers. The average rate per kilowatt hour sold increased by 33.0% in 2022 compared to 2021. The increase in average rate per kilowatt hour sold is due to the increase in the average wholesale price of electricity in 2022 compared to 2021.

GRE's natural gas revenues increased in 2022 compared to 2021. The increase in natural gas revenues in 2022 compared to 2021 was a result of increases in natural gas consumption, driven by increases in average meters served as well as average consumption per meter and average rate per therm sold. Natural gas consumption of GRE's REPs customers increased by 33.4% in 2022 compared to 2021. Average meters served increased by 6.5% in 2022 compared to 2021 and average consumption per meter increased by 25.2% in 2022 compared to 2021. The average rate per therm sold increased 20.0% in 2022 compared to 2021. The increase in average rate per therm sold is due to the increase in the average wholesale price of natural gas in 2022 compared to 2021.

The customer base for GRE's REPs as measured by meters serviced consisted of the following:

| (in thousands) | December 31, 2022 | September 30, 2022 | June 30, 2022 | March 31, 2022 | December 31, 2021 |
|---|---|---|---|---|---|
| Meters at end of quarter: | | | | | |
| Electricity customers | **196** | 193 | 203 | 209 | 210 |
| Natural gas customers | **79** | 77 | 77 | 77 | 75 |
| Total meters | **275** | 270 | 280 | 286 | 285 |

Gross meter acquisitions in 2022 were 159,000 compared to 177,000 in 2021. The number of meters served on December 31, 2022 decreased by 10,000 meters or 3.5% from December 31, 2021. The decrease in the gross meter acquisitions for the year ended December 31, 2022 compared to 2021 was due to a "strategic pause" on certain customer acquisition channels to protect margins due to unfavorable market conditions that started in the fourth quarter of 2021.

In 2022, average monthly churn decreased to 4.8% compared to 5.7% in 2021. The decrease in average monthly churn in the year ended December 31, 2022 compared to 2021 was due to termination of a significant aggregation deal in 2021. GRE's REPs also returned some customers to their underlying utility in certain markets in the fourth quarter of 2021 to minimize the impact of expected higher prices on our margin.

The average rates of annualized energy consumption, as measured by residential customer equivalents, or RCEs, are presented in the chart below. An RCE represents a natural gas customer with annual consumption of 100 mmbtu or an electricity customer with annual consumption of 10 MWh. Because different customers have different rates of energy consumption, RCEs are an industry standard metric for evaluating the consumption profile of a given retail customer base.

| (in thousands) | December 31, 2022 | September 30, 2022 | June 30, 2022 | March 31, 2022 | December 31, 2021 |
|---|---|---|---|---|---|
| RCEs at end of quarter: | | | | | |
| Electricity customers | **181** | 174 | 185 | 182 | 189 |
| Natural gas customers | **81** | 77 | 77 | 78 | 71 |
| Total RCEs | **262** | 251 | 262 | 260 | 260 |

RCEs slightly decreased 0.8% at December 31, 2022 compared to December 31, 2021 primarily due to the "strategic pause" on customer acquisition and transfer of some customers to their underlying customers as discussed above.

*Cost of Revenues and Gross Margin Percentage.* GRE's cost of revenues and gross margin percentage were as follows:

| | Year ended December 31, | | Change | |
|---|---|---|---|---|
| (amounts in thousands) | 2022 | 2021 | $ | % |
| Cost of revenues: | | | | |
| Electricity | **$ 106,382** | $ 198,483 | $ (92,101) | (46.4)% |
| Natural gas | **44,608** | 22,468 | 22,140 | 98.5 |
| Total cost of revenues | **$ 150,990** | $ 220,951 | $ (69,961) | (31.7)% |

| | Year ended December 31, | | |
|---|---|---|---|
| | 2022 | 2021 | Change |
| Gross margin percentage: | | | |
| Electricity | **56.0%** | 27.3% | 28.7% |
| Natural gas | **28.2%** | 42.1% | (13.9)% |
| Total gross margin percentage | **50.3%** | 29.1% | 21.2% |

Cost of revenues for electricity decreased in 2022 compared to 2021 primarily because of decreases in the electricity consumption in the average unit cost of electricity. The average unit cost of electricity decreased by 19.6% in 2022 compared to 2021. Electricity consumption by GRE's REPs' customers decreased by 33.4% in 2022 compared to 2021. A significant portion of the decrease in the average cost of electricity is due to the favorable results of hedging activities in 2022 compared to 2021 and the incremental cost incurred in 2022 from the effect of a major winter storm in Texas as discussed above. The gross margin on electricity increased in 2022 compared to 2021, because the average rate charged to customers increased while the average unit cost of electricity decreased.

Cost of revenues for natural gas increased in 2022 compared to 2021 primarily because of increases in total natural gas consumption and average unit cost of natural gas. Natural gas consumption by GRE's REPs' customers increased by 33.4% in 2022 compared to 2021. The average unit cost of natural gas increased 48.8% in 2022 compared to 2021. Gross margin on natural gas sales decreased in 2022 compared to 2021 because the increase in the average rate charged to customers increased less than the average unit cost of natural gas.

*Selling, General and Administrative*. The increase in selling, general and administrative expense in 2022 compared to 2021 was primarily due to increases in marketing and customer acquisition costs, provision for doubtful accounts and costs related to POR programs and employee-related costs partially offset by a decrease in legal settlement costs. Marketing and customer acquisition expenses increased by $3.7 million in 2022 compared to 2021 as a result of an increase in spending in our commercial business and to offset the effect of COVID-19 related public health restrictions to transitional customer acquisition methods partially offset by the decrease in residential customer meter acquisition. Employee-related expenses slightly increased by $0.6 million in 2022 compared to 2021 primarily due to an increase share based compensation expenses. Provision for doubtful accounts and costs related to POR programs decreased by $0.7 million in 2022 compared to 2021 as a result of expansion of activities in non-POR markets. As discussed above, Residents Energy and Town Square energy paid $0.8 million in legal settlements in Connecticut in 2021. No legal settlements were paid in 2022. As a percentage of GRE's total revenues, selling, general and administrative expenses increased to 19.9% in 2022 from 18.0% in 2021.

***Genie Renewables***

The Genie Renewables (formerly GES) segment is composed of Genie Solar, CityCom Solar, Diversegy and Prism, in which we hold a60.0% controlling interest. Genie Solar is an integrated solar energy company. CityComm Solar is a marketer of community solar energy solutions. Diversegy provides energy brokerage and advisory services to commercial customers. Prism provides energy brokerage and advisory services to commercial customers.

| | Year Ended December 31, | | Change | |
|---|---|---|---|---|
| **(amounts in thousands)** | **2022** | **2021** | **$** | **%** |
| Revenue | **$ 11,567** | $ 7,508 | $ 4,059 | 54.1% |
| Cost of revenue | **9,767** | 4,725 | 5,042 | 106.7 |
| Gross profit | **1,800** | 2,783 | (983) | (35.3) |
| Selling, general and administrative expenses | **5,328** | 2,531 | 2,797 | 110.5 |
| (Loss) income from operations | **$ (3,528)** | $ 252 | $ (3,780) | nm% |

nm — not meaningful

*Revenue.* Genie Renewables' revenues increased in 2022 compared to 2021. The increase in revenues was the result of increases in the activities of Genie Solar projects and commissions from selling third-party products to customers by CityCom Solar.Revenues from Diversegy include commissions, entry fees and other fees from our energy brokerage and marketing services businesses.

*Cost of Revenue.* Cost of revenues increased by 106.7% in 2022 compared to 2021. The increase in cost revenues reflects the increase in revenues of Genie Solar and CityCom Solar. Cost of revenue related to Diversegy included commissions incurred by our energy brokerage and marketing services businesses.

*Selling, General and Administrative.* Selling, general and administrative expenses increased in 2022 compared to 2021 primarily due to increases in headcount in Genie Solar and Diversegy and consulting fees at Genie Solar.

***Corporate***

As discussed above, the remaining accounts of GREI International were transferred to the corporate starting in the third quarter of 2022, which includes accounts of Genie Japan before we sold our stake in May 2021. The revenues and cost of revenues in 2021 were generated from Genie Japan before it was sold. Other entities and activities under corporate do not generate any revenues, nor does they incur any cost of revenues. In addition to the costs related to the Genie Japan customers, corporate costs include unallocated compensation, consulting fees, legal fees, business development expense and other corporate-related general and administrative expense.

| | Year Ended December 31, | | Change | |
|---|---|---|---|---|
| **(amounts in thousands)** | **2022** | **2021** | **$** | **%** |
| Revenues | **$ —** | $ 3,930 | $ (3,930) | (100.0)% |
| Cost of revenues | **—** | 5,955 | (5,955) | (100.0) |
| Gross loss | **—** | (2,025) | 2,025 | (100.0) |
| General and administrative expenses | **9,209** | 8,833 | 376 | 4.3 |
| Impairment of assets | **2,066** | — | 2,066 | 100.0 |
| Loss from operations | **$ (11,275)** | $ (10,858) | $ (417) | 3.8 |

In January 2021, weather volatility and the lack of adequate gas reserves drove the prices on the Japan Electric Power Exchange to $2,390 per megawatt hour for an extended period of time. Although our supply commitment for our customers in Japan was hedged reasonably for expected winter weather conditions, the extreme price spike exposed us to further unexpected cost increases. The impact on our 2021 consolidated result of operations was approximately $2.5 million.

On April 26, 2021, we entered into an Equity Purchase Agreement ("Purchase Agreement") with Hanhwa Q Cells Japan Co., Ltd. ("Hanhwa"), pursuant to which, we agreed to sell our interest in Genie Japan for ¥570.0 million (equivalent to approximately $5.3 million at April 26, 2021) subject to certain terms and conditions set forth in the Purchase Agreement. On May 11, 2021, upon the terms and subject to the conditions of Purchase Agreement, we completed the divestiture of Genie Japan for an aggregate cash consideration of ¥570.0 million (equivalent to approximately $5.2 million at May 11, 2021). Hanhwa also assumed the outstanding loans payable of Genie Japan. We paid $0.6 million of commission to certain former employees of Genie Japan and recognized a pre-tax gain of $4.2 million from the divestiture. For the period from January 1, 2021 to May 11, 2021, Genie Japan had revenues and cost of revenues of $3.9 million and $5.9 million, respectively.

The increase in Corporate general and administrative expenses in 2022 compared to 2021 was primarily due increases in employee related cost and stock-based compensation expenses. As a percentage of our consolidated revenues, corporate general and administrative expenses slightly increased from 2.7% in 2021 to 2.9% in 2022.

In December 2022, the Company suspended the development of business operations of Petrocycle, Ltd. ("Petrocycle"), a preoperating entity engaged in the development of a process to recycle used engine oil into usable gasoline, after it was determined that the current operations will not meet the expected results. Petrocycle provided full impairment of its property and equipment and notes and other receivables from its minority interest partner for an aggregate amount of $2.1 million

*Consolidated*

*Selling, General and Administrative.* Stock-based compensation expense included in consolidated selling, general and administrative expense was $3.0 million and $2.9 million in 2022 and 2021, respectively. At December 31, 2022, aggregate unrecognized compensation cost related to non-vested stock-based compensation was $3.4 million. The unrecognized compensation cost expected to be recognized over the average service period of 1.4 years.

As a percentage of our consolidated revenues, selling, general and administrative expense increased from 20.9% in 2021 to 23.8% in 2022.

The following is a discussion of our consolidated income and expense line items below loss from operations.

| | Year Ended December 31, | | Change | |
|---|---|---|---|---|
| **(amounts in thousands)** | **2022** | **2021** | **$** | **%** |
| Income from operations | **$ 77,754** | $ 24,089 | $ 53,665 | 222.8% |
| Interest income | **835** | 34 | 801 | nm |
| Interest expense | **(129)** | (427) | 298 | 69.8 |
| Unrealized loss on marketable equity securities and investments | **(417)** | (4,970) | 4,553 | 91.6 |
| Gain on sale of subsidiary | **—** | 4,226 | (4,226) | nm |
| Other income, net | **(520)** | 707 | (1,227) | (173.6) |
| Provision for income taxes | **(21,037)** | (7,522) | (13,515) | (179.7) |
| Net income from continuing operations | **56,486** | 16,137 | 40,349 | 250.0 |
| Income from discontinued operations, net of tax | **30,445** | 11,705 | 18,740 | (160.1) |
| Net income | **86,931** | 27,842 | 59,089 | 212.2 |
| Net loss attributable to noncontrolling interests | **874** | 1,372 | (498) | (36.3) |
| Net income attributable to Genie Energy Ltd. | **$ 87,805** | $ 29,214 | $ 58,591 | 200.6% |

nm — not meaningful

*Unrealized loss on marketable equity securities and investments.* The unrealized loss on marketable equity securities and investments in 2021 primarily pertains to the change in fair value of the Company's investments in common stock of Rafael Holdings, Inc. ("Rafael") which the Company acquired in December 2020.

*Gain on sale of subsidiary.* The gain on sale of subsidiary in 2021 pertains to the gain recognized related to the sale of Genie Japan in May 2021.

*Other Income, net*. Other expense, net in 2022 and 2021, consisted primarily of foreign currency transactions gains and losses.

*Provision for Income Taxes.* The increase in provision for income tax in 2022 compared to 2021 is primarily due to increases in the amount of taxable income in the various taxing jurisdictions. Income before income taxes increased to $77.5 million in 2022 compared to $23.7 million in 2021.

*Net Loss (Income) Attributable to Noncontrolling Interests.* The decrease in net loss attributable to noncontrolling interests in 2022 compared to 2021 was primarily due to a decrease in net loss of Citizens Choice ("CCE"), partially offset by the increase in share in noncontrolling interest in the net income of Lumo Sweden and Lumo Finland.

*Income from discontinued operations, net of tax.* Income from discontinued operations, net of tax in 2022 pertains to the results of operations of Lumo Finland and Lumo Sweden. Income from discontinued operations, net of tax in 2021 pertains to the results of operations of Lumo Finland and Lumo Sweden as well Orbit which we discontinued in fourth quarter of 2021.

## LIQUIDITY AND CAPITAL RESOURCES

### General

We currently expect that our cash flows from operations in the next twelve months and the $98.6 million balance of unrestricted cash and cash equivalents that we held at December 31, 2022 will be sufficient to meet our currently anticipated cash requirements for at least the period from January 1, 2023 to March 16, 2024.

At December 31, 2022, we had working capital (current assets less current liabilities) $127.4.

| (amounts in thousands) | Year ended December 31, 2022 | 2021 |
|---|---|---|
| **Cash flows provided by (used in):** | | |
| Operating activities | **$ 66,004** | $ 23,715 |
| Investing activities | **(5,234)** | 2,687 |
| Financing activities | **(25,523)** | (5,675) |
| Effect of exchange rate changes on cash, cash equivalents and cash equivalents | **17** | (30) |
| Increase in cash, cash equivalents and restricted cash from continuing operations | **35,264** | 20,697 |
| Cash flows (used in) provided by discontinued operations | **(29,408)** | 44,667 |
| **Increase in cash, cash equivalents and restricted cash** | **$ 5,856** | $ 65,364 |

*Operating Activities*

Cash, cash equivalents and restricted cash provided by continuing operating activities were $66.0 million and $23.7 million in the years ended December 31, 2022 and 2021, respectively. Net income from continuing operations after non-cash adjustments increased to $64.3 million in 2022 compared to $21.3 million in 2021. The increase is primarily the result of favorable results of continuing operations in 2022 compared 2021.

Our cash flow from operations varies significantly from quarter to quarter and from year to year, depending on our operating results and the timing of operating cash receipts and payments, specifically trade accounts receivable and trade accounts payable. Changes in working capital increased cash flows by $0.3 million for 2022, compared to 2021. Changes in other assets decreased cash flows by $1.0 million for 2022, compared to 2021.

Certain of GRE's REPs are party to an Amended and Restated Preferred Supplier Agreement with BP, which is to be in effect through November 30, 2023. Under the agreement, the REPs purchase electricity and natural gas at market rate plus a fee. The obligations to BP are secured by a first security interest in deposits or receivables from utilities in connection with their purchase of the REP's customer's receivables, and in any cash deposits or letters of credit posted in connection with any collateral accounts with BP. The ability to purchase electricity and natural gas under this agreement is subject to satisfaction of certain conditions including the maintenance of certain covenants. At December 31, 2022, we were in compliance with such covenants. At December 31, 2022, restricted cash — short-term of $0.5 million and trade accounts receivable of $47.0 million were pledged to BP as collateral for the payment of trade accounts payable to BP of $16.7 million at December 31, 2022.

We had purchase commitments of $114.3 million at December 31, 2022, of which $91.8 million was for purchases of electricity.

From time to time, we receive inquiries or requests for information or materials from public utility commissions or other governmental regulatory or law enforcement agencies related to investigations under statutory or regulatory schemes, and we respond to those inquiries or requests. We cannot predict whether any of those matters will lead to claims or enforcement actions.

*Investing Activities*

Our capital expenditures were $1.0 million and $0.1 million in 2022 and 2021, respectively. The increase in capital expenditures in 2022 compared to 2021 is due to construction in progress in Genie Solar. We currently anticipate that our total capital expenditures in the year ending December 31, 2023 will be between $15.0 million and $20.0 million mostly related to the solar projects of Genie Renewables.

On February 21, 2022, we entered into a Loan and Security Agreement to extend up to 5.5 million New Israel Shekel, or NIS (equivalent to $1.5 million as at December 31, 2022) with Natan Ohayon (the "Ohayon Loan"). Natan Ohayon holds a minority interest in Petrocycle. The Ohayon Loan, which is secured by all assets that Mr. Ohayon acquired using the proceeds of the loan bears a minimum interest as set by the Income Tax Regulations of Israel (3.23% in 2022) and is due, together with the principal amount on or before December 31, 2023. As discussed above, in fourth quarter of 2022, we recorded a full impairment on the Ohayon Loan.

In 2022 and 2021, we acquired minimal interests in various ventures for an aggregate amount of investments of $2.7 million and $0.8 million, respectively.

In the fourth quarter of 2021, Orbit transferred to GEIC a net amount of $49.7 million from the proceeds of the settlement of the contact with Shell which is included in cash and cash equivalents in the consolidated balance sheet as of December 31, 2021. In January 2022, we transferred $21.5 million to the Administrators of Orbit to fund the settlement of the expected remaining liabilities of Orbit of $30.8 million, which were included in the current liabilities of discontinued operations in the consolidated balance sheet as of December 31, 2021. In February 2022, we deposited $28.3 million into an attorney trust account to hold, preserve, and dispense funds to the extent needed in connection with the administration process. On February 24, 2022, the Administrators filed a petition under Chapter 15 of the U.S. Bankruptcy Code with the Bankruptcy Court of the Southern District of New York seeking (i) recognition of the U.K. administration proceeding as a foreign main proceeding and the U.K. Administrators as its foreign representatives, and (ii) entrusting distribution of the funds the Company deposited into its attorney's trust fund to the U.K. Administrators. In the second quarter of 2022, the Administrators filed an application to transfer the funds back to the Administrators' control in the U.K. Subject to certain representations and expectations regarding use and application of the funds to efficiently and expeditiously pay off creditors and bring a timely close to the insolvency administration, we did not oppose the application, and the Court transferred the $28.3 million to the Administrator. In August 2022, the Administrator paid the Company a partial return of its interest in Orbit of £4.6 million (equivalent to $5.4 million). We believe that the remaining funds held by the Administrator are more than sufficient to pay any remaining creditors of Orbit (with any surplus, which we expect to be significant, to be returned to us).

On May 11, 2021, upon the terms and subject to the conditions of the Purchase Agreement, we completed the divestiture of Genie Japan for an aggregate consideration of ¥570.0 million (equivalent to approximately $5.2 million at May 11, 2021). We paid $0.6 million of commission to certain former employees of Genie Japan and included $0.1 million of cash in the assets transferred to the buyer for a net proceed of $4.5 million.

In December 2020, we invested $5.0 million in Class B common stock of Rafael Holdings, Inc. ("Rafael"), a publicly-traded company, that is a related party. In connection with the purchase, Rafael issued to us warrants to purchase an additional 43,649 of Rafael's Class B common stock with an exercise price of $22.91 per share. The warrants had a term expiring on June 6, 2022. We exercised the warrants in full on March 31, 2021 for a total exercise price of $1.0 million. We do not exercise significant influence over the operating or financial policies of Rafael.

