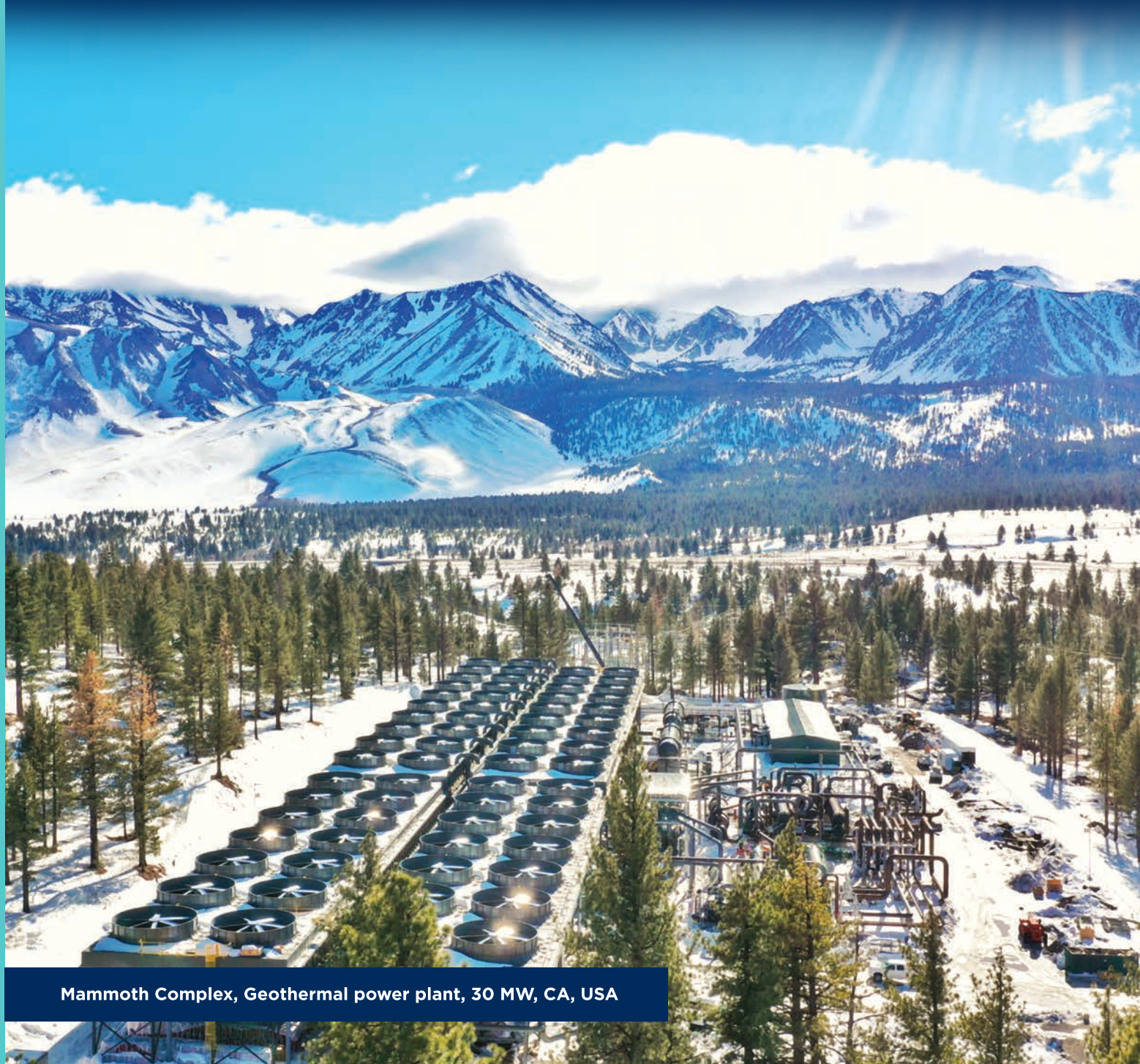


ORMAT TECHNOLOGIES, INC.  
**2021 ANNUAL REPORT**



**ORMAT**



Mammoth Complex, Geothermal power plant, 30 MW, CA, USA





Over

**55 years**

of experience

---

Own & operate over

**~1,100<sub>MW</sub>**

Geothermal, Storage,  
Solar & Recovered  
Energy Generation

---

**~1,400**

Employees

---

**663<sub>\$M</sub>**

2021 Revenues

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**62<sub>\$M</sub>**

2021 Net income attributable to  
the Company's stockholders

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**401<sub>\$M</sub>**

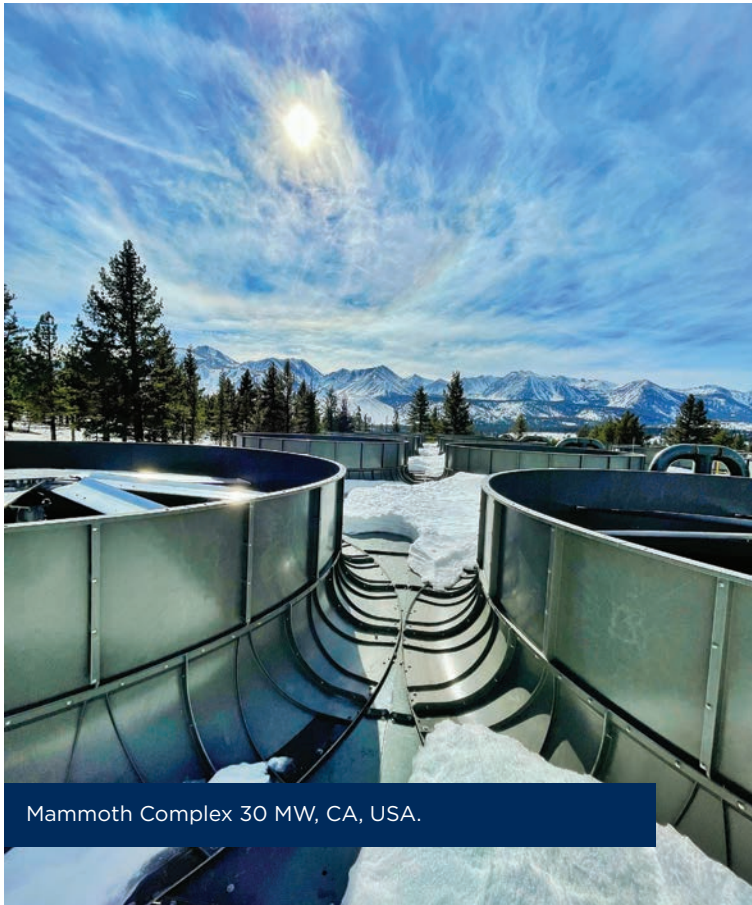
2021 adj. EBITDA<sup>(1)</sup>

---

**A LEADING  
RENEWABLE  
ENERGY PROVIDER**

WITH A PROVEN TRACK  
RECORD IN GEOTHERMAL  
AND ENERGY STORAGE

1 See note in the next two pages.



Mammoth Complex 30 MW, CA, USA.



Vallecito, 10 MW / 40 MWh, Energy Storage Facility, CA

## DEAR FELLOW SHAREHOLDERS,

2021 marked a significant change in our commitment to accelerate the growth of the company. We expanded our electricity segment portfolio through a combination of the largest M&A transaction in Ormat's history and organic growth, while starting construction of four storage stand-alone BESS units. Looking into 2022, we plan to continue this growth trajectory and will focus on exploration activity that will support our growth beyond 2023. We currently have 19 geothermal and solar projects underway, as well as 8 energy storage projects, all of which are expected to be online by the end of 2023.

2021 brought a wave of beneficial legislation in support of the renewable energy industry in the United States and globally. We are encouraged by the great acknowledgment and support we are getting from the California Public Utilities Commission (CPUC). In 2021 the CPUC issued a ruling requiring Electric Load Service Entities to procure 1.0 GW of zero emission high-capacity power by 2026, with the mandate that this power is independent of weather. Geothermal is one of the few power sources that can meet this definition. In addition, NV Energy and the Los Angeles Department of Water and Power adopted a geothermal goal of 500MW and between 500MW to 1.5GW, respectively.

We believe strongly that our strategy, our assets, our advantageous cost structure, and the strong regulatory tailwinds supporting the increased PPA prices we see in the market today will position Ormat for success and will result in meaningful shareholder value over the long term.