*Financing Activities*

In each of the years ended December 31, 2022 and 2021, we paid aggregate cash Base Dividends of $0.6376 per share on our Series 2012-A Preferred Stock. The aggregate preferred stock Base Dividends paid in 2022 and 2021 were $1.4 million and $1.5 million, respectively. On December 31, 2021, the Company accrued Additional Dividends of $0.0848 per share on its Preferred Stock, equal to an aggregate of $0.2 million, in respect of the GRE results of operations through December 31, 2021, which the Company paid in May 2023. See the description of our Series 2021-A Preferred Stock below. For the year ended December 31, 2022, the Company accrued Additional Dividends of $0.5301 per share on its Preferred Stock, equal to an aggregate of $0.5 million, in respect of the GRE results of operations for the year ended December 31, 2022. which is expected to be paid around May 15, 2023.

On February 15, 2023, we paid a quarterly Base Dividend of $0.1594 per share on our Series 2012-A Preferred Stock for the fourth quarter of 2022 to stockholders of record as of the close of business on February 7, 2023.

In March 2021, in light of the losses incurred from the effects of the events in Texas and Japan discussed above, the Company suspended the payment of quarterly dividends on its common stock to rebuild its cash position.

On February 7, 2022, the Board of Directors reversed its earlier suspension of quarterly dividends and declared a quarterly dividend of $0.075 per share on our Class a common stock and Class B Common Stock. In year ended December 31, 2022, we paid an aggregate dividends of $0.30 per share to stockholders of our Class A common stock and Class B common stock. The Company paid $7.7 million in aggregate dividends on our common stock for the year ended December 31, 2022.

On March 1, 2023, the Company paid a $0.075 per share of its Class A common Stock and Class B common stock to stockholders of record as of the close of business on February 21, 2023.

On March 11, 2013, our Board of Directors approved a program for the repurchase of up to an aggregate of 7.0 million shares of our Class B common stock. In 2022, we acquired 639,393 shares of Class B common stock under the stock purchase program for an aggregate amount of 4.4 million. In 2021, we acquired 622,922 Class B common stock under the repurchase program for an aggregate amount of $3.8 million. At December 31, 2022, 4.7 million shares remained available for repurchase under the stock repurchase program.

On February 7, 2022, our Board of Directors authorized a program to repurchase up to $1.0 million per quarter or our Preferred Stock at the liquidation preference of $8.50 per share beginning in the second quarter of 2022. On May 3, 2022, our Board of Directors authorized to the redemption of $2.0 million of our Preferred Stock during the second quarter of 2022. In the year ended December 31, 2022, we redeemed 1,339,341 shares of our Preferred Stock under the stock purchase program for an aggregate amount of $11.4 million.

In May 2022, a holder of common stock warrants exercised 209,644 common stock warrants through a cashless exercise and the Company issued 72,657 common shares with the remaining 136,987 warrants being cancelled to settle the exercise price.

On May 13, 2020, Genie Japan entered into a Loan Agreement with Tokyo Star Bank for a ¥150.0 million (equivalent to $1.4 million) short-term credit facility (“May 2020 Loan”) with maturity date of November 13, 2020. On November 13, 2020, Genie Japan and Tokyo Star Bank amended the May 2020 Loan to extend the maturity date to March 13, 2021. Genie Japan provided a letter of credit issued by JPMorgan Chase in the amount of ¥150.0 million (equivalent to $1.4 million) as collateral. The outstanding principal amount incurred interest at 3.0% per annum and was payable monthly. In May 2021, the Company completed the divestiture of Genie Japan including balance of the May 2020 Loan.

On December 13, 2018, we entered into a Credit Agreement with JPMorgan Chase Bank (“Credit Agreement”). On December 27, 2022, the Company entered into the third amendment of its existing Credit Agreement to extend the maturity date of December 31, 2023. The aggregate principal amount was reduced of $3.0 million credit line facility (“Credit Line”). The Company pays a commitment fee of 0.1% per annum on unused portion of the Credit Line as specified in the Credit Agreement. The borrowed amounts will be in the form of letters of credit which will bear interest of 1.0% per annum. The Company will also pay a fee for each letter of credit that is issued equal to the greater of $500 or 1.0% of the original maximum available amount of the letter of credit. We agreed to deposit cash in a money market account at JPMorgan Chase Bank as collateral for the line of credit equal to $3.1 million. As of December 31, 2022, there is no issued letter of credit from the Credit Line. At December 31, 2022, the cash collateral of $5.2 million was included in restricted cash — short-term in the consolidated balance sheet.

In 2022, we paid $0.6 million to repurchase 60,342 shares of our Class B common stock, and, in 2021, we paid $0.3 million to repurchase 62,008 shares of our Class B common stock tendered by our employees to satisfy tax withholding obligations in connection with the lapsing of restrictions on awards of restricted stock. Such shares were repurchased by us based on their fair market value on the trading day immediately prior to the vesting date.

*Series 2012-A Preferred Stock*

At December 31, 2022, there were 2.3 million shares of our Series 2012-A Preferred Stock issued and outstanding with an aggregate liquidation preference of $19.7 million. Each share of our Series 2012-A Preferred Stock has a liquidation preference of $8.50 (the “Liquidation Preference”), and is entitled to receive an annual dividend per share equal to the sum of (i) $0.6375 (the “Base Dividend”) plus (ii) seven and one-half percent (7.5%) of the quotient obtained by dividing (A) the amount by which the EBITDA for a fiscal year of our retail energy provider business exceeds $32 million by (B) 8,750,000 (the “Additional Dividend”), payable in cash. EBITDA consists of income (loss) from operations exclusive of depreciation and amortization and other operating gains (losses).

The Series 2012-A Preferred Stock is redeemable, in whole or in part, at our option following October 11, 2017 at 101% of the Liquidation Preference plus accrued and unpaid dividends, and 100% of the Liquidation Preference plus accrued and unpaid dividends following October 11, 2018.

During any period when we have failed to pay a dividend on the Series 2012-A Preferred Stock and until all unpaid dividends have been paid in full, we are prohibited from paying dividends or distributions on our Class B or Class A common stock.

The Base Dividend is payable (if declared by our Board of Directors, and accrued, if not declared) quarterly on each February 15, May 15, August 15 and November 15, and to the extent that there is any Additional Dividend payable with respect to a fiscal year, it will be paid to holders of Series 2012-A Preferred Stock with the May dividend. With respect to the payment of dividends and amounts upon liquidation, dissolution or winding up, the Series 2012-A Preferred Stock is equal in rank to all other equity securities we issue, the terms of which specifically provide that such equity securities rank on a parity with the Series 2012-A Preferred Stock with respect to dividend rights or rights upon our liquidation, dissolution or winding up; senior to our common stock; and junior to all of our existing and future indebtedness.

Each share of Series 2012-A Preferred Stock has the same voting rights as a share of Class B common stock, except on certain matters that only impact our common stock, as well as additional voting rights on specific matters or upon the occurrence of certain events.

*Cash flows from discontinued operations*

Cash provided by operating activities of discontinued operations was $14.7 million in 2022 compared to $44.7 million in 2021. The cash provided by operating activities of discontinued operations in 2022 includes favorable results of operations of Lumo Finland and Lumo Sweden. while the amount in 2021, includes cash flows from Lumo Sweden, Lumo Finland and Orbit, including the gain from unwinding of the contract of Orbit with Shell as discussed above. Net cash used in investing activities of discontinued operations was $45.7 million in 2022. The investing activities of discontinued operations in 2022 is due to the transfer of cash proceeds from unwinding of the contract of Orbit with Shell to the Administrators of Orbit in the first quarter of 2022 to settle its liabilities, net of cash received from the Administrators during the second half of 2022.

## CONTRACTUAL OBLIGATIONS AND OTHER COMMERCIAL COMMITMENTS

The following table quantifies our future contractual obligations and other commercial commitments at December 31, 2022:

*Payments Due by Period*

| (amounts in millions) | Total | Less than 1 year | 1 – 3 years | 4 – 5 years | After 5 years |
|---|---|---|---|---|---|
| Purchase obligations | $ 91,796 | $ 70,188 | $ 21,608 | $ — | $ — |
| Renewable energy credits purchase obligations | 22,541 | 18,156 | 4,385 | — | — |
| Operating leases | 3,175 | 383 | 627 | 549 | 1,616 |
| Other liabilities[(1)(2)] | 30 | 30 | — | — | — |
| **TOTAL CONTRACTUAL OBLIGATIONS** | **$ 117,542** | **$ 88,757** | **$ 26,620** | **$ 549** | **$ 1,616** |

(1) The above table does not include the financing made available to New Atid of up to $0.4 million due to the uncertainty of the amount and/or timing of any financing to be provided.

(2) The above table does not include an aggregate of $15.3 million in performance bonds at December 31, 2022 due to the uncertainty of the amount and/or timing of any payments.

## OFF-BALANCE SHEET ARRANGEMENTS

We do not have any "off-balance sheet arrangements," as defined in relevant SEC regulations that are reasonably likely to have a current or future effect on our financial condition, results of operations, liquidity, capital expenditures or capital resources, other than the following. GRE has performance bonds issued through a third party for the benefit of certain utility companies and for various states in order to comply with the states' financial requirements for retail energy providers. At December 31, 2022, the Company had outstanding aggregate performance bonds of $15.3 million and minimal amount of unused letters of credit.

### ENVIRONMENTAL MATTERS

For information concerning climate change, see "Climate change" in Item I.

### Item 7A. Quantitative and Qualitative Disclosures about Market Risks.

We are a smaller reporting company as defined by Rule 12b-2 of the Securities Exchange Act of 1934 and are not required to provide the information under this item.

Our primary market risk exposure is the price applicable to our natural gas and electricity purchases and sales. The sales price of our natural gas and electricity is primarily driven by the prevailing market price. Hypothetically, for our GRE segment, if our gross profit per unit in 2022 had remained the same as in 2021, due to changes in the price of natural gas and electricity, our gross profit from electricity sales would have decreased by $85.9 million in 2022 and our gross profit from natural gas sales would have increased by $4.3 million in 2021.

The energy markets have historically been very volatile, and we can reasonably expect that electricity and natural gas prices will be subject to fluctuations in the future. In an effort to reduce the effects of the volatility of the cost of electricity and natural gas on our operations, we have adopted a policy of hedging electricity and natural gas prices from time to time, at relatively lower volumes, primarily through the use of put and call options and swaps. While the use of these hedging arrangements limits the downside risk of adverse price movements, it also limits future gains from favorable movements. We do not apply hedge accounting to these swaps or options, therefore the mark-to-market change in fair value is recognized in cost of revenue in our consolidated statements of operations. See Note 4 — *Derivative Instruments*, for details of the hedging activities.

### Item 8. Financial Statements and Supplementary Data.

Our Consolidated Financial Statements and supplementary data and the report of the independent registered public accounting firm thereon set forth starting on page F-1 herein are incorporated herein by reference.

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

None.

### Item 9A. Controls and Procedures.

#### Evaluation of Disclosure Controls and Procedures

The Company, under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, conducted an evaluation of the effectiveness of the design and operation of the Company's "disclosure controls and procedures" (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")), as of December 31, 2022. Based on our evaluation, our principal executive officer and principal financial officer concluded that the Company's disclosure controls and procedures were effective as of December 31, 2022.

#### Management's Annual Report on Internal Control Over Financial Reporting

We, the management of Genie Energy Ltd. and subsidiaries (the "Company"), are responsible for establishing and maintaining adequate internal control over financial reporting of the Company.

The Company's internal control over financial reporting is defined in Rule 13a-15(f) and 15d-15(f) promulgated under the Exchange Act as a process designed by, or under the supervision of, the Company's principal executive and principal financial officers and effected by the Company's board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the Company's financial statements for external purposes in accordance with generally accepted accounting principles in the United States and includes those policies and procedures that:

1. Pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of assets of the Company;
2. Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and
3. Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

Management has assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2022. In making this assessment, the Company's management used the criteria established in *Internal Control — Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO").

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of our internal control over financial reporting, as prescribed above, as of December 31, 2022. Based on our evaluation, our principal executive officer and principal financial officer concluded that the disclosure controls and procedures were effective as such date.

As disclosed in Part II Item 9A Controls and Procedures in our Annual Report on Form 10-K for the years ended December 31, 2021 and 2020, we identified a material weakness in internal control related to the review of our income tax provision. The review of tax provision was not designed and maintained at an appropriate level of precision to prevent or detect a material misstatement on a timely basis.

During 2022, management implemented our previously disclosed remediation plan that included: (i) enhanced the scope of service performed by the third-party tax consultant with specific expertise in international taxation and business acquisitions, and; (ii) perform a formal more rigid detailed review of tax implications as part of the management review and diligence process.

During the fourth quarter of 2022, we completed our testing of the operating effectiveness of the implemented controls and found them to be effective. As a result, we have concluded the material weakness has been remediated as of December 31, 2022.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2022 has been audited by Zwick CPA, PLLC, an independent registered public accounting firm, as stated in their report which appears herein.

**Changes in Internal Control over Financial Reporting**

Except for the changes in connection with our implementation of the remediation discussed above, there have been no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) or 15d-15(f) of the Exchange Act) that occurred during the fourth quarter period that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

**Item 9B. Other Information.**

None.

**Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspection.**

Not applicable.

**Part III**

## Item 10. Directors, Executive Officers and Corporate Governance.

The following is a list of our directors and executive officers along with the specific information required by Rule 14a-3 of the Securities Exchange Act of 1934:

**Executive Officers**

Michael Stein — Chief Executive Officer

Avi Goldin — Chief Financial Officer

**Directors**

Howard S. Jonas — Chairman of the Board of the Company

Joyce Mason — Corporate Secretary of the Company

W. Wesley Perry — Owner and operator of S.E.S. Investments, Ltd., an oil and gas investment company

Alan B. Rosenthal — Founder and managing partner of ABR Capital Financial Group LLC, an investment fund

Allan Sass — Former President and Chief Executive Officer of Occidental Oil Shale Corporation, a subsidiary of Occidental Petroleum

**Ex-Officio Director**

James A. Courter

The remaining information required by this Item will be contained in our Proxy Statement for our Annual Stockholders Meeting, which will be filed with the Securities and Exchange Commission within 120 days after December 31, 2022, and which is incorporated by reference herein.

**Corporate Governance**

We have included as exhibits to this Annual Report on Form 10-K certificates of our Chief Executive Officer and Chief Financial Officer certifying the quality of our public disclosure.

We make available free of charge through the investor relations page of our web site (*www.idt.net/ir*) our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and all amendments to those reports, and all beneficial ownership reports on Forms 3, 4 and 5 filed by directors, officers and beneficial owners of more than 10% of our equity, as soon as reasonably practicable after such reports are electronically filed with the Securities and Exchange Commission. We have adopted codes of business conduct and ethics for all of our employees, including our principal executive officer, principal financial officer and principal accounting officer. Copies of the codes of business conduct and ethics are available on our web site.

Our web site and the information contained therein or incorporated therein are not intended to be incorporated into this Annual Report on Form 10-K or our other filings with the SEC.

## Item 11. Executive Compensation.

The information required by this Item will be contained in our Proxy Statement for our Annual Stockholders Meeting, which will be filed with the Securities and Exchange Commission within 120 days after December 31, 2022, and which is incorporated by reference herein.

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

The information required by this Item will be contained in our Proxy Statement for our Annual Stockholders Meeting, which will be filed with the Securities and Exchange Commission within 120 days after December 31, 2022, and which is incorporated by reference herein.

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

The information required by this Item will be contained in our Proxy Statement for our Annual Stockholders Meeting, which will be filed with the Securities and Exchange Commission within 120 days after December 31, 2022, and which is incorporated by reference herein.

### Item 14. Principal Accounting Fees and Services.

The information required by this Item will be contained in our Proxy Statement for our Annual Stockholders Meeting, which will be filed with the Securities and Exchange Commission within 120 days after December 31, 2022, and which is incorporated by reference herein.

## Part IV

### Item 15. Exhibits, Financial Statement Schedules.

(a) The following documents are filed as part of this Report:

1. Reports of Independent Registered Public Accounting Firm on Internal Control Over Financial Reporting

   Reports of Independent Registered Public Accounting Firms on Consolidated Financial Statements

2. Financial Statement Schedules.

   All schedules have been omitted since they are either included in the Notes to Consolidated Financial Statements or not required or not applicable.

3. The exhibits listed in paragraph (b) of this item. Exhibit Numbers 10.01, 10.02 and 10.03 are management contracts or compensatory plans or arrangements.

(b) Exhibits.

| Exhibit Number | Description of Exhibits |
|---|---|
| 3.01[1] | Amended and Restated Certificate of Incorporation of the Registrant. |
| 3.02[2] | Amended and Restated Certificate of Designation of Series 2012-A Preferred Stock of the Registrant. |
| 3.03[3] | Fourth Amended and Restated By-Laws of the Registrant. |
| 4.02* | Description of the Registrant’s Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934 |
| 10.01[4] | Third Amended and Restated Employment Agreement, effective as of January 1, 2021, between the Registrant and Avi Goldin. |
| 10.02[5] | 2021 Stock Option and Incentive Plan of Genie Energy Ltd. |
| 10.03[1] | Preferred Supplier Agreement between IDT Energy, Inc. and BP Energy Company, dated June 29, 2009, as amended. |
| 21.01* | Subsidiaries of the Registrant. |
| 23.01* | Consent of Zwick, PLLC (Formerly known as Zwick & Banyai, PLLC) |
| 23.02* | Consent of BDO USA, LLP |
| 31.01* | Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. |
| 31.02* | Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. |
| 32.01* | Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. |
| 32.02* | Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. |
| 101.INS* | XBRL Instance Document |
| 101.SCH* | XBRL Taxonomy Extension Schema Document |
| 101.CAL* | XBRL Taxonomy Extension Calculation Linkbase Document |
| 101.DEF* | XBRL Taxonomy Extension Definition Linkbase Document |
| 101.LAB* | XBRL Taxonomy Extension Label Linkbase Document |
| 101.PRE* | XBRL Taxonomy Extension Presentation Linkbase Document |
| 104 | Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101) |

* filed herewith.
(1) Incorporated by reference to Form 10-12G/A, filed October 7, 2011.
(2) Incorporated by reference to Exhibit 99(A)(1)(A) to Schedule TO, filed May 22, 2014.
(3) Incorporated by reference to Form 8-K filed March 19, 2021.
(4) Incorporated by reference to Form 8-K, filed November 6, 2020.
(5) Incorporated by reference to the Schedule 14A, filed April 28, 2021.

### Item 16. Form 10-K Summary

None.

**Signatures**

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

GENIE ENERGY LTD.

By: /s/ Michael Stein
Chief Executive Officer

Date: March 15, 2023

Pursuant to the requirements of the Securities Exchange Act of 1934, this Annual Report on Form 10-K has been signed by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

| Signature | Titles | Date |
|---|---|---|
| /s/ Howard S. Jonas<br>Howard S. Jonas | Chairman of the Board | March 15, 2023 |
| /s/ Michael Stein<br>Michael Stein | Chief Executive Officer<br>(Principal Executive Officer) | March 15, 2023 |
| /s/ Avi Goldin<br>Avi Goldin | Chief Financial Officer<br>(Principal Financial Officer and<br>Principal Accounting Officer) | March 15, 2023 |
| /s/ Joyce Mason<br>Joyce Mason | Director | March 15, 2023 |
| /s/ W. Wesley Perry<br>W. Wesley Perry | Director | March 15, 2023 |
| /s/ Alan B. Rosenthal<br>Alan B. Rosenthal | Director | March 15, 2023 |
| /s/ Allan Sass<br>Allan Sass | Director | March 15, 2023 |

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM ON INTERNAL CONTROL OVER FINANCIAL REPORTING

To the Board of Directors and Stockholders of
Genie Energy Ltd.
Newark, New Jersey

**Opinion on Internal Control over Financial Reporting**

We have audited Genie Energy Ltd.'s (the "Company's") internal control over financial reporting as of December 31, 2022, based on criteria established in 2013 Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on criteria established in 2013 Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balances sheets of the Company as of December 31, 2022, the related consolidated statements of operations, comprehensive income, equity, and cash flows for the year then ended, and the related notes and our report dated March 15, 2023, expressed an unqualified opinion thereon.

**Basis for Opinion**

The Company's management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying "Item 9A, Controls and Procedures". Our responsibility is to express an opinion on the entity's internal control over financial reporting based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

**Definition and Limitations of Internal Control over Financial Reporting**

An entity's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America. An entity's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the entity; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with accounting principles generally accepted in the United States of America, and that receipts and expenditures of the entity are being made only in accordance with authorizations of management and directors of the entity; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the entity's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Zwick CPA, PLLC

We have served as the Company's auditors since 2022

Southfield, Michigan
March 15, 2023

**GENIE ENERGY LTD.**
**Index to Consolidated Financial Statements**

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of
Genie Energy Ltd.
Newark, New Jersey

**Opinion on the Financial Statements**

We have audited the accompanying consolidated balance sheets of Genie Energy, Ltd. as of December 31, 2022, and the related consolidated statements of operations, comprehensive income, equity, and cash flows for the year then ended, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022, and the results of its operations and its cash flows for the year then ended, in conformity with accounting principles generally accepted in the United States of America.

The consolidated financial statements of Genie Energy, Ltd. as of and for the year ended December 31, 2021, were audited by BDO USA, LLP whose report dated March 16, 2022, expressed an unqualified opinion on those financial statements. As discussed in Note 2 to the financial statements, the Company has adjusted its 2021 financial statements to retrospectively reclassify all discontinued operations in Finland and Sweden. BDO USA, LLP reported on the financial statements before the retrospective adjustments.

As part of our audit of the 2022 financial statements, we also audited the adjustments to the 2021 financial statements to retroactively reclassify discontinued operations as described in Note 2. In our opinion, such adjustments are appropriate and have been properly applied. We audited the financial statements of Genie Retail Energy International, LLC ("GREI") and subsidiaries, a wholly-owned subsidiary of Genie Energy Ltd., as of and for the year ended December 31, 2021 and our report dated March 16, 2022 expressed an unqualified opinion on the financial statements of GREI. We were not engaged to audit, review, or apply any other procedures to the 2021 consolidated financial statements of Genie Energy, Ltd. and subsidiaries other than with respect to the adjustments and audit of GREI as described above, and, accordingly, we do not express an opinion or any other form of assurance on the 2021 consolidated financial statements of Genie Energy, Ltd. taken as a whole.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in 2013 Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) and our report dated March 15, 2023 expressed an unqualified opinion.

**Basis for Opinion**

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

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audit included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audit provides a reasonable basis for our opinion.

**Critical Audit Matters**

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

**Unbilled Revenue**

As described in Note 1 to the consolidated financial statements, the Company recognizes revenue from units of electricity and natural gas delivered, but not invoiced ("unbilled revenue") based on estimated amounts customers will be billed for services rendered from the time meters were last read to the end of the reporting period.

We identified unbilled revenue as a critical audit matter. Our principal considerations included management's significant estimates and inputs, including available per day usage data, the number of unbilled days in the period adjusted for seasonality-based cooling and heating degree-days and historical trends. Because changes in those estimates could have a material effect on the amount of unbilled revenue, auditing these significant estimates and inputs involved a high degree of auditor judgment and effort in performing audit procedures.

The primary procedures we performed to address this critical audit matter included:

- Testing the design and operating effectiveness of certain controls related to management's process to estimate and record unbilled revenue.
- Assessing management's inputs in the estimate such as per day, year over year usage data, the number of unbilled days in the period and seasonality adjustments for reasonableness by comparing to historical and third-party information.
- Evaluating the reasonableness of the unbilled revenue during the year by comparing the estimated unbilled revenue from sale of units of electricity and natural gas to revenue billed in the subsequent period. In cases where estimated revenue by product was significantly higher or lower than expected, we obtained further explanations and corroborating supporting documentation to evaluate the impact to the unbilled revenue.

/s/ Zwick CPA, PLLC

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

Zwick CPA, PLLC
Southfield, Michigan
March 15, 2023

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of
Genie Energy Ltd.
Newark, New Jersey

**Opinion on the Consolidated Financial Statements**

We have audited, before the effects of the adjustments to retrospectively present the disposition of Lumo Energia Oyj and Lumo Energi AB as discontinued operations as described in Notes 1 and 2, the accompanying consolidated balance sheet of Genie Energy Ltd. (the "Company") as of December 31, 2021, the related consolidated statements of operations, comprehensive income (loss), equity, and cash flows for the year then ended, and the related notes (collectively referred to as the "2021 consolidated financial statements, before the effects of the adjustments described in Notes 1 and 2"). In our opinion, based on our audit and the report of Zwick CPA, PLLC, discussed below, the 2021 consolidated financial statements, before the effects of the adjustments described in Notes 1 and 2, present fairly, in all material respects, the financial position of the Company at December 31, 2021, and the results of its operations and its cash flows for the year then ended, in conformity with accounting principles generally accepted in the United States of America.

We did not audit the financial statements of Genie Retail Energy International, LLC and subsidiaries, a wholly-owned subsidiary, as of and for the year ended December 31, 2021, which statements reflect total assets of $34.7 million at December 31, 2021 and total revenues of $44.4 million for the year then ended. Those statements were audited by Zwick CPA, PLLC whose report has been furnished to us, and our opinion, insofar as it relates to the amounts included for Genie Retail Energy International, LLC and subsidiaries, is based solely on the report of Zwick CPA, PLLC.

We were not engaged to audit, review, or apply any procedures to the adjustments to retrospectively present the disposition of Lumo Energia Oyj and Lumo Energi AB as discontinued operations as described in Notes 1 and 2 and, accordingly, we do not express an opinion or any other form of assurance about whether such adjustments are appropriate and have been properly applied. Those adjustments were audited by Zwick CPA, PLLC.

**Basis of Opinion**

These 2021 consolidated financial statements, before the effects of the adjustments discussed in Notes 1 and 2, are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's 2021 consolidated financial statements, before the effects of the adjustments discussed in Notes 1 and 2, based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

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

/s/ BDO USA, LLP

We began serving as the Company's auditor in 2019 and became the predecessor auditor in 2022.

Woodbridge, New Jersey
March 16, 2022

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Shareholders of
Genie Retail Energy International, LLC
Newark, New Jersey

**Opinion on the Consolidated Financial Statements**

We have audited the accompanying consolidated balance sheets of Genie Retail Energy International, LLC ("GREI") as of December 31, 2021 and 2020, the related consolidated statements of operations, comprehensive income (loss), equity, and cash flows for each of the years then ended, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, based on our audits the consolidated financial statements present fairly, in all material respects, the financial position of GREI at December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the years then ended, in conformity with accounting principles generally accepted in the United States of America.

**Discontinued Operations and Divestiture — United Kingdom Operation**

As noted in Footnote 2, GREI's subsidiary ceased operations on December 1, 2021 and transferred its management to Administrators, but left the subsidiary with all of its assets and liabilities including cash and receivables.

**Basis of Opinion**

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

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

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

**Critical Audit Matters**

"Critical audit matters are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved an especially challenging, subjective, or complex judgments. We concluded there are no critical audit matters."

/s/ Zwick CPA, PLLC

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

Southfield, Michigan
March 16, 2022

## GENIE ENERGY LTD.
## CONSOLIDATED BALANCE SHEETS

| (in thousands, except per share amounts) | December 31 2022 | December 31 2021 (Note 2) |
|---|---|---|
| **ASSETS** | | |
| **CURRENT ASSETS:** | | |
| Cash and cash equivalents | **$ 98,571** | $ 93,568 |
| Restricted cash – short-term | **6,007** | 6,657 |
| Marketable equity securities | **490** | 1,336 |
| Trade accounts receivable, net of allowance for doubtful accounts of $4,826 and $6,139 at December 31, 2022 and 2021, respectively | **55,134** | 41,309 |
| Inventory | **15,714** | 17,720 |
| Prepaid expenses | **6,822** | 4,164 |
| Other current assets | **6,207** | 2,354 |
| Other current assets of discontinued operations | **38,688** | 33,237 |
| **TOTAL CURRENT ASSETS** | **227,633** | 200,345 |
| Property and equipment, net | **891** | 297 |
| Goodwill | **9,998** | 9,998 |
| Other intangibles, net | **3,133** | 3,530 |
| Deferred income tax assets, net | **5,799** | 5,203 |
| Other assets | **13,856** | 8,920 |
| Noncurrent assets of discontinued operations | **16,305** | 1,172 |
| **TOTAL ASSETS** | **$ 277,615** | $ 229,465 |
| **LIABILITIES AND EQUITY** | | |
| **CURRENT LIABILITIES:** | | |
| Trade accounts payable | **$ 25,313** | $ 14,541 |
| Accrued expenses | **35,659** | 38,005 |
| Income taxes payable | **22,576** | 9,512 |
| Due to IDT Corporation | **165** | 532 |
| Other current liabilities | **4,549** | 1,732 |
| Current liabilities of discontinued operations | **10,936** | 51,970 |
| **TOTAL CURRENT LIABILITIES** | **99,198** | 116,292 |
| Other liabilities | **4,087** | 1,946 |
| Noncurrent liabilities of discontinued operations | **686** | 438 |
| **TOTAL LIABILITIES** | **103,971** | 118,676 |
| Commitments and contingencies (Note 15 and Note 16) | | |
| **EQUITY:** | | |
| Genie Energy Ltd. stockholders' equity: | | |
| Preferred stock, $0.01 par value; authorized shares – 10,000: | | |
| Series 2012-A, designated shares – 8,750; at liquidation preference, consisting of 983 shares issued and outstanding at December 31, 2022 and 2021 | **8,359** | 19,743 |
| Class A common stock, $0.01 par value; authorized shares – 35,000; 1,574 shares issued and outstanding at December 31, 2022 and 2021 | **16** | 16 |
| Class B common stock, $0.01 par value; authorized shares – 200,000; 27,126 and 26,620 shares issued and 24,421 and 24,615 shares outstanding at December 31, 2022 and 2021, respectively | **271** | 266 |
| Additional paid-in capital | **146,546** | 143,249 |
| Treasury stock, at cost, consisting of 2,705 and 2,005 shares of Class B common at December 31, 2022 and 2021, respectively | **(19,010)** | (14,034) |
| Accumulated other comprehensive income | **1,926** | 3,160 |
| Retained earnings (accumulated deficit) | **49,010** | (29,115) |
| Total Genie Energy Ltd. stockholders' equity | **187,118** | 123,285 |
| Noncontrolling interests | **(13,474)** | (12,496) |
| **TOTAL EQUITY** | **173,644** | 110,789 |
| **TOTAL LIABILITIES AND EQUITY** | **$ 277,615** | $ 229,465 |

See accompanying notes to consolidated financial statements.

## GENIE ENERGY LTD.
## CONSOLIDATED STATEMENTS OF OPERATIONS

| (in thousands, except per share data) | Year ended December 31, 2022 | 2021 (Note 2) |
|---|---|---|
| **REVENUES:** | | |
| Electricity | **$ 241,828** | $ 276,941 |
| Natural gas | **62,144** | 38,812 |
| Other | **11,567** | 7,516 |
| Total revenues | **315,539** | 323,269 |
| Cost of revenues | **160,757** | 231,631 |
| **GROSS PROFIT** | **154,782** | 91,638 |
| **OPERATING EXPENSES AND LOSSES:** | | |
| Selling, general and administrative(i) | **74,962** | 67,549 |
| Impairment of assets | **2,066** | — |
| Income from operations | **77,754** | 24,089 |
| Interest income | **835** | 34 |
| Interest expense | **(129)** | (427) |
| Unrealized loss on marketable equity securities and other investments | **(417)** | (4,970) |
| Gain on sale of subsidiary | **—** | 4,226 |
| Other (loss) income, net | **(520)** | 707 |
| Income before income taxes | **77,523** | 23,659 |
| Provision for income taxes | **(21,037)** | (7,522) |
| **NET INCOME FROM CONTINUING OPERATIONS** | **56,486** | 16,137 |
| Income from discontinued operations, net of tax | **30,445** | 11,705 |
| **NET INCOME** | **86,931** | 27,842 |
| Net loss attributable to noncontrolling interests, net | **874** | 1,372 |
| **NET INCOME ATTRIBUTABLE TO GENIE ENERGY LTD.** | **87,805** | 29,214 |
| Dividends on preferred stock | **(1,939)** | (1,678) |
| **NET INCOME ATTRIBUTABLE TO GENIE ENERGY LTD. COMMON STOCKHOLDERS** | **$ 85,866** | $ 27,536 |
| Amounts attributable to Genie Energy Ltd. common stockholders | | |
| Income from continuing operations | **$ 59,956** | $ 16,341 |
| Income from discontinued operations | **25,910** | 11,195 |
| Net income attributable to Genie Energy Ltd. | **$ 85,866** | $ 27,536 |
| Earnings per share attributed to Genie Energy Ltd. common stockholders | | |
| Basic | | |
| Income from continuing operations | **$ 2.34** | $ 0.63 |
| Income from discontinued operations | **1.01** | 0.43 |
| Net income attributable to Genie Energy Ltd. common stockholders | **$ 3.35** | $ 1.06 |
| Diluted | | |
| Income from continuing operations | **$ 2.28** | $ 0.62 |
| Income from discontinued operations | **0.98** | 0.43 |
| Net income attributable to Genie Energy Ltd. common stockholders | **$ 3.26** | $ 1.05 |
| Weighted-average number of shares used in the calculation of earnings per share | | |
| Basic | **25,629** | 25,879 |
| Diluted | **26,366** | 26,316 |
| Dividends declared per common share | **$ 0.30** | $ — |
| (i) Stock-based compensation included in selling, general and administrative expenses | **$ 2,968** | $ 2,930 |

See accompanying notes to consolidated financial statements.

**GENIE ENERGY LTD.**
**CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME**

| (in thousands) | Year ended December 31, 2022 | 2021 (Note 2) |
|---|---|---|
| **NET INCOME** | **$ 86,931** | $ 27,842 |
| **Other comprehensive (loss) income:** | | |
| Foreign currency translation adjustments | **(2,697)** | (290) |
| **COMPREHENSIVE INCOME** | **84,234** | 27,552 |
| Comprehensive income (loss) attributable to noncontrolling interests | **104** | 1,177 |
| **COMPREHENSIVE INCOME ATTRIBUTABLE TO GENIE ENERGY LTD.** | **$ 84,338** | $ 28,729 |

See accompanying notes to consolidated financial statements.

# GENIE ENERGY LTD.
## CONSOLIDATED STATEMENTS OF EQUITY (in thousands)

| | Genie Energy Ltd. Stockholders | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Preferred Stock | | Class A Common Stock | | Class B Common Stock | | Additional Paid-In Capital | Treasury Stock | Accumulated Other Comprehensive Income | Accumulated Deficit | Noncontrolling Interests | Total Equity |
| | Shares | Amount | Shares | Amount | Shares | Amount | | | | | | |
| **BALANCE AT DECEMBER 31, 2020** | 2,322 | $ 19,743 | 1,574 | $ 16 | 25,811 | $ 260 | $ 140,746 | $ (9,839) | $ 3,827 | $ (56,658) | $ (12,016) | $ 86,079 |
| Dividends on preferred stock | — | — | — | — | — | — | — | — | — | (1,671) | — | (1,671) |
| Issuance of Class B common stock to Howard Jonas | — | — | — | — | 20 | — | 162 | — | — | — | — | 162 |
| Stock-based compensation | — | — | — | — | 538 | 4 | 2,926 | — | — | — | — | 2,930 |
| Restricted Class B common stock purchased from employees | — | — | — | — | — | — | — | (348) | — | — | — | (348) |
| Repurchase of Class B common stock from stock repurchase program | — | — | — | — | — | — | — | (3,847) | — | — | — | (3,847) |
| Sale of subsidiary | — | — | — | — | — | — | — | — | (182) | — | 114 | (68) |
| Purchase of equity of subsidiaries | — | — | — | — | 264 | 2 | (585) | — | — | — | 583 | — |
| Other comprehensive loss | — | — | — | — | — | — | — | — | (485) | — | 195 | (290) |
| Net income for the year ended December 31, 2021 | — | — | — | — | — | — | — | — | — | 29,214 | (1,372) | 27,842 |
| **BALANCE AT DECEMBER 31, 2021** | 2,322 | 19,743 | 1,574 | 16 | 26,633 | 266 | 143,249 | (14,034) | 3,160 | (29,115) | (12,496) | 110,789 |

## GENIE ENERGY LTD.
## CONSOLIDATED STATEMENTS OF EQUITY (in thousands) — (Continued)

| | Genie Energy Ltd. Stockholders | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Preferred Stock | | Class A Common Stock | | Class B Common Stock | | Additional Paid-In Capital | Treasury Stock | Accumulated Other Comprehensive Income | Accumulated Deficit | Noncontrolling Interests | Total Equity |
| | Shares | Amount | Shares | Amount | Shares | Amount | | | | | | |
| **BALANCE AT DECEMBER 31, 2021** | 2,322 | 19,743 | 1,574 | 16 | 26,633 | 266 | 143,249 | (14,034) | 3,160 | (29,115) | (12,496) | 110,789 |
| Dividends on preferred stock ($0.6375 per share Based Dividends and $0.5301 per share Additional Dividends) | — | — | — | — | — | — | — | — | — | (1,761) | — | (1,761) |
| Dividends on common stock ($0.3000 per share) | — | — | — | — | — | — | — | — | — | (7,919) | — | (7,919) |
| Exercise of Class B common stock warrants | — | — | — | — | 73 | 1 | (1) | — | — | — | — | — |
| Stock-based compensation | — | — | — | — | 297 | 3 | 3,051 | — | — | — | — | 3,054 |
| Restricted Class B common stock purchased from employees | — | — | — | — | — | — | — | (567) | — | — | — | (567) |
| Repurchase of Class B common stock from stock repurchase program | — | — | — | — | — | — | — | (4,409) | — | — | — | (4,409) |
| Redemption of preferred stock | (1,339) | (11,384) | — | — | — | — | — | — | — | — | — | (11,384) |
| Deconsolidation of subsidiary | — | — | — | — | — | — | — | — | 1,607 | — | — | 1,607 |
| Purchase of equity of subsidiaries | — | — | — | — | 123 | 1 | 247 | — | — | — | (248) | — |
| Other comprehensive loss | — | — | — | — | — | — | — | — | (2,841) | — | 144 | (2,697) |
| Net income for the year ended December 31, 2022 | — | — | — | — | — | — | — | — | — | 87,805 | (874) | 86,931 |
| **BALANCE AT DECEMBER 31, 2022** | 983 | $ 8,359 | 1,574 | $ 16 | 27,126 | $ 271 | $ 146,546 | $ (19,010) | $ 1,926 | $ 49,010 | $ (13,474) | $ 173,644 |

See accompanying notes to consolidated financial statements.

## GENIE ENERGY LTD.
## CONSOLIDATED STATEMENTS OF CASH FLOWS

| (in thousands) | Year ended December 31, 2022 | 2021 (Note 2) |
|---|---|---|
| **OPERATING ACTIVITIES** | | |
| Net income | **$ 86,931** | $ 27,842 |
| Net income from discontinued operations, net of tax | **30,445** | 11,705 |
| Net income from continuing operations | **56,486** | 16,137 |
| Adjustments to reconcile net income to net cash provided by operating activities: | | |
| Depreciation and amortization | **385** | 436 |
| Deferred income taxes | **(595)** | (104) |
| Provision for doubtful accounts receivable | **2,515** | 1,709 |
| Impairment of assets | **2,066** | — |
| Stock-based compensation | **2,968** | 2,821 |
| Equity in the net income of equity method investees | **17** | (438) |
| Unrealized loss on marketable equity securities and investments | **417** | 4,970 |
| Gain on sale of subsidiary | **—** | (4,226) |
| Change in assets and liabilities, net of effect of acquisition: | | |
| Trade accounts receivable | **(16,339)** | (416) |
| Inventory | **2,005** | (790) |
| Prepaid expenses | **(2,658)** | (420) |
| Other current assets and other assets | **(5,595)** | (682) |
| Trade accounts payable, accrued expenses and other current liabilities | **11,635** | (3,457) |
| Due to IDT Corporation | **(367)** | 275 |
| Income taxes payable | **13,064** | 7,900 |
| Net cash provided by operating activities of continuing operations | **66,004** | 23,715 |
| Net cash provided by discontinued operations | **14,680** | 44,667 |
| Net cash provided by operating activities | **80,684** | 68,382 |
| **INVESTING ACTIVITIES** | | |
| Capital expenditures | **(1,019)** | (126) |
| Investment in notes receivable with related party | **(1,505)** | — |
| Purchases of short-term equity investments | **(2,729)** | (750) |
| Purchase of marketable equity security and investment | **—** | (1,000) |
| Proceeds from the sale of subsidiary, net of cash disposed | **—** | 4,550 |
| Repayment of notes receivables with related party | **19** | 13 |
| Net cash (used in) provided by investing activities of continuing operations | **(5,234)** | 2,687 |
| Net cash used in investing activities of discontinued operations | **(44,088)** | — |
| Net cash (used in) provided by investing activities | **(49,322)** | 2,687 |
| **FINANCING ACTIVITIES** | | |
| Dividends paid | **(9,158)** | (1,480) |
| Purchases of Class B common stock | **(4,414)** | (3,847) |
| Repurchases of Class B common stock from employees | **(567)** | (348) |
| Redemption of preferred stock | **(11,384)** | — |
| Net cash used in financing activities of continuing operations | **(25,523)** | (5,675) |
| Effect of exchange rate changes on cash, cash equivalents and restricted cash | **17** | (30) |
| Net increase in cash, cash equivalents and restricted cash | **5,856** | 65,364 |
| Cash, cash equivalents and restricted cash (including discontinued operations) at beginning of year | **100,225** | 36,785 |
| **Cash, cash equivalents and restricted cash (including discontinued operations) at end of year** | **106,081** | 102,149 |
| Less: Cash of discontinued operations at end of year | **(1,503)** | (1,924) |
| **Cash and cash equivalents and restricted cash (excluding discontinued operations) at end of year** | **$ 104,578** | $ 100,225 |
| **SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION** | | |
| Cash payments made for interest | **$ 123** | $ 433 |
| Cash payments made for income taxes | **$ 8,570** | $ 49 |

See accompanying notes to consolidated financial statements.

## GENIE ENERGY LTD.
## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

### Note 1 — Description of Business and Summary of Significant Accounting Policies

***Description of Business***

Genie Energy Ltd. (“Genie”), a Delaware corporation, was incorporated in January 2011. Genie owns 99.5% of Genie Energy International Corporation (“GEIC”), which owns 100% of Genie Retail Energy (“GRE”), and 95.5% of Genie Renewables. In the third quarter of 2022, the company ceased to operate a former segment, GRE International. Its remaining assets and liabilities and results of continuing operations were combined with corporate. The “Company” in these financial statements refers to Genie, GRE, GRE International and Genie Renewables and their respective subsidiaries, on a consolidated basis.

GRE, owns and operates retail energy providers (“REPs”), including IDT Energy, Inc. (“IDT Energy”), Residents Energy, LLC (“Residents Energy”), Town Square Energy, LLC and Town Square Energy East, LLC (collectivity, “TSE”), Southern Federal Power LLC (“Southern Power”) and Mirabito Natural Gas (“Mirabito”). GRE’s REPs’ businesses resell electricity and natural gas to residential and small business customers primarily in the Eastern and Midwestern United States and Texas.

Genie Renewables holds Genie Solar Energy (“Genie Solar”), an integrated solar energy company and a 92.8% interest in CityCom Solar, a marketer of community solar energy solution, Diversegy LLC (“Diversegy”), a broker for commercial customers, and GRE’s 60.0% interest in Prism Solar Technology, Inc. (“Prism”), a solar solutions company that is engaged in the manufacturing of solar panels, solar installation design and solar energy project management.

**Discontinued operations in Finland and Sweden**

Previously, the Company had a third segment, Genie Retail Energy International, which supplied electricity to residential and small business customers in Scandinavia. However, as a result of volatility in the energy market in Europe, in the third quarter of 2022, the Company decided to discontinue the operations of Lumo Energia Oyj (“Lumo Finland”) and Lumo Energi AB (“Lumo Sweden”). In July 2022, the Company entered into a series of transactions to sell most of the electricity swap instruments held by Lumo Sweden. The Company also entered into a series of transactions to transfer the customers of Lumo Finland and Lumo Sweden to other suppliers.

The Company determined that the discontinued operations in Finland and Sweden represented a strategic shift that will have a major effect on the Company’s operations and financial statements. The Company has accounted for these businesses as discontinued operations and accordingly, has presented the results of operations and related cash flows as discontinued operations. The results of operations and related cash flows are presented as discontinued operations for all periods presented. Any remaining assets and liabilities of the discontinued operations have been presented separately, and are reflected within assets and liabilities from discontinued operations in the accompanying consolidated balance sheets as of December 31, 2022 and 2021. Lumo Finland and Lumo Sweden will continue to liquidate their remaining receivables and settle any remaining liabilities.

Following the discontinuance of operations of Lumo Finland and Lumo Sweden, GRE International ceased to be a separate segment and the remaining assets and liabilities and results of continuing operations of GRE International were combined with corporate.

**Discontinued Operations in United Kingdom**

In third quarter of 2021, the natural gas and energy market in the United Kingdom deteriorated which prompted the Company to start the process of orderly withdrawal from the United Kingdom market. In October 2021, as part of the orderly exit process from the United Kingdom market, Orbit and Shell U.K. Limited (“Shell”) agreed to terminate the exclusive supply contract between them. As part of the termination agreement, Orbit was required to unwind all physical forward hedges with Shell which resulted in net cash proceeds after settlement of all related liabilities with Shell.

**Note 1 — Description of Business and Summary of Significant Accounting Policies** (cont.)

Following the termination of the contract with Shell, Orbit filed a petition with the High Court of Justice Business and Property of England and Wales (the "Court") to declare Orbit insolvent based on the Insolvency Act of 1986. On November 29, 2021, the Court declared Orbit insolvent, revoked Orbit's license to supply electricity and natural gas in the United Kingdom, ordered the current customers to be transferred to "supplier of last resort" and transferred the administration of Orbit to Administrators effective December 1, 2021. All of the customers of Orbit were transferred to a third-party supplier effective December 1, 2021 as ordered by the Court. All assets and liabilities of Orbit, including cash and receivables remain with Orbit, in which Genie retains 100% interest, however, the management and control of Orbit was transferred to the Administrators.

The Company determined that the discontinued operations in the United Kingdom represented a strategic shift that will have a major effect on the Company's operations and financial statements. Since the appointment of the Administrators, the Company has accounted for these businesses as discontinued operations and accordingly, has presented the results of operations and related cash flows as discontinued operations. The results of operations and related cash flows are presented as discontinued operations for all periods presented. Any remaining assets and liabilities of the discontinued operations have been presented separately, and are reflected within assets and liabilities from discontinued operations in the accompanying consolidated balance sheets as of December 31, 2022 and 2021. Since, the Company lost control of the management of Orbit in favor of the Administrators, the accounts of Orbit were deconsolidated effective December 1, 2021.

**Energy Price Volatility in Japan and Texas**

In January 2021, weather volatility and the lack of adequate gas reserves significantly increased the price of energy at Japan Electric Power Exchange ("JEPX") for an extended period of time. The spike in demand associated with this situation, exposed Genie Japan to unexpected cost increases. Genie Japan incurred approximately $2.5 million in additional costs related to the price increases, which were included in the cost of revenue in the first quarter of 2021.

In February of 2021, the State of Texas experienced unprecedented cold weather and snow, which was named Winter Storm Uri. With the grid overtaxed due to demand and weather-related reduced supply and rolling blackouts being enforced, by order of the Electricity Reliability Council of Texas ("ERCOT"), real-time commodity prices during the crisis escalated significantly. Although GRE's commitment for their customers in Texas was hedged for foreseen winter weather conditions, the market conditions exposed the Company to significant unexpected cost increases. In the year ended December 31, 2021, GRE recognized approximately $13.0 million in additional costs related to the situation, which were included in the cost of revenue in the consolidated statements of operation.

In June 2021, the legislature of the State of Texas passed House Bill 4492 ("HB 4492") which includes certain provisions for financing certain costs associated with electric markets caused by Winter Storm Uri. Pursuant to HB 4492, two categories of charges associated with Winter Storm Uri are to be securitized and the proceeds of the securitization will be provided to the load serving entities who originally incurred the charges. Under HB 4492, the Company is entitled to recover a portion of the costs incurred from the effect of Winter Storm Uri with a calculated range of $1.5 million to $2.6 million. In the second quarter of 2021, the Company recorded a reduction in cost of revenues of $1.5 million.

In September 2021, the Public Utility Commission of Texas ("PUC") approved the Debt Obligation Order to grant ERCOT's application for a debt financing mechanism to pay for certain costs associated with Winter Storm Uri. Under the Debt Obligation Order, the amount that the Company is entitled to recover increased to approximately $3.4 million. In the third quarter of 2021, the Company recorded an additional reduction in the cost of revenues of $1.9 million for an aggregate amount of $3.4 million for the year ended December 31, 2021. In June 2022, the Company received a $3.5 million refund related to the cost of Winter Storm Uri.

**Note 1 — Description of Business and Summary of Significant Accounting Policies** (cont.)

***Seasonality and Weather***

The weather and the seasons, among other things, affect GRE's revenues. Weather conditions have a significant impact on the demand for natural gas used for heating and electricity used for heating and cooling. Typically, colder winters increase demand for natural gas and electricity, and hotter summers increase demand for electricity. Milder winters and/or summers have the opposite effect. Unseasonal temperatures in other periods may also impact demand levels. Natural gas revenues typically increase in the first quarter due to increased heating demands and electricity revenues typically increase in the third quarter due to increased air conditioning use. Approximately39.7 and 44.5% of GRE's natural gas revenues for the relevant years were generated in the first quarters of 2022 and 2021, respectively, when demand for heating was highest. Although the demand for electricity is not as seasonal as natural gas (due, in part, to usage of electricity for both heating and cooling), approximately30.5 and 30.3% of GRE's electricity revenues for the relevant years were generated in the third quarters of 2022 and 2021, respectively. GRE's REPs' revenues and operating income are subject to material seasonal variations, and the interim financial results are not necessarily indicative of the estimated financial results for the full year.

***Basis of Consolidation***

The method of accounting applied to long-term investments, whether consolidated, equity or cost, involves an evaluation of the significant terms of each investment that explicitly grant or suggest evidence of control or influence over the operations of the investee and also includes the identification of any variable interests in which the Company is the primary beneficiary. The consolidated financial statements include the Company's controlled subsidiaries and the variable interest entity in which the Company is the primary beneficiary (see Note 14). All significant intercompany accounts and transactions between the consolidated entities are eliminated.

***Equity Method Investments***

Investments in businesses that the Company does not control, but in which the Company has the ability to exercise significant influence over operating and financial matters, are accounted for using the equity method. The Company periodically evaluates its equity method investments for impairment due to declines considered to be other than temporary. If the Company determines that a decline in fair value is other than temporary, then a charge to earnings is recorded, and a new basis in the investment is established.

***Use of Estimates***

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP") requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Significant estimates affecting amounts reported or disclosed in the consolidated financial statements include revenues, marketable equity securities and other investments, accounts receivables, allowances for doubtful accounts receivable, net realizable value of inventories, valuation of intangible assets, depreciation and amortization periods for long-lived assets, valuation allowances recorded against deferred tax assets, the valuation of stock-based compensation, valuation of derivative instruments, valuation of debt instruments and loss contingencies. These estimates are based on historical experience and on various other assumptions that are believed to be reasonable under the current circumstances. Actual results may differ from those estimates.

***Revenue Recognition***

*Revenues from the Sale of Electricity and Natural Gas*

Revenue from the single performance obligation to deliver a unit of electricity and/or natural gas is recognized as the customer simultaneously receives and consumes the benefit. Variable quantities in requirements contracts are considered to be options for additional goods and services because the customer has a current contractual right to choose the amount of additional distinct goods to purchase. GRE and Genie Japan (prior to its sale in May 2021)

**Note 1 — Description of Business and Summary of Significant Accounting Policies** (cont.)

record unbilled revenues for the estimated amount customers will be billed for services rendered from the time meters were last read to the end of the respective accounting period. The unbilled revenue is estimated each month based on available per day usage data, the number of unbilled days in the period and historical trends.

Incumbent utility companies in most of the service territories in which GRE's REPs operate offer purchase of receivables, or POR, and GRE's REPs participate in POR programs for a majority of their receivables. The Company estimates variable consideration related to its rebate programs using the expected value method and a portfolio approach. The Company's estimates related to rebate programs are based on the terms of the rebate program, the customer's historical electricity and natural gas consumption, the customer's rate plan, and a churn factor. Taxes that are imposed on the Company's sales and collected from customers are excluded from the transaction price.

The Company recognizes the incremental costs of obtaining a contract with a customer as an asset if it expects the benefit of those costs to be longer than one year. The Company determined that certain sales commissions to acquire customers meet the requirements to be capitalized. For GRE, the Company applies a practical expedient to expense costs as incurred for sales commissions to acquire customers as the period would have been one year or less.

*Revenues from Sale of Solar Panels*

Revenues from sales of solar panels are recognized at a point in time following the transfer of control of the solar panels to the customer, which typically occurs upon shipment or delivery depending on the terms of the underlying contracts. For sales contracts that contain multiple performance obligations, such as the shipment or delivery of solar modules, the Company allocates the transaction price to each performance obligation identified in the contract based on relative standalone selling prices, or estimates of such prices, and recognize the related revenue as control of each individual product is transferred to the customer, in satisfaction of the corresponding performance obligations. Revenues from sale of solar panels are included in other revenues in the consolidated statements of operations.

Revenues from sales of solar panels are included under the Other Revenues in the consolidated statements of operations.

The following table shows the Company's revenues disaggregated by pricing plans offered to customers:

| | Electricity | Natural Gas | Other | Total |
|---|---|---|---|---|
| | | (in thousands) | | |
| **For the year ended December 31, 2022** | | | | |
| Fixed rate | **$ 82,036** | **$ 13,138** | **$ —** | **$ 95,174** |
| Variable rate | **159,792** | **49,006** | **—** | **208,798** |
| Other | **—** | **—** | **11,567** | **11,567** |
| Total | **$ 241,828** | **$ 62,144** | **$ 11,567** | **$ 315,539** |
| **For the year ended December 31, 2021** | | | | |
| Fixed rate | $ 132,786 | $ 5,379 | $ — | $ 138,165 |
| Variable rate | 144,155 | 33,433 | — | 177,588 |
| Other | — | — | 7,516 | 7,516 |
| Total | $ 276,941 | $ 38,812 | $ 7,516 | $ 323,269 |

**Note 1 — Description of Business and Summary of Significant Accounting Policies** (cont.)

The following table shows the Company's revenues disaggregated by non-commercial and commercial channels:

| | Electricity | Natural Gas | Other | Total |
|---|---|---|---|---|
| | | (in thousands) | | |
| **For the year ended December 31, 2022** | | | | |
| Non-Commercial Channel | **$ 201,423** | **$ 44,198** | **$ —** | **$ 245,621** |
| Commercial Channel | **40,405** | **17,946** | **—** | **58,351** |
| Other | **—** | **—** | **11,567** | **11,567** |
| Total | **$ 241,828** | **$ 62,144** | **$ 11,567** | **$ 315,539** |
| **For the year ended December 31, 2021** | | | | |
| Non-Commercial Channel | $ 210,142 | $ 30,567 | $ — | $ 240,709 |
| Commercial Channel | 66,799 | 8,245 | — | 75,044 |
| Other | — | — | 7,516 | 7,516 |
| Total | $ 276,941 | $ 38,812 | $ 7,516 | $ 323,269 |

***Cash, Cash Equivalents and Restricted Cash***

The Company considers all highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents.

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported in the consolidated balance sheet that equals the total of the same amounts reported in the consolidated statement of cash flows:

| | December 31, 2022 | December 31, 2021 |
|---|---|---|
| | (in thousands) | |
| Cash and cash equivalents | **$ 98,571** | $ 93,568 |
| Restricted cash – short-term | **6,007** | 6,657 |
| Total cash, cash equivalents, and restricted cash | **$ 104,578** | $ 100,225 |

Restricted cash — short-term includes amounts set aside in accordance with the Amended and Restated Preferred Supplier Agreement with BP Energy Company ("BP") (see *Note* 16) and Credit Agreement with JPMorgan Chase (see *Note* 10).

Included in the cash and cash equivalents as of December 31, 2022 is cash received from Lumo Sweden (*see Note 2*)

Included in the cash and cash equivalents as of December 31, 2021 is cash received from Orbit Energy (see *Note 2*)

***Marketable Equity Securities and Other Investment***

Marketable equity securities that are traded in the public market are carried at fair value using the quoted price at the end of each reporting period. Changes in the fair value are recorded as unrealized gains or losses on investments in the consolidated statements of operations.

***Trade Accounts Receivable, Net***

Trade accounts receivable, net is reported in the balance sheet as gross outstanding amounts adjusted for doubtful accounts.

**Note 1 — Description of Business and Summary of Significant Accounting Policies** (cont.)

***Inventories***

Inventory consists of natural gas, renewable energy credits and solar panels.

*Natural Gas*

Natural gas inventory is stored at various third parties' underground storage facilities and is stated at lower of cost or net realizable value. The Company's natural gas inventory was valued at weighted average cost, which was based on the purchase price of the natural gas and the cost to transport, plus or minus injections or withdrawals.

*Renewable Energy Credits*

GRE must obtain a certain percentage or amount of its power supply from renewable energy sources in order to meet the requirements of renewable portfolio standards in the states in which it operates. This requirement may be met by obtaining renewable energy credits that provide evidence that electricity has been generated by a qualifying renewable facility or resource. GRE holds renewable energy credits for both sale and use, and treats the credits as a government incentive to encourage the construction of renewable power plants. Renewable energy credits are valued at the lower of cost and net realizable value. Gains and losses from the sale of renewable energy credits are recognized in cost of revenues when the credits are transferred to the buyer.

*Solar Panels*

Inventories related to solar panels are stated at the lower of cost or net realizable value. The cost is determine using the first-in, first-out basis and includes both the costs of acquisition and the costs of manufacturing. These costs include direct material, direct labor, and indirect manufacturing costs.

The Company regularly reviews the cost of inventories against their estimated net realizable value and records write-downs if any inventories have costs in excess of their net realizable values. The Company also regularly evaluates the quantities and values of inventories, in light of current market conditions and trends among other factors and records write-downs for any quantities in excess of demand or for any obsolescence. This evaluation considers the use of modules in the systems business, expected demand, anticipated sales prices, strategic raw material requirements, new product development schedules, the effect new products might have on the sale of existing products, product obsolescence, product merchantability, and other factors. Market conditions are subject to change, and actual consumption of our inventory could differ from forecasted demand.

Inventories consisted of the following:

| | December 31, 2022 | December 31, 2021 |
|---|---|---|
| | (in thousands) | |
| Natural gas | **$ 3,302** | $ 1,891 |
| Renewable credits | **10,531** | 15,610 |
| Solar panels | **1,881** | 219 |
| Total inventories | **$ 15,714** | $ 17,720 |

***Long-lived Assets***

Property, plant and equipment — net is stated at historical cost less accumulated depreciation and any impairment. The Company provides for depreciation using a straight-line method over estimated useful life of the assets. Any leasehold improvements are amortized over the lesser of the lease term or the useful life. The cost of major additions and improvements are capitalized, while maintenance and repair costs that do not improve or extend the lives of the respective assets are charged to operations as incurred.

**Note 1 — Description of Business and Summary of Significant Accounting Policies** (cont.)

The estimated useful life of property plant and equipment as follows:

| | Years |
|---|---|
| Machinery and equipment | 2 – 9 |
| Computer software and development | 2 – 5 |
| Computers and computer hardware | 2 – 5 |
| Office equipment and other | 4 – 27 |

The fair value of patents and trademarks, non-compete agreements and customer relationships acquired in a business combination accounted for under the purchase method are amortized over their estimated useful lives as follows: patents and trademarks are amortized on a straight-line basis over a 10 to 20-year period; non-compete agreements are amortized on a straight-line basis 9-year term and licenses are amortized on a straight-line basis over a 10-year period.

The Company tests the recoverability of its long-lived assets with finite useful lives whenever events or changes in circumstances indicate that the carrying value of the asset may not be recoverable. The Company tests the recoverability based on the projected undiscounted cash flows to be derived from such asset. If the projected undiscounted future cash flows are less than the carrying value of the asset, the Company will record an impairment loss based on excess of carrying value over fair value of the assets. The Company generally measures fair value by considering sale prices for similar assets or by discounting estimated future cash flows from such asset using an appropriate discount rate. Cash flow projections and fair value estimates require significant estimates and assumptions by management. Should the estimates and assumptions prove to be incorrect, the Company may be required to record impairments in future periods and such impairments could be material.

***Acquisitions***

Results of operations of acquired companies are included in the Company's results of operations as of the respective acquisition dates. The purchase price of each acquisition is allocated to the net assets acquired based on estimates of their fair values at the date of the acquisition. Any purchase price in excess of these net assets is recorded as goodwill. The allocation of purchase price in certain cases may be subject to revision based on the final determination of fair values during the measurement period, which may be up to 1 year from the acquisition date.

For each acquisition, the Company undertakes a detailed review to identify other intangibles assets and a valuation is performed for all such identified assets. The Company uses several market participant measures to determine estimated value. This approach includes consideration of similar recent transactions, as well as utilizing discounted expected cash flow methodologies. A substantial portion of the intangible asset value that the Company acquired is the specialized know-how of the workforce, which is treated as part of goodwill and is not required to be valued separately. The majority of the value of the identifiable intangible assets acquired is derived from customer relationships, including the related customer contracts, non-compete agreements, trademarks, patents as well as licenses. If the actual results differ from the estimates, the amount recorded in the financial statements could result in a possible impairment of the intangible assets and goodwill, or require acceleration of the amortization expenses of finite-lived intangible assets.

***Goodwill and Indefinite Lived Intangible Assets***

Goodwill is the excess of the acquisition cost of businesses over the fair value of the identifiable net assets acquired. Goodwill and other indefinite-lived intangible assets are not amortized. These assets are reviewed annually (or more frequently under various conditions) for impairment using a fair value approach.

The Company has 2 reportable segments with 3 underlying reporting units: GRE, GRE International, and Genie Renewables, which is comprised of Prism and Diversegy.

**Note 1 — Description of Business and Summary of Significant Accounting Policies** (cont.)

The fair value of each reporting unit is estimated using discounted cash flow methodologies, as well as considering third party market value indicators. Calculating the fair value of the reporting units requires significant estimates and assumptions by management. Should the estimates and assumptions regarding the fair value of the reporting units prove to be incorrect, the Company may be required to record impairments to its goodwill in future periods and such impairments could be material.

The Company performs its annual goodwill impairment test as of October 1. In reviewing goodwill for impairment, the Company has the option, for any or all of its reporting units that carry goodwill — to first assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not (i.e. greater than 50%) that the estimated fair value of a reporting unit is less than its carrying amount. If the Company elects to perform a qualitative assessment and determines that an impairment is more likely than not, the Company is then required to perform the quantitative impairment test, otherwise no further analysis is required. The Company also may elect not to perform the qualitative assessment and, instead, proceed directly to quantitative impairment test. The ultimate outcome of the goodwill impairment review for a reporting unit should be the same whether the Company chooses to perform the qualitative assessment or proceeds directly to the quantitative impairment test.

The determination of the fair value of our reporting units is based on an income approach that utilizes discounted cash flows for each reporting unit and other Level *3* inputs as specified in the fair value hierarchy in ASC Topic *820, Fair Value Measurements and Disclosure*. Under the income approach, we determine fair value based on the present value of the most recent cash flow projections for the reporting unit as of the date of the analysis and calculate a terminal value utilizing a terminal growth rate. The significant assumptions under this approach include, among others: income projections, which are dependent on future sales, new customers, customer behavior, competitor pricing, operating expenses, the discount rate, and the terminal growth rate. The cash flows used to determine fair value are dependent on a number of significant management assumptions such as the expectations of future performance and the expected future economic environment, which are partly based upon our historical experience. The estimates are subject to change given the inherent uncertainty in predicting future results. Additionally, the discount rate and the terminal growth rate are based on judgment of the rates that would be utilized by a hypothetical market participant.

***Derivative Instruments and Hedging Activities***

The Company records its derivatives instruments at their respective fair values. The accounting for changes in the fair value (that is, gains or losses) of a derivative instrument is dependent upon whether the derivative has been designated and qualifies as part of a hedging relationship and on the type of hedging relationship.

Due to the volatility of electricity and natural gas prices, GRE enters into futures contracts, swaps and put and call options as hedges against unfavorable fluctuations in market prices of electricity and natural gas and to reduce exposure from price fluctuations. The Company does not designate its derivative instruments to qualify for hedge accounting, accordingly the futures contracts, swaps and put and call options are recorded at fair value as current and noncurrent assets or liabilities and any changes in fair value are recorded in “Cost of revenues” in the consolidated statements of operations.

In addition to the above, GRE utilizes forward physical delivery contracts for a portion of their purchases of electricity and natural gas, which are defined as commodity derivative contracts. Using the exemption available for qualifying contracts, GRE applies the normal purchase and normal sale accounting treatment to its forward physical delivery contracts, thereby these contracts are not adjusted to fair value. GRE also applies the normal purchase and normal sale accounting treatment to forward contracts for the physical delivery of electricity in nodal energy markets that result in locational marginal pricing charges or credits, since this does not constitute a net settlement, even when legal title to the electricity is conveyed to the ISO during transmission. Accordingly, GRE recognizes revenue from customer sales, and the related cost of revenues, at the contracted price, as electricity and natural gas is delivered to retail customers.

**Note 1 — Description of Business and Summary of Significant Accounting Policies** (cont.)

***Shipping and Handling Fees and Costs***

Amounts billed to customers for shipping and handling are included in revenues. The related minimal amount of shipping and freight charges incurred by the Company are included in cost of goods sold. Distribution and handling costs of $0.1 million were recorded in selling, general and administrative expense for each of the years ended December 31, 2022 and 2021, respectively.

***Foreign Currency***

Assets and liabilities of foreign subsidiaries denominated in foreign currencies are translated to U.S. Dollars at end-of-period rates of exchange, and their monthly results of operations are translated to U.S. Dollars at the average rates of exchange for that month. Gains or losses resulting from such foreign currency translations are recorded in "Accumulated other comprehensive income" in the consolidated balance sheets. Foreign currency transaction gains and losses are reported in "Other (expense) income, net" in the consolidated statements of operations.

***Advertising Expense***

Cost of advertising for customer acquisitions is charged to selling, general and administrative expenses in the period in which it is incurred. In each of the years ended December 31, 2022 and 2021, advertising expenses included in selling, general and administrative expenses was $7.0 million.

***Income Taxes***

The Company recognizes deferred tax assets and liabilities for the future tax consequences attributable to temporary differences between the financial statements carrying amounts of existing assets and liabilities and their respective tax bases. A valuation allowance is provided when it is more likely than not that some portion or all of a deferred tax asset will not be realized. The ultimate realization of deferred tax assets depends on the generation of future taxable income during the period in which related temporary differences become deductible. The Company considers the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning strategies in its assessment of a valuation allowance. Deferred tax assets and liabilities are measured using the enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date of such change.

The Company uses a two-step approach for recognizing and measuring tax benefits taken or expected to be taken in a tax return. The Company determines whether it is more-likely-than-not that a tax position will be sustained upon examination, including resolution of any related appeals or litigation processes, based on the technical merits of the position. In evaluating whether a tax position has met the more-likely-than-not recognition threshold, the Company presumes that the position will be examined by the appropriate taxing authority that has full knowledge of all relevant information. Tax positions that meet the more-likely-than-not recognition threshold are measured to determine the amount of tax benefit to recognize in the financial statements. The tax position is measured at the largest amount of benefit that has a greater than 50 percent likelihood of being realized upon ultimate settlement. Differences between tax positions taken in a tax return and amounts recognized in the financial statements will generally result in one or more of the following: an increase in a liability for income taxes payable, a reduction of an income tax refund receivable, a reduction in a deferred tax asset, or an increase in a deferred tax liability.

The Company classifies interest and penalties on income taxes as a component of income tax expense.

***Contingencies***

The Company accrues for loss contingencies when both (a) information available prior to issuance of the financial statements indicates that it is probable that a liability had been incurred at the date of the financial statements and (b) the amount of loss can reasonably be estimated. When the Company accrues for loss contingencies and the reasonable estimate of the loss is within a range, the Company records its best estimate within the range. When no

**Note 1 — Description of Business and Summary of Significant Accounting Policies** (cont.)

amount within the range is a better estimate than any other amount, the Company accrues the minimum amount in the range. The Company discloses an estimated possible loss or a range of loss when it is at least reasonably possible that a loss may have been incurred.

***Earnings Per Share***

Basic earnings per share is computed by dividing net income or loss attributable to all classes of common stockholders of the Company by the weighted average number of shares of all classes of common stock issued and outstanding during the applicable period. Diluted earnings per share is determined in the same manner as basic earnings per share, except that the number of shares is increased to include restricted stock still subject to risk of forfeiture and to assume exercise of potentially dilutive stock options and warrants using the treasury stock method, unless the effect of such increase is anti-dilutive.

The weighted-average number of shares used in the calculation of basic and diluted earnings per share attributable to the Company's common stockholders consists of the following:

| | Year ended December 31, | |
|---|---|---|
| | **2022** | **2021** |
| | **(in thousands)** | |
| Basic weighted-average number of shares | **$ 25,629** | $ 25,879 |
| Effect of dilutive securities | | |
| Shares underlying stock options and warrants | **561** | 390 |
| Non-vested restricted Class B common stock | **176** | 47 |
| Diluted weighted-average number of shares | **$ 26,366** | $ 26,316 |

The following shares were excluded from the diluted earnings per share computations:

| | Year ended December 31, | |
|---|---|---|
| **(in thousands)** | **2022** | **2021** |
| Shares underlying stock options | **—** | 126 |
| Non-vested deferred stock units | **210** | 580 |

Stock options were excluded from the diluted earnings per share computation in the year ended December 31, 2021 because the exercise prices of the stock options were greater than the average market prices of the Company's Class B common stock during the period.

Non-vested deferred stock units were excluded from the basic and diluted weighted average shares outstanding calculation because the market condition for vesting of those deferred stock units was not met as of December 31, 2022 or 2021.

***Stock-Based Compensation***

The Company recognizes compensation expense for grants of stock-based awards to its employees based on the estimated fair value on the grant date. Compensation cost for awards is recognized using the straight-line method over the requisite service period, which approximates the vesting period. Stock-based compensation is included in selling, general and administrative expense. Forfeitures of equity grants are recognized as incurred.

***Vulnerability Due to Certain Concentrations***

Financial instruments that potentially subject the Company to concentration of credit risk consist principally of cash, cash equivalents, restricted cash, certificates of deposit and trade accounts receivable. The Company holds cash, cash equivalents and restricted cash at several major financial institutions, much of which exceeds FDIC insured limits. Historically, the Company has not experienced any losses due to such concentration of credit risk. The Company's temporary cash investments policy is to limit the dollar amount of investments with any one financial institution

**Note 1 — Description of Business and Summary of Significant Accounting Policies** (cont.)

and monitor the credit ratings of those institutions. While the Company may be exposed to credit losses due to the nonperformance of the holders of its deposits, the Company does not expect the settlement of these transactions to have a material effect on its results of operations, cash flows or financial condition.

GRE's REPs reduce their customer credit risk by participating in purchase of receivable, or POR, programs for a majority of their receivables. In addition to providing billing and collection services, certain utility companies purchase those REPs' receivables and assume all credit risk without recourse to those REPs for those purchased receivables. GRE's REPs' primary credit risk with respect to those purchased receivables is therefore nonpayment by the utility companies. Certain of the utility companies represent significant portions of the Company's consolidated revenues and consolidated gross trade accounts receivable balance during certain period, and such concentrations increase the Company's risk associated with nonpayment by those utility companies.

The following table summarizes the percentage of consolidated trade receivable by the customer that equaled or exceeded 10.0% of consolidated net trade receivables at December 31, 2022 and 2021 (no other single customer accounted for 10.0% or greater of our consolidated net trade receivable as of December 31, 2022 and 2021).

| | December 31, | |
|---|---|---|
| | **2022** | **2021** |
| Customer A | **10.2%** | 12.5% |

The following table summarizes the percentage of consolidated revenues from customers that equal or exceed 10.0% or greater of the Company's consolidated revenues in the period (no other single customer accounted for more than 10.0% of consolidated revenues in these periods):

| | Year ended December 31, | |
|---|---|---|
| | **2022** | **2021** |
| Customer A | **10.1%** | na% |
| Customer B | **na** | 11.7 |

na — less than 10.0% of consolidated revenue in the period

### *Allowance for Doubtful Accounts*

The allowance for doubtful accounts reflects the Company's best estimate of probable losses inherent in the accounts receivable balance. The allowance is determined based on known troubled accounts, historical experience and other currently available evidence. Doubtful accounts are written-off upon final determination that the trade accounts will not be collected. The change in the allowance for doubtful accounts was as follows:

| (in thousands) | Balance at beginning of period | Additions charged (reversals credited) to expense | Additions (deductions) | Balance at end of period |
|---|---|---|---|---|
| **Year ended December 31, 2022** | | | | |
| Reserves deducted from accounts receivable: | | | | |
| Allowance for doubtful accounts | **$ 6,139** | **$ 2,515** | **$ (3,808)** | **$ 4,846** |
| **Year ended December 31, 2021** | | | | |
| Reserves deducted from accounts receivable: | | | | |
| Allowance for doubtful accounts | $ 4,636 | $ 1,709 | $ (206) | $ 6,139 |

**Note 1 — Description of Business and Summary of Significant Accounting Policies** (cont.)

***Fair Value Measurements***

Fair value of financial and non-financial assets and liabilities is defined as an exit price, which is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The three-tier hierarchy for inputs used to measure fair value, which prioritizes the inputs to valuation techniques used to measure fair value, is as follows:

| | | |
|---|---|---|
| Level 1 | — | quoted prices (unadjusted) in active markets for identical assets or liabilities. |
| Level 2 | — | quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument. |
| Level 3 | — | unobservable inputs based on the Company's assumptions used to measure assets and liabilities at fair value. |

A financial asset's or liability's classification within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement. The assessment of the significance of a particular input to the fair value measurement requires judgment and may affect the valuation of the assets and liabilities being measured and their placement within the fair value hierarchy.

***Accounting Standards Updates***

In June 2016, the FASB issued ASU No. 2016-13, *Measurement of Credit Losses on Financial Instruments*, that changes the impairment model for most financial assets and certain other instruments. For receivables, loans and other instruments, entities will be required to use a new forward-looking "expected loss" model that generally will result in the earlier recognition of allowance for losses. For available-for-sale debt securities with unrealized losses, entities will measure credit losses in a manner similar to current practice, except the losses will be recognized as allowances instead of reductions in the amortized cost of the securities. In addition, an entity will have to disclose significantly more information about allowances, credit quality indicators and past due securities. The new provisions will be applied as a cumulative-effect adjustment to retained earnings. The Company will adopt the new standard on January 1, 2023. The Company is currently evaluating the requirements of this guidance and has not yet determined the impact of its adoption on the Company's consolidated financial position, results of operations and cash flows.

**Note 2 — Discontinued Operations and Divestiture**

**Lumo Finland and Lumo Sweden Operations**

As a result of the sustained volatility in the energy markets in Europe, in July 2022, the Company initiated a plan to dispose of certain assets and liabilities of Lumo Finland and Lumo Sweden. From July 13, 2022 to July 19, 2022, the Company entered into a series of transactions to sell most of the electricity swap instruments held by Lumo Sweden for a gross aggregate amount of €41.1 million (equivalent to approximately $41.4 million at the dates of the transactions) before fees and other costs. The sale price is expected to be settled monthly based on the monthly commodity volume specified in the instruments from September 2022 to March 2025. The net book value of the instruments sold was €34.2 million (equivalent to $35.8 million).

In July 2022, Lumo Sweden entered into a transaction to transfer, effective August 5, 2022, its customers to a third party for a nominal consideration. In August 2022, Lumo Finland entered into a transaction to transfer its variable rate customers to a third party for €1.9 million (equivalent to $2.0 million) and terminated the contracts of fixed rate customers.

**Note 2 — Discontinued Operations and Divestiture** (cont.)

The Company determined that exiting operations in Lumo Finland and Lumo Sweden represented a strategic shift that will have a major effect on the Company's operations and financial statements and accordingly, the results of operations and related cash flows are presented as discontinued operations for all periods presented. The assets and liabilities of the discontinued operations have been presented separately, and are reflected within assets and liabilities from discontinued operations in the accompanying consolidated balance sheets as of December 31, 2022 and 2021. Lumo Finland and Lumo Sweden will continue to liquidate their remaining receivables and settle any remaining liabilities.

In November 2022, Lumo Finland declared bankruptcy and the administration of Lumo Finland was transferred to an administrator ("Lumo Administrators"). All assets and liabilities of Lumo Finland remain with Lumo Finland, in which Genie retains its interest, however, the management and control of Lumo Finland were transferred to the Lumo Administrators. Since the Company lost control of the management of Lumo Finland in favor of the Lumo Administrators, the accounts of Orbit were deconsolidated effect November 9, 2022.

The following table represents summarized balance sheet information of assets and liabilities of the discontinued operations of Lumo Finland and Lumo Sweden:

| | December 31, 2022 | December 31, 2021 |
|---|---|---|
| | (in thousands) | |
| **Assets** | | |
| Cash | **$ 1,503** | $ 1,924 |
| Trade accounts receivable, net | **—** | 11,048 |
| Fair value of derivative contracts – current | **—** | 12,826 |
| Receivables from the settlement of the derivative contract – current | **23,351** | 4,655 |
| Other current assets | **—** | 2,784 |
| Current assets of discontinued operations | **$ 24,854** | $ 33,237 |
| Receivables from the settlement of the derivative contract – noncurrent | **$ 12,689** | $ — |
| Other noncurrent assets | **3,616** | 1,172 |
| Noncurrent assets of discontinued operations | **$ 16,305** | $ 1,172 |
| **Liabilities** | | |
| Accounts payable | **$ 5** | $ 19,013 |
| Accrued expenses | **—** | 1,518 |
| Income taxes payable | **10,894** | 280 |
| Other current liabilities | **37** | 393 |
| Current liabilities of discontinued operations | **$ 10,936** | $ 21,204 |
| Deferred tax liabilities | **$ 686** | $ — |
| Other noncurrent liabilities | **—** | 438 |
| Noncurrent liabilities of discontinued operations | **$ 686** | $ 438 |

**Note 2 — Discontinued Operations and Divestiture** (cont.)

The summary of the results of operations of the discontinued operations were as follows:

| | Year ended December 31, | |
|---|---|---|
| | 2022 | 2021 |
| | (in thousands) | |
| Total revenues | **$ 25,247** | $ 40,456 |
| Cost of revenues | **(8,357)** | 27,233 |
| Gross (loss) profit | **33,604** | 13,223 |
| Selling, general and administrative expenses | **5,190** | 4,222 |
| Loss from operations | **28,414** | 9,001 |
| Gain from the settlement of assets | **7,482** | — |
| Loss from deconsolidation of subsidiary | **(314)** | — |
| Foreign exchange gains | **2,241** | — |
| Other income | **383** | — |
| Net income before taxes | **38,206** | 9,001 |
| Income taxes | **7,761** | 1,267 |
| Income from discontinued operations, net of taxes | **$ 30,445** | $ 7,734 |

The following table presents a summary of cash flows of the discontinued operations:

| | Year Ended December 31, | |
|---|---|---|
| | 2022 | 2021 |
| | (in thousands) | |
| **Operating Activities** | | |
| Net income | **$ 30,445** | $ 7,734 |
| Non-cash items | **(8,370)** | 1,941 |
| Changes in assets and liabilities | **(7,395)** | (12,076) |
| Cash flows used in operating activities of discontinued operation | **$ 14,680** | $ (2,401) |

In furtherance of the Company's exit from retail energy markets in Finland and Sweden and to facilitate the maximization of value at Lumo Sweden, on November 3, 2022, the Company acquired additional minority interests in Lumo Finland and Lumo Sweden from an employee for 132,302 restricted Class B common stock of the Company, which will vest ratably from November 2022 to May 2025. The Company increased its interest in Lumo Finland from 91.6% to 96.6% and increased from 97.7% to 100% in Lumo Sweden.

The assets and liabilities of Lumo Finland and Lumo Sweden were included in GRE International segment.

**United Kingdom Operations**

On July 17, 2017, the Company's subsidiary, Genie Energy UK Ltd. ("GEUK"), entered into a definitive agreement with Energy Global Investments Pty Ltd ("EGC") to launch Shoreditch Energy Limited ("Shoreditch"), a joint venture to offer electricity and natural gas service to residential and small business customers in the U.K., under the trade name Orbit Energy. Prior to October 8, 2020, the Company owns 77.0% of the outstanding equity of Shoreditch.

On October 8, 2020, the Company entered into an agreement (the "Purchase Agreement") with EGC under which GEUK purchased EGC's remaining interest in Shoreditch. Following the transaction, Shoreditch became a wholly-owned subsidiary of GEUK.

**Note 2 — Discontinued Operations and Divestiture** (cont.)

In third quarter of 2021, the natural gas and energy market in the U.K. deteriorated which prompted the Company to start the process of orderly withdrawal from the U.K. market. In October 2021, as part of the orderly exit process, Orbit and Shell U.K. Limited ("Shell") agreed to terminate the exclusive supply contract between them. As part of the termination agreement, Orbit was required to unwind all physical forward hedges with Shell which resulted in net cash proceeds after settlement of all related liabilities with Shell.

Following the termination of the contract with Shell, Orbit filed a petition with the High Court of Justice Business and Property of England and Wales (the "Court") to declare Orbit insolvent based on the Insolvency Act of 1986. On November 29, 2021, the Court declared Orbit insolvent, revoked Orbit's license to supply electricity and natural gas in the United Kingdom, ordered the current customers to be transferred to "supplier of last resort" and transfer the administration of Orbit to Administrators effective December 1, 2021. All of the customers of Orbit were transferred to a third-party supplier effective December 1, 2021 as ordered by the Court. All assets and liabilities of the Orbit, including cash and receivables remain with Orbit and the management and control of which was transferred to Administrators. The Company expects that the administration of Orbit will be completed in 2023.

In the fourth quarter of 2021, Orbit transferred to GEIC a net amount of $49.7 million from the proceeds of the settlement of the contact with Shell which is included in cash and cash equivalents in the consolidated balance sheet as of December 31, 2021. In January 2022, the Company transferred $21.5 million to the Administrators of Orbit Energy to fund the settlement of the expected remaining liabilities of Orbit of $30.8 million, which were included in the current liabilities of discontinued operations in the consolidated balance sheet as of December 31, 2021. In February 2022, the Company deposited $28.3 million into an attorney trust account which will hold, preserve, and dispense funds to the extent needed in connection with the administration process. On February 24, 2022, the Administrators filed a petition under Chapter 15 of the U.S. Bankruptcy Code with the Bankruptcy Court of the Southern District of New York seeking (i) recognition of the U.K. administration proceeding as a foreign main proceeding and the U.K. Administrators as its foreign representatives, and (ii) entrusting distribution of the funds the Company deposited into its attorney's trust fund to the U.K. Administrators. In the second quarter of 2022, the Administrators filed an application to transfer the funds back to the Administrators' control in the U.K. Subject to certain representations and expectations regarding use and application of the funds to efficiently and expeditiously pay off creditors and bring a timely close to the insolvency administration, the Company decided not to oppose the application, and the $28.3 million was transferred to the account of the Administrator. In August 2022, the Administrator paid the Company a partial return of its interest in Orbit of £4.6 million (equivalent to $5.4 million). The Company believes that the funds remaining with the Administrators are more than sufficient to pay any remaining creditors of Orbit (with any surplus, which the Company expects to be significant, to be returned to the Company).

The Company determined that exiting operations in the United Kingdom represented a strategic shift that will have a major effect on the Company's operations and financial statements and accordingly, the results of operations and related cash flows are presented as discontinued operations for all periods presented. The assets and liabilities of the discontinued operations have been presented separately, and are reflected within assets and liabilities from discontinued operations in the accompanying consolidated balance sheets as of December 31, 2022 and 2021.

As a result of loss of control, the Company deconsolidated Orbit effective December 1, 2021 and estimated the remaining liability related to its ownership of Orbit.

**Note 2 — Discontinued Operations and Divestiture** (cont.)

The summary of results of operations of the discontinued operations for the year ended December 31, 2021 was as follows (in thousands):

| | |
|---|---|
| Total revenues | $ 86,269 |
| Cost of revenues | 89,059 |
| Gross (loss) profit | (2,790) |
| Selling, general and administrative expenses | 47,894 |
| Impairment of assets | 6,650 |
| Loss from operations | (57,334) |
| Gain from settlement of contract with supplier | 69,120 |
| Other loss | (932) |
| Net income before taxes | 10,854 |
| Income taxes | 6,884 |
| Income from discontinued operations, net of taxes | $ 3,970 |

The carrying value of the Company's interest in Orbit was net investments of $13.8 million as of December 31, 2022 and net liabilities of $30.8 million as of December 31, 2021. The carrying value was determined by estimating the net realizable values of assets and fair values of remaining liabilities which approximates its carrying values as of December 31, 2022 and 2021.

The following table presents a summary of cash flows of the discontinued operations for the year ended December 31, 2022 (in thousands):

| | |
|---|---|
| **Operating Activities** | |
| Net income | $ 3,970 |
| Non-cash items | 36,550 |
| Changes in assets and liabilities | 5,159 |
| Cash flows used in operating activities of discontinued operation | $ 45,679 |

The assets and liabilities of Orbit were included in GRE International segment.

***Divestiture of Genie Japan***

In March 2021, the Company initiated a plan to sell certain assets and liabilities of Genie Japan. In the first quarter of 2021, certain assets and liabilities of Genie Japan were reclassified as assets and liabilities held for sale and reported at lower of fair value less cost to sell and net book value.

On April 26, 2021, the Company entered into an Equity Purchase Agreement ("Purchase Agreement") with Hanhwa Q Cells Japan Co., Ltd. ("Hanhwa"), pursuant to which, the Company agreed to sell its interest in Genie Japan for ¥570.0 million (equivalent to approximately $5.3 million at April 26, 2021) subject to certain terms and conditions set forth in the Purchase Agreement. On May 11, 2021, upon the terms and subject to the conditions of Purchase Agreement, the Company completed the divestiture of Genie Japan for an aggregate cash consideration of ¥570.0 million (equivalent to approximately $5.2 million at May 11, 2021). Hanhwa also assumed the outstanding balance of the loan payable of Genie Japan. The Company paid $— million of commission to certain former employees of Genie Japan and recognized a pre-tax gain of $— million from the divestiture.

**Note 2 — Discontinued Operations and Divestiture** (cont.)

The assets and liabilities divested which was previously classified as held for sale included the following:

| (in thousands) | |
|---|---|
| Cash | $ 83 |
| Trade accounts receivable | 1,737 |
| Prepaid and other current assets | 391 |
| Intangible (license) | 540 |
| Other noncurrent assets | 296 |
| Accounts payable | (611) |
| Accrued expenses and other current liabilities | (588) |
| Loans payable | (1,372) |
| Cumulative translation adjustment | (181) |
| Noncontrolling interest | 114 |
| Liabilities held for sale included in other current liabilities | $ 409 |

The assets and liabilities of Genie Japan were included in GRE International segment.

**Note 3 — Fair Value Measurements**

The following table presents the balance of assets and liabilities measured at fair value on a recurring basis:

| (in thousands) | Level 1[(1)] | Level 2[(2)] | Level 3[(3)] | Total |
|---|---|---|---|---|
| **December 31, 2022** | | | | |
| **Assets:** | | | | |
| Marketable equity securities | **$ 490** | **$ —** | **$ —** | **$ 490** |
| Derivative contracts | **$ 4,060** | **$ —** | **$ —** | **$ 4,060** |
| **Liabilities:** | | | | |
| Derivative contracts | **$ 2,857** | **$ —** | **$ —** | **$ 2,857** |
| **December 31, 2021** | | | | |
| **Assets:** | | | | |
| Marketable equity securities | $ 1,336 | $ — | $ — | $ 1,336 |
| Derivative contracts | $ 4,857 | $ 44 | $ — | $ 4,901 |
| **Liabilities:** | | | | |
| Derivative contracts | $ 684 | $ — | $ — | $ 684 |

The Company's derivative contracts consist of natural gas and electricity put and call options and swaps. The underlying asset in the Company's put and call options is a forward contract. The Company's swaps are agreements whereby a floating (or market or spot) price is exchanged for a fixed price over a specified period.

*Fair Value of Other Financial Instruments*

The estimated fair value of the Company's other financial instruments was determined using available market information or other appropriate valuation methodologies. However, considerable judgment is required in interpreting this data to develop estimates of fair value. Consequently, the estimates are not necessarily indicative of the amounts that could be realized or would be paid in a current market exchange.

*Restricted cash — short-term, trade receivables, due to IDT Corporation, other current assets and other current liabilities.* At December 31, 2022 and 2021, the carrying amount of these assets and liabilities approximated fair value. The fair value estimate for restricted cash — short-term was classified as Level 1. The carrying value of other current assets, due to IDT Corporation, and other current liabilities approximated fair value.

**Note 3 — Fair Value Measurements** (cont.)

*Other assets.* At December 31, 2022 and 2021, other assets included notes receivable. The carrying amounts of the note receivable approximated fair value. The fair values were estimated based on the Company's assumptions, and were classified as Level 3 of the fair value hierarchy.

The Company did not have any transfers of assets or liabilities between Level 1, Level 2 or Level 3 of the fair value measurement hierarchy during the years ended December 31, 2022 and 2021.

The primary non-recurring fair value estimates typically involve goodwill impairment testing (see Note 7), which involves Level 3 inputs, and asset impairments (see Note 7) which utilize Level 3 inputs.

**Note 4 — Derivative Instruments**

The primary risk managed by the Company using derivative instruments is commodity price risk, which is accounted for in accordance with Accounting Standards Codification 815 — Derivatives and Hedging. Natural gas and electricity put and call options and swaps are entered into as hedges against unfavorable fluctuations in market prices of natural gas and electricity. The Company does not apply hedge accounting to these options or swaps, therefore the changes in fair value are recorded in earnings. By using derivative instruments to mitigate exposures to changes in commodity prices, the Company exposes itself to credit risk and market risk. Credit risk is the failure of the counterparty to perform under the terms of the derivative contract. When the fair value of a derivative contract is positive, the counterparty owes the Company, which creates credit risk. The Company minimizes the credit or repayment risk in derivative instruments by entering into transactions with high-quality counterparties. At December 31, 2022 and 2021, GRE's swaps and options were traded on the New York Mercantile Exchange.

The summarized volume of GRE's outstanding contracts and options at December 31, 2022 was as follows (MWh — Megawatt hour and Dth — Decatherm):

| | Commodity | |
|---|---|---|
| **Settlement Dates** | **Electricity (In MWH)** | **Natural Gas (In Dth)** |
| First quarter 2023 | 34,216 | 383,540 |
| Second quarter 2023 | 22,528 | 325,250 |
| Third quarter 2023 | 36,576 | 131,250 |
| Fourth quarter 2023 | 29,232 | 832,200 |
| First quarter 2024 | 1,360 | 1,068,800 |
| Second quarter 2024 | — | 107,250 |
| Third quarter 2024 | 18,432 | 70,950 |
| Fourth quarter 2024 | — | 71,400 |
| First quarter 2025 | — | 299,750 |
| Second quarter 2025 | 6,080 | 269,100 |
| Third quarter 2025 | — | 235,700 |
| Fourth quarter 2025 | — | 230,000 |
| First quarter 2026 | — | — |
| Second quarter 2026 | — | — |
| Third quarter 2026 | 1,680 | — |

**Note 4 — Derivative Instruments** (cont.)

The fair value of outstanding derivative instruments recorded in the accompanying consolidated balance sheets were as follows:

| Asset Derivatives | Balance Sheet Location | December 31, 2022 | December 31, 2021 |
|---|---|---|---|
| | | (in thousands) | |
| **Derivatives not designated or not qualifying as hedging instruments:** | | | |
| Energy contracts and options[1] | Other current assets | **$ 2,799** | $ 4,202 |
| Energy contracts and options | Other assets | **1,261** | 699 |
| **Total derivatives not designated or not qualifying as a hedging instruments – Assets** | | **$ 4,060** | $ 4,901 |
| **Liability Derivatives** | | | |
| **Derivatives not designated or not qualifying as hedging instruments:** | | | |
| Energy contracts and options[1] | Other current liabilities | **$ 1,800** | $ 520 |
| Energy Contracts and options | Other liabilities | **1,057** | 164 |
| **Total derivatives not designated or not qualifying as a hedging instruments – Liabilities** | | **$ 2,857** | $ 684 |

(1) The Company classifies derivative assets and liabilities as current based on the cash flows expected to be incurred within the following 12 months.

The effects of derivative instruments on the consolidated statements of operations were as follows:

| (in thousands) | | Amount of Gain Recognized on Derivatives Year ended December 31, 2022 | 2021 |
|---|---|---|---|
| Derivatives not designated or not qualifying as hedging instruments | Location of (Gain)Loss Recognized on Derivatives | | |
| Energy contracts and options | Cost of revenues | **$ 117,607** | $ 38,530 |

**Note 5 — Leases**

The Company entered into operating lease agreements primarily for offices in domestic and foreign locations where it has operations with lease periods expiring between 2023 and 2052. The Company has no finance leases.

The Company determines if a contract is a lease at inception. Right-of-Use ("ROU") assets are included under other assets in the consolidated balance sheet. The current portion of the operating lease liabilities are included in other current liabilities and the noncurrent portion is included in other liabilities in the consolidated balance sheet.

ROU assets and operating lease liabilities are recognized at the present value of the future lease payments at the lease commencement date. The interest rate used to determine the present value of the future lease payments is the incremental borrowing rate, because the interest rate implicit in most of our leases is not readily determinable. The incremental borrowing rate is estimated to approximate the interest rate on a collateralized borrowing rate based on information available at the lease commencement date. ROU assets also include any prepaid lease payments and lease incentives. The lease terms include periods under options to extend or terminate the lease when it is reasonably certain that we will exercise that option. The Company use the base, non-cancelable, lease term when determining the lease assets and liabilities. Operating lease expense is recognized on a straight-line basis over the lease term.

**Note 5 — Leases** (cont.)

| | December 31, 2022 | December 31, 2021 |
|---|---|---|
| | (in thousands) | |
| ROU assets | **$ 1,892** | $ 1,656 |
| Current portion of operating lease liabilities | **$ 250** | $ 229 |
| Noncurrent portion of operating lease liabilities | **1,699** | 1,495 |
| Total | **$ 1,949** | $ 1,724 |

At December 31, 2022, the weighted average remaining lease term is 11.4 years and the weighted average discount rate is 7.1%.

Supplemental cash flow information for ROU assets and operating lease liabilities for the years ended December 31, 2022 and 2021 are as follows:

| | For the Year Ended December 31, 2022 | For the Year Ended December 31, 2021 |
|---|---|---|
| | (in thousands) | |
| Cash paid for amounts included in the measurement of lease liabilities: | | |
| Operating cash flows from operating activities | **$ —** | $ 703 |
| ROU assets obtained in the exchange for lease liabilities | | |
| Operating leases | **$** 501 | $ 241 |

Future lease payments under operating leases as of December 31, 2022 were as follows:

| **(in thousands)** | |
|---|---|
| 2023 | 383 |
| 2024 | 350 |
| 2025 | 277 |
| 2026 | 272 |
| 2027 | 277 |
| Thereafter | 1,616 |
| Total future lease payments | 3,175 |
| Less imputed interest | 1,226 |
| Total operating lease liabilities | $ 1,949 |

Rental expenses under operating leases were $0.0 million and $0.7 million for the years ended December 31, 2022 and 2021, respectively.

**Note 6 — Property and Equipment**

| | December 31, 2022 | December 31, 2021 |
|---|---|---|
| | (in thousands) | |
| Computer software | **2,229** | 2,256 |
| Computers and computer hardware | **219** | 219 |
| Office equipment and other | **185** | 367 |
| Construction in progress | **826** | — |
| | **3,459** | 2,842 |
| Less: accumulated depreciation | **(2,568)** | (2,545) |
| Property and equipment, net | **$ 891** | $ 297 |

**Note 6 — Property and Equipment** (cont.)

Depreciation expense of property and equipment was minimal amount and $0.1 million in the years ended December 31, 2022 and 2021, respectively.

**Note 7 — Goodwill and Other Intangibles**

The table below reconciles the change in the carrying amount of goodwill for the period from January 1, 2020 to December 31, 2022:

| | GRE | Genie Renewables | Total |
|---|---|---|---|
| | | (in thousands) | |
| Balance at January 1, 2021 | $ 9,998 | $ — | $ 9,998 |
| Additions/deductions | — | — | — |
| Balance at December 31, 2021 | **9,998** | **—** | **9,998** |
| Additions/deductions | **—** | **—** | **—** |
| Balance at December 31, 2022 | **$ 9,998** | **$ —** | **$ 9,998** |

The Company performed its annual goodwill impairment test as of October 1, 2022. The Company elected to perform a qualitative analysis. The Company determined, after performing a qualitative analysis, that there was no evidence that it is more likely than not that the fair value of any identified reporting unit was less than the carrying amounts, therefore, it was not necessary to perform a quantitative impairment test.

The table below presents information on the Company's other intangible assets:

| | Weighted Average Amortization Period | Gross Carrying Amount | Accumulated Amortization | Net Balance |
|---|---|---|---|---|
| December 31, 2022 | | (in thousands) | | |
| Patents and trademarks | **18.1 years** | **$ 3,510** | **$ (1,154)** | **$ 2,356** |
| Customer relationships | **9.0 years** | **1,100** | **(652)** | **448** |
| Licenses. | **10.0 years** | **479** | **(150)** | **329** |
| **TOTAL** | | **$ 5,089** | **$ (1,956)** | **$ 3,133** |
| December 31, 2021 | | | | |
| Trademark | 18.1 years | $ 3,510 | $ (926) | $ 2,584 |
| Customer relationships | 9.0 years | 1,100 | (530) | 570 |
| Licenses. | 10.0 years | 479 | (103) | 376 |
| TOTAL | | $ 5,089 | $ (1,559) | $ 3,530 |

Amortization expense of intangible assets was $0.4 million in in each of the years ended December 31, 2022 and 2021. The Company estimates that amortization expense of intangible assets will be 0.4 million,0.4 million, $0.4 million,0.3 million,0.3 million and $1.4million in the years ending December 31,2022, 2023, 2024, 2025, 2026, 2027 and thereafter, respectively.

### Note 8 — Other Assets

| | December 31, | | | |
|---|---|---|---|---|
| | 2022 | | 2021 | |
| | (in thousands) | | | |
| Security deposits | | 7,341 | | 4,867 |
| Right-of-use assets, net of amortization | | 1,892 | | 1,656 |
| Fair value of derivative contracts – noncurrent | | 1,261 | | 699 |
| Other assets | | 3,362 | | 1,698 |
| Total other assets | $ | 13,856 | $ | 8,920 |

### Note 9 — Accrued Expenses

Accrued expenses consisted of the following:

| | December 31, | | | |
|---|---|---|---|---|
| | 2022 | | 2021 | |
| | (in thousands) | | | |
| Renewable energy | $ | 18,444 | $ | 23,247 |
| Liability to customers related to promotional and retention incentives | | 9,111 | | 9,071 |
| Payroll and employee benefits | | 4,251 | | 3,098 |
| Other accrued expenses | | 3,853 | | 2,589 |
| Total accrued expenses | $ | 35,659 | $ | 38,005 |

### Note 10 — Debt

*Credit Agreement with JPMorgan Chase Bank*

On December 13, 2018, the Company entered into a Credit Agreement with JPMorgan Chase Bank ("Credit Agreement"). On December 27, 2022, the Company entered into the third amendment of its existing Credit Agreement to extend the maturity date of December 31, 2021. The aggregate principal amount was reduced to $3.0 million credit line facility ("Credit Line"). The Company pays a commitment fee of 0.1% per annum on unused portion of the Credit Line as specified in the Credit Agreement. The borrowed amounts will be in the form of letters of credit which will bear interest of 1.0% per annum. The Company will also pay a fee for each letter of credit that is issued equal to the greater of $500 or 1.0% of the original maximum available amount of the letter of credit. The Company agreed to deposit cash in a money market account at JPMorgan Chase Bank as collateral for the line of credit equal to $3.1 million. As of December 31, 2022, there are no letters of credit issued by JP Morgan Chase Bank. At December 31, 2022, the cash collateral of $5.2 million was included in restricted cash — short-term in the consolidated balance sheet.

### Note 11 — Income Taxes

The components of income before income taxes are as follows:

| | Year ended December 31, | | | |
|---|---|---|---|---|
| | 2022 | | 2021 | |
| | (in thousands) | | | |
| Domestic | $ | 77,248 | $ | 15,446 |
| Foreign | | 275 | | 8,213 |
| **INCOME BEFORE INCOME TAXES** | $ | 77,523 | $ | 23,659 |

**Note 11 — Income Taxes** (cont.)

Significant components of the Company's deferred income tax assets consist of the following:

| | December 31, 2022 | December 31, 2021 |
|---|---|---|
| | (in thousands) | |
| Deferred income tax assets (liabilities): | | |
| Net operating loss | **$ 10,229** | $ 10,326 |
| Unrealized gain | **1,710** | 1,497 |
| Accrued expenses | **1,638** | 1,353 |
| Bad debt reserve | **1,300** | 1,737 |
| Stock options and restricted stock | **918** | 178 |
| Lease liability | **400** | 474 |
| Amortization | **181** | 259 |
| State taxes | **37** | 57 |
| Charitable contribution | **—** | 37 |
| ROU assets | **(386)** | (455) |
| Total deferred income tax assets | **16,027** | 15,463 |
| Valuation allowance | **(10,228)** | (10,260) |
| **DEFERRED INCOME TAX ASSETS, NET** | **$ 5,799** | $ 5,203 |

The Company recognizes a valuation allowance against deferred tax assets to the extent that it believes that the deferred tax assets are not more likely than not to be realized. In making such a determination, the Company considers all available positive and negative evidence, including future reversals of existing taxable temporary differences, projected future taxable income, tax-planning strategies, and results of recent operations. If the Company determines that it would be able to realize its deferred tax assets in the future in excess of their net recorded amount, the Company would make an adjustment to the deferred tax asset valuation allowance, which would reduce the provision for income taxes.

The provision for (benefit from) income taxes consists of the following:

| | Year ended December 31, 2022 | Year ended December 31, 2021 |
|---|---|---|
| | (in thousands) | |
| Current: | | |
| Federal | **$ 15,376** | $ 4,187 |
| State and local | **6,258** | 2,366 |
| | **21,634** | 6,553 |
| Deferred: | | |
| Federal | **(393)** | 613 |
| State and local | **(204)** | 356 |
| | **(597)** | 969 |
| **PROVISION FOR INCOME TAXES** | **$ 21,037** | $ 7,522 |

**Note 11 — Income Taxes** (cont.)

The differences between provision for income taxes expected at the U.S. federal statutory income tax rate and income taxes provided are as follows:

| | Year ended December 31, 2022 | Year ended December 31, 2021 |
|---|---|---|
| | (in thousands) | |
| U.S. federal income tax benefit at statutory rate | **$ 16,280** | $ 4,968 |
| State and local income tax, net of federal benefit | **4,760** | 1,898 |
| Impact of foreign operations | **58** | — |
| Nondeductible expense | **(54)** | 269 |
| Valuation allowance | **(32)** | 576 |
| Deferred tax adjustments | **—** | 479 |
| Net operating loss carry-forward adjustments | **—** | (253) |
| Others | **25** | (415) |
| **PROVISION FOR INCOME TAXES** | **$ 21,037** | $ 7,522 |

The Company includes certain entities that are not included in the Company's consolidated tax return. The entities have separate U.S. federal and state net operating loss carry-forwards of $38.6 million that begin to expire in 2025. Net operating loss carry-forwards in the amount of $28.0 million related to Prism may be subject to Internal Revenue Code Section 382 limitation at the time of utilization. Current year losses of $0.1 million will not expire.

The change in the valuation allowance for deferred income taxes was as follows:

| | Balance at beginning of period | Additions charged to costs and expenses | Deductions | Balance at end of period |
|---|---|---|---|---|
| | (in thousands) | | | |
| **Year ended December 31, 2022** | | | | |
| Reserves for valuation allowances deducted from deferred income taxes, net | **$ 10,260** | **$ —** | **$ (32)** | **$ 10,228** |
| **Year ended December 31, 2021** | | | | |
| Reserves for valuation allowances deducted from deferred income taxes, net | $ 15,675 | $ — | $ (5,415) | $ 10,260 |

In 2021, the Company reclassified the deferred tax assets in U.K. to discontinued operations, along with the corresponding valuation allowance. As of December 31, 2022, the Company maintains a valuation allowance on the deferred tax assets of net operating losses relating to consolidated U.S. entities and its Israel entity.

The table below summarizes the change in the balance of unrecognized income tax benefits:

| | Year ended December 31, 2022 | Year ended December 31, 2021 |
|---|---|---|
| | (in thousands) | |
| Balance at beginning of period | **$ 360** | $ 383 |
| Additions based on tax positions related to the current period | **4** | 81 |
| Additions based on tax positions related to prior periods | **—** | — |
| Lapses of statutes of limitations | **(104)** | (104) |
| **Balance at end of period** | **$ 260** | $ 360 |

All of the unrecognized income tax benefits at December 31, 2022 and 2021 would have affected the Company's effective income tax rate if recognized. The Company does expect the total amount of unrecognized income tax benefits to significantly decrease within the next twelve months.

**Note 11 — Income Taxes** (cont.)

In the years ended December 31, 2022 and 2021, the Company recorded a minimal amount of interest on income taxes. At December 31, 2022 and 2021, accrued interest included in current income taxes payable was minimal.

The Company currently remains subject to examinations of its tax returns as follows: U.S. federal tax returns for 2019 to 2022, state and local tax returns generally for 2018 to 2022 and foreign tax returns generally for 2018 to 2022.

**Note 12 — Equity**

*Class A Common Stock and Class B Common Stock*

The rights of holders of Class A common stock and Class B common stock are identical except for certain voting and conversion rights and restrictions on transferability. The holders of Class A common stock and Class B common stock receive identical dividends per share when and if declared by the Company's Board of Directors. In addition, the holders of Class A common stock and Class B common stock have identical and equal priority rights per share in liquidation. The Class A common stock and Class B common stock do not have any other contractual participation rights. The holders of Class A common stock are entitled to three votes per share and the holders of Class B common stock are entitled to one-tenth of a vote per share. Except as required by law or under the terms of the Series 2012-A Preferred Stock (the "Preferred Stock"), the holders of Class A and Class B common stock and the Preferred Stock vote together as a single class on all matters submitted to a vote of the Company's stockholders. Each share of Class A common stock may be converted into one share of Class B common stock, at any time, at the option of the holder. Shares of Class A common stock are subject to certain limitations on transferability that do not apply to shares of Class B common stock.

*Series 2012-A Preferred Stock*

Each share of Preferred Stock has a liquidation preference of $8.50 (the "Liquidation Preference"), and is entitled to receive an annual dividend per share equal to the sum of (i) $0.6375 (the "Base Dividend") plus (ii) seven and one-half percent (7.5%) of the quotient obtained by dividing (A) the amount by which the EBITDA for a fiscal year of the Company's retail energy provider business exceeds $32 million by (B) 8,750,000 (the "Additional Dividend"), payable in cash. EBITDA consists of income (loss) from operations exclusive of depreciation and amortization and other operating gains (losses). During any period when the Company has failed to pay a dividend on the Preferred Stock and until all unpaid dividends have been paid in full, the Company is prohibited from paying dividends or distributions on the Company's Class B or Class A common stock.

The Preferred Stock is redeemable, in whole or in part, at the option of the Company 100% of the Liquidation Preference plus accrued and unpaid dividends.

The Base Dividend is payable (if declared by the Company's Board of Directors, and accrued, if not declared) quarterly on each February 15, May 15, August 15 and November 15, and to the extent that there is any Additional Dividend payable with respect to a fiscal year, it will be paid to holders of Preferred Stock with the May dividend. With respect to the payment of dividends and amounts upon liquidation, dissolution or winding up, the Preferred Stock is equal in rank to all other equity securities the Company issues, the terms of which specifically provide that such equity securities rank on a parity with the Preferred Stock with respect to dividend rights or rights upon the Company's liquidation, dissolution or winding up; senior to the Company's common stock; and junior to all of the Company's existing and future indebtedness.

Each share of Preferred Stock has the same voting rights as a share of Class B common stock, except on certain matters that only impact the Company's common stock, as well as additional voting rights on specific matters or upon the occurrence of certain events.

**Note 12 — Equity** (cont.)

*Dividend Payments*

In the year ended December 31, 2022, the Company paid aggregate cash Base Dividends of $0.6376 per share on its Preferred Stock, equal to $1.4 million in Base Dividends paid. In May 2022, the Company also paid Additional Dividends of $0.0848 per share of its Preferred Stock, equal to $0.2 million in respect of the GRE results of operations through December 31, 2021. In the year ended December 31, 2022, the Company accrued Additional Dividends of $0.5301 per share on its Preferred Stock, equal to $0.5 million, in respect of the GRE results of operations for the year ended December 31, 2022, which is expected to be paid around May 15, 2022. In the year ended December 31, 2021, the Company paid aggregate cash base dividends of $0.6376 per share on its Preferred Stock, equal to $1.7 million in Base Dividends paid. On December 31, 2021, the Company accrued Additional Dividends of $0.0848 per share on its Preferred Stock, equal to $0.2 million, in respect of the GRE results of operations through December 31, 2021, which the Company paid on May 15, 2022. On February 15, 2023, the Company paid a quarterly Base Dividend of $0.1594 per share on its Preferred Stock for the fourth quarter of 2022 to stockholders of record as of the close of business on February 7, 2023.

In the year ended December 31, 2022, the Company paid aggregate cash dividends of $0.30 per share on its Class A common stock and Class B common stock, equal to $7.7 million in total dividends paid. In March 2021, in light of the losses incurred from the effects of events in Texas and Japan discussed above, the Company suspended the payment of quarterly dividends on its common stock. In February 2022, the Company reinstated the quarterly dividends on our Class A and Class B common stock.

On March 1, 2023, the Company paid a dividend of $0.075 per share of its Class A common Stock and Class B common stock to stockholders of record as of the close of business on February 21, 2023

The Delaware Corporation Law allows companies to declare dividends out of its “Surplus,” which is calculated by deducting the par value of the company’s stock from the difference between total assets less total liabilities. The Company elected to record dividends declared against accumulated deficit.

*Stock Repurchases and Redemption*

On March 11, 2013, the Board of Directors of the Company approved a program for the repurchase of up to an aggregate of7.0million shares of the Company’s Class B common stock. In 2022, the Company acquired 639,393 shares of Class B common stock under the stock repurchase program for an aggregate amount of $4.4 million. In 2021, the Company acquired 622,932 shares of Class B common stock under the stock repurchase program for an aggregate amount of $3.8 million. At December 31, 2022, 4.7 million shares remained available for repurchase under the stock repurchase program.

In the year ended December 31, 2022, the Company paid $0.6 million to repurchase 60,342 shares of its Class B common stock. In the year ended December 31, 2021, the Company paid $0.3 million to repurchase 62,008 shares of its Class B common stock. These shares were tendered by the Company’s employees to satisfy tax withholding obligations in connection with the lapsing of restrictions on awards of restricted stock. Such shares were repurchased by the Company based on their fair market value on the trading day immediately prior to the vesting date.

As of December 31, 2022 and 2021, the Company held 2.7 million and 2.0 million shares of Class B common stock, respectively, in treasury, with respective costs of $19.0 million and $14.0 million, and a weighted average cost of $7.03 and $7.01 per share.

On February 7, 2022, the Board of Directors of the Company authorized a program to repurchase up to $1.0 million per quarter of the Company’s Preferred Stock at the liquidation preference of $8.50 per share beginning in the second quarter of 2022. On May 3, 2022, the Board of Directors authorized the redemption $2.0 million of the Company’s Preferred Stock during the second quarter of 2022. In the year ended December 31, 2022, the Company redeemed 1,339,341 Preferred Stock under these authorizations for an aggregate amount of $11.4 million.

On February 15, 2023, the Company redeemed 117,647 Preferred Stock for an aggregate amount of $1.0 million.

**Note 12 — Equity** (cont.)

*Sales of Shares and Warrants*

On June 8, 2018, the Company sold to Howard S. Jonas, the Chairman of the Company's Board of Directors and then the holder of the controlling portion of the Company's common stock shares of the Company's Class B common stock and warrants to purchase an additional 1,048,218 shares of the Company's Class B common stock at an exercise price of $4.77 per share for an aggregate exercise price of $5.0 million. The warrants will expire in June 2023. In addition, on June 12, 2018, the Company sold to a third-party investor treasury shares of the Company's Class B common stock for an aggregate sales price of $1.0 million and warrants to purchase an additional 209,644 shares of the Company's Class B common stock at an exercise price of $4.77 per share for an aggregate exercise price of $1.0 million.

In May 2022, a holder of common stock warrants exercised 209,644 common stock warrants through a cashless exercise and the Company issued 72,657 common shares with the remaining 136,987 warrants being cancelled to settle the exercise price.

As of December 31, 2022, there were outstanding 1,048,218 warrants to purchase the Company's Class B common stock at $4.77 per share which will expire on in June 2023.

*Purchase of Equity of Subsidiaries*

In November 2022, the Company purchased from a certain employee 5.1% and 2.3% interests in Lumo Finland and Lumo Sweden, respectively, by issuing 123,302 shares of the Company's Class B restricted common stock, which will ratably vest starting May 2023 up to May 2025.

In October 2021, the Company purchased from Wes Perry, the Chairman of the Audit Committee of the Company's Board of Directors, a 0.2% interest in GEIC by issuing 36,591 of the Company's Class B common stock.

In September 2021, the Company purchased from Howard S. Jonas, the Chairman of the Board of Directors of the Company, Michael Stein, the Chief Executive Officer of the Company, Avi Goldin, the Chief Financial Officer of the Company, certain employees and consultant an aggregate of 4.3% fully vested interest in GRE International by issuing 218,862 of the Company's Class B common stock.

**Note 13 — Stock-Based Compensation**

*Stock-Based Compensation Plan*

The Company's 2011 Stock Option and Incentive Plan (as amended, the "2011 Plan") is intended to provide incentives to executives, employees, directors and consultants of the Company. Incentives available under the Plan include stock options, stock appreciation rights, limited rights, deferred stock units, and restricted stock. The 2011 Plan expired in2021 and no new grants are to be issued thereunder, however, outstanding grants are not impacted by the expiration of the plan.

On March 8, 2021, the Board of Directors adopted the Company 2021 Stock Option and Incentive Plan (the "2021 Plan"), subject to the approval of the Company's stockholders. In May 2021, the 2021 Plan became effective and replaced the 2011 Plan. Similar to the 2011 Plan, the 2021 Plan provides incentives to executives, employees, directors and consultants of the Company. Incentives available under the 2021 Plan include stock options, stock appreciation rights, limited stock appreciation rights, deferred stock units, and restricted stock. The Plan is administered by the Compensation Committee of the Company's Board of Directors. The maximum number of shares reserved for the grant of awards under the 2021 Plan is 1.0 million shares of Class B Common Stock. At December 31, 2022, the Company had 0.1 million shares of Class B common stock available for future grants.

**Note 13 — Stock-Based Compensation** (cont.)

*Restricted Stock*

The fair value of restricted shares of the Company's Class B common stock is determined based on the closing price of the Company's Class B common stock on the grant date. Share awards generally vest on a graded basis over three yearsof service following the grant.

A summary of the status of the Company's grants of restricted shares of Class B common stock is presented below:

| | Number of Non-vested Shares | Weighted-Average Grant Date Fair Value |
|---|---|---|
| | (in thousands) | |
| Non-vested restricted shares at December 31, 2021 | **469** | $ 6.78 |
| Granted | **171** | 9.31 |
| Vested | **(195)** | 6.85 |
| Forfeited | **(28)** | 5.97 |
| **NON-VESTED RESTRICTED SHARES AT DECEMBER 31, 2022** | **417** | **$ 7.84** |

At December 31, 2022, there was $1.4 million of total unrecognized compensation cost related to non-vested restricted stock. The total unrecognized compensation cost is expected to be recognized over a weighted-average period of 1.28 years. The total grant date fair value of shares vested was $1.3 million and $0.5 million in the years ended December 31, 2022 and 2021, respectively. The Company recognized compensation cost related to the vesting of the restricted stock of $1.3 million in each of the years ended December 31, 2022 and 2021.

*Stock Options*

Option awards are generally granted with an exercise price equal to the fair market value of the Company's stock on the date of grant (which is determined by reference to the closing price for the Class B common stock on the New York Stock Exchange trading date immediately preceding the grant. Option awards generally vest on a graded basis over three years of service and havefive-year contractual terms. Expected volatility is based on historical volatility of the Company's Class B common stock and other factors. The Company uses historical data on exercise of stock options, post vesting forfeitures and other factors to estimate the expected term of the stock-based payments granted. The risk free rate is based on the U.S. Treasury yield curve in effect at the time of grant.

A summary of stock option activity for the Company is as follows:

| | Number of Options (in thousands) | Weighted-Average Exercise Price | Weighted-Average Remaining Contractual Term (in years) | Aggregate Intrinsic Value (in thousands) |
|---|---|---|---|---|
| Outstanding at December 31, 2021 | 383 | $ 5.56 | 1.6 | $ 316 |
| Granted | — | — | | |
| Exercised | — | — | | |
| Cancelled/Forfeited | — | — | | |
| **OUTSTANDING AT DECEMBER 31, 2022** | **383** | **5.56** | **0.6** | **$ 1,830** |
| **EXERCISABLE AT DECEMBER 31, 2022** | **332** | **$ 5.75** | **0.6** | **$ 1,522** |

There were no stock options exercised in 2022. The total intrinsic value of options exercised during the year ended December 31, 2021 was $0.8 million. At December 31, 2022, there was no unrecognized compensation cost related to non-vested stock options. There were no compensation cost related to vesting of the options in the years ended December 31, 2022 and 2021.

**Note 13 — Stock-Based Compensation** (cont.)

*Market Condition Awards*

In February 2020 and February 2021, the Company granted certain employees and members of its Board of Directors an aggregate of 610,000 deferred stock units, which are subject to vesting in two tranches upon the achievement of a specified thirty-day average closing price of the Company's Class B common stock within specified periods of time ( the "market conditions") and the satisfaction of service-based vesting conditions. Each deferred stock unit entitles the grantee to receive, upon vesting, up to two shares of Class B common stock of the Company upon achievement of market conditions which will be subject to restrictions that will lapse annually over three years from grant. The grant-date fair value of the deferred stock units is amortized over approximately 3.5 years after the date of grant irrespective of whether the market conditions were met. The market conditions were not achieved and the deferred stock units expired in February 2021 and February 2022.

In February 2022, the Company granted certain employees and members of its Board of Directors an aggregate of 290,000 deferred stock units which were eligible to vest in two tranches contingent upon the achievement of a specified thirty-day average closing price of the Company's Class B common stock within a specified period of time (the "2022 market conditions") and the satisfaction of service-based vesting conditions. Each deferred stock unit entitled the recipient to receive, upon vesting, up to two restricted shares of Class B common stock of the Company depending on market conditions which restricted shares will be subject to restrictions that will lapse annually over three years from grant. The grant-date fair value of the deferred stock units is being amortized over approximately 3.5 years after the date of grant irrespective of whether the 2022 market conditions were met. In the second quarter of 2022, a certain portion of the 2022 market condition was achieved and the Company issued 290,000 shares of its restricted Class B common stock. In February 2023, the remaining portion of the 2022 market condition was achieved and, subject to amending the Company's 2021 Stock Option and Incentive Plan to reserve additional shares for issuance thereunder, the Company will issue an additional 290,000 restricted shares of its Class B common stock. The restricted shares to be issued will be subject to service-based vesting conditions as described above.

The Company used a Monte Carlo simulation model to estimate the grant-date fair value of the awards. Assumptions and estimates utilized in the model include the risk-free interest rate, dividend yield, expected stock volatility based on a combination of the Company's historical stock volatility. The Company recognized compensation costs related to the deferred stock units award of $1.6 million and $1.5 million for the years ended December 31, 2022 and 2021, respectively.

As of December 31, 2022, there were approximately $2.0 million of total unrecognized stock-based compensation costs related to outstanding and unvested equity-based grants. These costs are expected to be recognized over a weighted-average period of approximately 1.5 years.

**Note 14 — Variable Interest Entity**

Citizens Choice Energy, LLC ("CCE") is a REP that resells electricity and natural gas to residential and small business customers in the State of New York. The Company does not own any interest in CCE. Since 2011, the Company has provided CCE with substantially all of the cash required to fund its operations. The Company determined that it has the power to direct the activities of CCE that most significantly impact its economic performance and it has the obligation to absorb losses of CCE that could potentially be significant to CCE on a stand-alone basis. The Company therefore determined that it is the primary beneficiary of CCE, and as a result, the Company consolidates CCE within its GRE segment. The net income or loss incurred by CCE was attributed to noncontrolling interests in the accompanying consolidated statements of operations.

GRE holds an option to purchase 100% of the issued and outstanding limited liability company interests of CCE for one dollar plus the forgiveness of a $0.5 million loan made by the Company to CCE. The option expires on October 22, 2023.

**Note 14 — Variable Interest Entity** (cont.)

Net loss related to CCE and aggregate net funding repaid to (provided by) the Company were as follows:

| | Year ended December 31, 2022 | 2021 |
|---|---|---|
| | (in thousands) | |
| Net loss | **$ 747** | $ 1,445 |
| Aggregate funding provided by the Company, net | **$ 329** | $ 625 |

Summarized consolidated balance sheet amounts related to CCE are as follows:

| | December 31, 2022 | 2021 |
|---|---|---|
| | (in thousands) | |
| **ASSETS** | | |
| Cash, cash equivalents and restricted cash | **$ 295** | $ 559 |
| Trade accounts receivable | **549** | 544 |
| Prepaid expenses and other current assets | **363** | 367 |
| Other assets | **359** | 359 |
| **TOTAL ASSETS** | **$ 1,566** | $ 1,829 |
| **LIABILITIES AND NONCONTROLLING INTERESTS** | | |
| Current liabilities | **$ 700** | $ 547 |
| Due to IDT Energy | **5,997** | 5,668 |
| Noncontrolling interests from CCE | **(5,131)** | (4,386) |
| **TOTAL LIABILITIES AND NONCONTROLLING INTERESTS** | **$ 1,566** | $ 1,829 |

The assets of CCE may only be used to settle obligations of CCE, and may not be used for other consolidated entities. The liabilities of CCE are non-recourse to the general credit of the Company's other consolidated entities.

**Note 15 — Legal and Regulatory Proceedings**

***Legal Proceedings***

On February 18, 2020, named plaintiff Danelle Davis filed a putative class action complaint against Residents Energy and GRE in United States District of New Jersey alleging violations of the Telephone Consumer Protection Act, 47 U.S.C § 227 et seq. Although Residents Energy and GRE deny any wrongdoing in connection with the complaints, the parties settled the matter for a minimal amount which was included in selling general and administrative expenses in the first quarter of 2021.

In addition to the matter disclosed above, the Company may from time to time be subject to legal proceedings that arise in the ordinary course of business. Although there can be no assurance in this regard, the Company does not expect any of those legal proceedings to have a material adverse effect on the Company's results of operations, cash flows or financial condition.

***Agency and Regulatory Proceedings***

From time to time, the Company receives inquiries or requests for information or materials from public utility commissions or other governmental regulatory or law enforcement agencies related to investigations under statutory or regulatory schemes, and the Company responds to those inquiries or requests. The Company cannot predict whether any of those matters will lead to claims or enforcement actions or whether the Company and the regulatory parties will enter into settlements before a formal claim is made.

**Note 15 — Legal and Regulatory Proceedings** (cont.)

*State of Connecticut Public Utilities Regulatory Authority*

Town Square

On September 19, 2018, the State of Connecticut Public Utilities Regulatory Authority ("PURA") commenced an investigation into Town Square following customer complaints of allegedly misleading and deceptive sales practices on the part of Town Square. The Connecticut Office of Consumer Counsel subsequently joined in the investigation. On June 17, 2020, PURA notified Town Square that it was advancing its investigation by assigning Prosecutorial staff for the purpose of investigating Town Square's compliance with licensed electric supplier billing, marketing, and licensing requirements, and, if appropriate, facilitating settlement discussions among the parties.

Although Town Square denies any basis for those complaints and any wrongdoing on its part, in July 2021, the parties settled the dispute. Pursuant to the terms of the settlement agreement, Town Square paid $0.4 million. Town Square has also agreed to voluntarily refrain from in-person marketing activities in Connecticut for a period of 15 months. For the years ended December 31, 2022 and 2021, Town Square's gross revenues from sales in Connecticut was $16.6 million and $29.0 million, respectively.

Residents Energy

In August 2020, Residents Energy began marketing retail energy services to Connecticut. For the year ended December 31, 2022, Residents Energy's gross revenues from sales in Connecticut was $0 million. During the fourth quarter of 2020, the enforcement division of PURA contacted Residents Energy concerning customer complaints received in connection with alleged door-to-door marketing activities in violation of various rules and regulations. On March 12, 2021, the enforcement division filed a motion against Resident Energy with the adjudicating body of PURA, seeking the assessment of $1.5 million in penalties, along with a suspension of license, auditing of marketing practices upon reinstatement and an invitation for settlement discussions.

In June 2021, the parties settled the dispute. Pursuant to the terms of the settlement agreement, Residents Energy paid $0.3 million and volunteered to withdraw from the market in Connecticut for a period of 36 months.

*Other Informal Reviews or Investigations*

From time to time regulators may initiate informal reviews, compliance checks or issue subpoenas for information as means to evaluate the Company and its subsidiaries' compliance with applicable laws, rule, regulations and practices.

On October 25, 2019, the Office of the Attorney General of the State of Illinois ("IL AG") notified Residents Energy (by way of subpoena) that it is conducting an investigation to assess compliance with the Illinois Consumer Fraud and Deceptive Business Practices Act. The notice was issued in the form of a subpoena in the course of the foregoing. The Company, which has responded in part, has challenged the merits of the subpoena and investigation. Residents Energy denies any wrongdoing on its part. As of December 31, 2022, no claims or demands have been made against Residents Energy by the IL AG, and there is insufficient basis to deem any loss probable or to assess the amount of any possible loss. For the years ended December 31, 2022 and 2021, Resident Energy's gross revenues from sales in Illinois was $32.7 million and $26.0 million, respectively.

In response to certain customer complaints, the State of Maine Public Utility Commission ("MPUC") has opened a review of the door to door marketing practices of Town Square. In connection with the review, the MPUC has requested information from Town Square demonstrating compliance in the form of an order to show cause as to why its marketing practices are in compliance and it should be permitted to continue licensed operations in Maine. In August 2021, the parties settled the dispute without any obligation for payment by Town Square. In connection with the settlement, Town Square has agreed to voluntarily refrain from door-to-door marketing activities in Maine through June 30, 2023, and to voluntarily refrain from outbound telemarketing to obtain new residential customers for a period of six months, along with certain compliance procedures. For the years ended December 31, 2022 and 2021, Town Square's gross revenues from sales in Maine was $2.0 million and $1.5 million, respectively.

**Note 16 — Commitments and Contingencies**

*Purchase Commitments*

The Company had purchase commitments of $114.3 million at December 31, 2022, of which $91.8 million was for future purchases of electricity. The purchase commitments outstanding at December 31, 2022 are expected to be paid as follows (in thousands):

| | |
|---|---|
| 2023 | $ 88,344 |
| 2024 | 24,402 |
| 2025 | 1,591 |
| 2026 | — |
| 2027 | — |
| Thereafter | — |
| Total payments | $ 114,337 |

In 2022, the Company purchased $39.0 million and $19.5 million of electricity and renewable energy credits, respectively, under these purchase commitments. In 2021, the Company purchased $14.0 million and $18.2 million of electricity and renewable energy credits, respectively, under these purchase commitments.

*Renewable Energy Credits*

GRE's REPs must obtain a certain percentage or amount of their electricity from renewable energy sources in order to meet the requirements of renewable portfolio standards in the states in which they operate. This requirement may be met by obtaining renewable energy credits that provide evidence that electricity has been generated by a qualifying renewable facility or resource. At December 31, 2022, GRE had commitments to purchase renewable energy credits of $22.5 million.

*Performance Bonds and Unused Letters of Credit*

GRE has performance bonds issued through a third party for certain utility companies and for the benefit of various states in order to comply with the states' financial requirements for REPs. At December 31, 2022, GRE had aggregate performance bonds of $15.3 million outstanding and a minimal amount of unused letter of credit.

*BP Energy Company Preferred Supplier Agreement*

Certain of GRE's REPs are party to an Amended and Restated Preferred Supplier Agreement with BP, which is to be in effect through November 30, 2023. Under the agreement, the REPs purchase electricity and natural gas at market rate plus a fee. The obligations to BP are secured by a first security interest in deposits or receivables from utilities in connection with their purchase of the REP's customer's receivables, and in any cash deposits or letters of credit posted in connection with any collateral accounts with BP. The ability to purchase electricity and natural gas under this agreement is subject to satisfaction of certain conditions including the maintenance of certain covenants. At December 31, 2022, the Company was in compliance with such covenants. At December 31, 2022, restricted cash — short-term of $0.8 million and trade accounts receivable of $55.5 million were pledged to BP as collateral for the payment of trade accounts payable to BP of $19.4 million at December 31, 2022.

**Note 17 — Related Party Transactions**

On December 7, 2020, the Company invested $5.0 million to purchase 218,245 shares of Class B common stock of Rafael Holdings, Inc. ("Rafael"). Rafael, a publicly-traded company, is also a related party. Rafael is a former subsidiary of IDT that was spun off from IDT in March 2018. Howard S. Jonas is the Executive Chairman and Chairman of the Board of Directors of Rafael. In connection with the purchase, Rafael issued to the Company warrants to purchase additional 43,649 shares of Rafael's Class B common stock with an exercise price of $22.91 per share. The warrants had a term expiring on June 6, 2022. The Company exercised the warrants in full on March 31, 2021 for a total exercise price of $1.0 million. The Company does not exercise significant influence

**Note 17 — Related Party Transactions** (cont.)

over the operating or financial policies of Rafael. For the years ended December 31, 2022 and 2021, the Company recognized $0.8 million and $5.0 million unrealized loss from marketable equity securities and other investments, respectively. At December 31, 2022, the carrying value of the investment in the common stock was $0.5 million.

The Company was formerly a subsidiary of IDT Corporation ("IDT"). On October 28, 2011, the Company was spun-off by IDT. The Company entered into various agreements with IDT prior to the spin-off including an agreement for certain services to be performed by the Company and IDT. The Company also provides specified administrative services to certain of IDT's foreign subsidiaries. Howard Jonas is the Chairman of the Board of IDT.

The Company leases office space and parking in New Jersey. Until August 2022, the space was leased from Rafael. The leases expire in April 2025. On August 22, 2022, Rafael completed the sale of the leased office space and parking in New Jersey, including the lease of the Company, to a third-party buyer.

The charges for services provided by IDT to the Company, and rent charged by Rafael, net of the charges for the services provided by the Company to IDT, are included in "Selling, general and administrative" expense in the consolidated statements of operations.

| | Year ended December 31, | |
|---|---|---|
| | **2022** | **2021** |
| | **(in thousands)** | |
| Amount IDT charged the Company | **$ 1,493** | $ 1,172 |
| Amount the Company charged IDT | **$ 130** | $ 134 |
| Amount Rafael charged the Company | **$ 154** | $ 247 |

The following table presents the balance of receivables and payables to IDT and Rafael:

| | December 31, | |
|---|---|---|
| | **2022** | **2021** |
| | **(in thousands)** | |
| Due to IDT | **$ 185** | $ 551 |
| Due from IDT | **$ 20** | $ 19 |
| Due to Rafael | **$ —** | $ — |

On August 31, 2018, the Company extended a loan to a former employee for $0.1 million. The loan agreement required scheduled payments from December 31, 2022 to December 2052. The loan bears the same interest equivalent to a minimum rate, in effect from time to time required by local regulations and is compounded annually. The Company recorded nominal amounts of interest income for the years ended December 31, 2022 and 2021 related to the loan. The outstanding balance of loan receivable, including accrued interest was $0.1 million as of December 31, 2022.

The Company obtains insurance policies from several insurance brokers, one of which is IGM Brokerage Corp. ("IGM"). IGM is owned by the mother of Howard S. Jonas and Joyce Mason, the Company's Corporate Secretary. Jonathan Mason, husband of Joyce Mason and brother-in-law of Howard S. Jonas, provides insurance brokerage services via IGM. Based on information the Company received from IGM, the Company believes that IGM received commissions and fees from payments made by the Company (including payments from third party brokers). The Company paid IGM a total of $0.5million and $0.3 million in 2022 and 2021, respectively, related to premium of various insurance policies that were brokered by IGM. There was no outstanding payable to IGM as of December 31, 2022. Neither Howard S. Jonas nor Joyce Mason has any ownership or other interest in IGM other than via the familial relationships with their mother and Jonathan Mason.

In the September and October of 2021, the Company purchased from certain related parties interest in GRE International and GEIC (see Note 12 — *Equity*)

**Note 17 — Related Party Transactions** (cont.)

On February 21, 2022, the Company entered into a Loan and Security Agreement to extend up to 5.5 million New Israel Shekel, or NIS (equivalent to $1.5 million) with Natan Ohayon (the "Ohayon Loan"). Natan Ohayon holds a minority interest in Petrocycle Ltd ("Petrocycle"), a subsidiary of the Company. Petrocycle is a preoperating entity engaged in the development of a process to recycle used engine oil into usable gasoline. The Ohayon Loan, which is secured by all assets that Mr. Ohayon acquired using the proceeds of the loan bears a minimum interest as set by the Income Tax Regulations of Israel (3.23% in 2022) and is due, together with the principal amount on or before December 31, 2023. For the year ended December 31, 2022, the Company extended an additional NIS0.7 million (equivalent to $0.7 million) to Mr. Ohayon related to his share of operations of Petrocycle. In December 2022, the Company suspended the development of business operations of Petrocycle after it was determined that it will not meet the expected results. Petrocycle provided full impairment of its property and equipment, the Ohayon Loan and advances to Mr. Ohayon for an aggregate amount of $2.1 million.

*Investments in Atid 613.*

In September 2018, the Company divested a majority interest in Atid Drilling Ltd. in exchange for a 37.5% interest in a contracting drilling company in Israel ("Atid 613") which the Company accounts for using equity method of accounting. The Company did not recognize any equity in net loss from Atid 613 in 2022 and 2021. The carrying value of investments in Atid 613 was $0.1 million at December 31, 2022 and 2021 included in other noncurrent assets in the consolidated balance sheets.

The Company also entered into a Shareholder Agreement with Atid 613's other shareholders to govern certain issues regarding management of the new company. Under the Shareholder Agreement, among other things, Genie Israel agreed to make available to Atid 613 working capital financing up to $0 million ("Credit Facility"). Any outstanding borrowing under the Credit Facility would bear interest at a variable rate as described in the Shareholder Agreement. As of December 31, 2022, the outstanding balance of Credit Facility was nil.

On August 12, 2019, the Company, together with the other shareholders of Atid 613 signed a Funding Agreement to provide aggregate loans to Atid 613 in an amount of up to New Israeli Shekel or NIS5.1 million (equivalent to $1.5 million at December 31, 2022), including the Company's commitment to extend up to NIS1.9 million (equivalent to $0.5 million at December 31, 2022) of such amount. In August 2019, the Company extended NIS0.8 million (equivalent to $0.2 million) in loans. The loans which are secured by Atid 613's assets bore no interest until March 1, 2020 and bore interest at 5.5% for all subsequent periods. In May 2021 Atid 613 paid the outstanding balance of the loan of $0.2 million. At December 31, 2022, the balance of loan receivables from Atid 613 was nil.

**Note 18 — Business Segment and Geographic Information**

The Company has two reportable business segments: GRE and Genie Renewables. Prior to In the third quarter 2022, following the discontinuance of operations of Lumo Finland and Lumo Sweden, GRE International ceased to be a segment and the remaining assets and liabilities and results of continuing operations of GRE International were combined with corporate. GRE owns and operates REPs, including IDT Energy, Residents Energy, TSE, Southern Federal and Mirabito. Its REP businesses resell electricity and natural gas to residential and small business customers in the Eastern and Midwestern United States and Texas. Genie Renewables designs, manufactures and distributes solar panels, offers energy brokerage and advisory services and also sells third-party products to customers. Corporate costs include unallocated compensation, consulting fees, legal fees, business development expenses and other corporate-related general and administrative expenses. Corporate does not generate any revenues, nor does it incur any cost of revenues.

The Company's reportable segments are distinguished by types of service, customers and methods used to provide their services. The operating results of these business segments are regularly reviewed by the Company's chief operating decision-maker.

**Note 18 — Business Segment and Geographic Information** (cont.)

The accounting policies of the segments are the same as the accounting policies of the Company as a whole. The Company evaluates the performance of its business segments based primarily on income (loss) from operations. There are no significant asymmetrical allocations to segments.

Operating results for the business segments of the Company were as follows:

| | GRE | Genie Renewables | Corporate | Total |
|---|---|---|---|---|
| | | (in thousands) | | |
| **Year ended December 31, 2022** | | | | |
| Revenues | **$ 303,972** | **$ 11,567** | **$ —** | **$ 315,539** |
| Income (loss) from continuing operations | **92,557** | **(3,528)** | **(11,275)** | **77,754** |
| Depreciation and amortization | **336** | **49** | **—** | **385** |
| Provision for doubtful accounts receivable | **2,408** | **107** | **—** | **2,515** |
| Stock-based compensation | **952** | **—** | **2,016** | **2,968** |
| Impairment of assets | **—** | **—** | **2,066** | **2,066** |
| Provision for (benefit from) income taxes | **24,805** | **(684)** | **(3,084)** | **21,037** |
| **Year ended December 31, 2021** | | | | |
| Revenues | $ 311,831 | $ 7,508 | $ 3,930 | $ 323,269 |
| Income (loss) from continuing operations | 34,695 | 252 | (10,858) | 24,089 |
| Depreciation and amortization | 375 | 46 | 2 | 423 |
| Provision for doubtful accounts receivables | 1,657 | 16 | 2 | 1,675 |
| Stock-based compensation | 933 | — | 1,888 | 2,821 |
| Impairment of assets | — | — | — | — |
| Provision for (benefit from) income taxes | 8,246 | 131 | (855) | 7,522 |

Total assets for the business segments of the Company were as follows:

| | December 31, 2022 | December 31, 2021 |
|---|---|---|
| | (in thousands) | |
| GRE | **$ 191,839** | $ 174,442 |
| Genie Renewables | **12,191** | 3,946 |
| Corporate | **18,592** | 16,668 |
| Total assets of continuing operations | **222,622** | 195,056 |
| Assets of discontinued operations | **54,993** | 34,409 |
| Total assets | **$ 277,615** | $ 229,465 |

*Geographic Information*

Revenues from customers located outside of the United States, which are located primarily in Japan were as follows:

| | United States | Other Foreign Countries | Total |
|---|---|---|---|
| | | (in thousands) | |
| Year ended December 31, 2022 | **$ 315,539** | **$ —** | **$ 315,539** |
| Year ended December 31, 2021 | 319,339 | 3,930 | 323,269 |

**Note 18 — Business Segment and Geographic Information** (cont.)

Net long-lived assets and total assets of continuing operations, net held outside of the United States, which are located primarily in Israel, were as follows:

| | United States | Other Foreign Countries | Total |
|---|---|---|---|
| | | (in thousands) | |
| **December 31, 2022** | | | |
| Long-lived assets of continuing operations, net | **$ 15,914** | **$ —** | **$ 15,914** |
| Total assets of continuing operations | **221,003** | **1,619** | **222,622** |
| **December 31, 2021** | | | |
| Long-lived assets of continuing operations, net | $ 15,238 | $ 244 | $ 15,482 |
| Total assets of continuing operations | 194,791 | 265 | 195,056 |

Long-lived assets consist of property and equipment, net, right-of-use assets, intangibles and other long-term assets.