## CONTINUED PROFITABILITY, OVERCOMING OPERATIONAL CHALLENGES

During 2021 our Electricity segment revenues were up 8.2% vs 2020 and our Energy Storage revenues were almost double year over year. The increase in revenues at our two growing segments was offset by the decline in revenues at our Product segment due to the inability to sign large contracts during the first part of the pandemic. As 2021 came to a close, we set a company record for adjusted EBITDA as well as record revenues in our electricity core segment. With this acceleration in business performance in the fourth quarter, we are well on the path to returning our financial performance to our multi-year trajectory as we enter 2022, and we expect to deliver meaningful capacity expansion, driving profitable growth of roughly 10% to our total Adjusted EBITDA, compared to 2021.

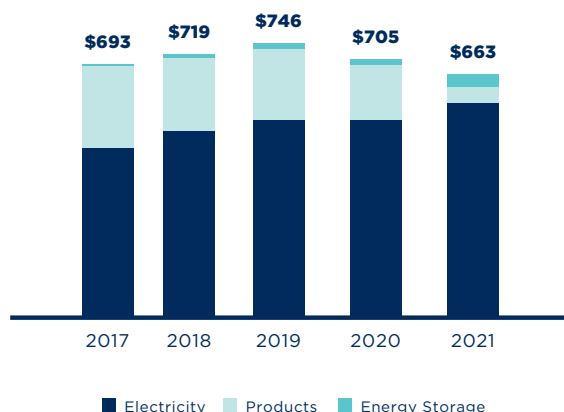


Community engagement continues during COVID19, Honduras

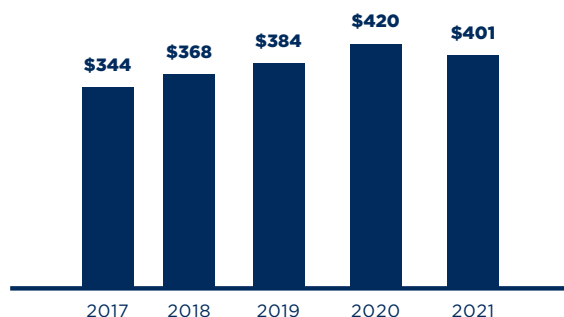
## CREATING A BALANCE SHEET FOR ACCELERATED GROWTH

We successfully raised approximately \$275 million during 2021, including \$225 million in net proceeds from bank term loans and closed our first \$50 million green bank loan. As a result, we ended the year with cash and cash equivalents, including marketable securities, of approximately \$387 million. Our net debt as of December 31, 2021, was just over \$1.5 billion. Overall, Ormat is well positioned from a capital perspective with excellent liquidity and ample access to additional capital to fund future growth initiatives. Looking ahead, we plan to further strengthen our capital resources and fund growth by tapping debt capital markets in the U.S. and Israel.

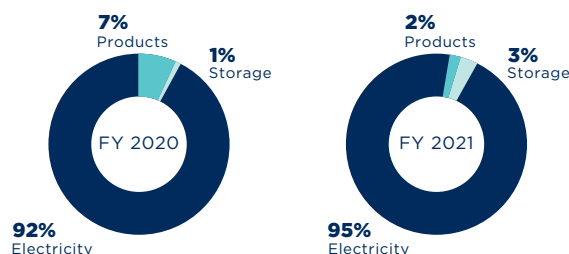
Revenues (\$m)



Adjusted EBITDA (\$m)



### INCREASING ADJUSTED EBITDA FROM ELECTRICITY SEGMENT TO SUPPORT PROFITABLE GROWTH\*



**\*Note:** Our letter to shareholders contains forward looking statements and "non-GAAP financial measures" within the meaning of Regulation G under the Securities Exchange Act of 1934, as amended, including Adjusted EBITDA. Please see "Forward looking statements" in Ormat Technologies, Inc. 2021 Annual Report on Form 10-K under the "Cautionary Note Regarding Forward-Looking Statements" and the reconciliation of GAAP net income to EBITDA and Adjusted EBITDA under the Item 7 - "management's discussion and analysis of financial condition and results of operations".

## ADVANCING SUSTAINABILITY

Ormat has been sustainably generating power since 1965, and we remain committed to providing renewable energy safely, economically, and in an environmentally responsible manner. A large part of our business involves bringing baseload energy to parts of the world that lack access to affordable, renewable energy. Our Company recognizes the importance of the fight against climate change and the imperative of lowering greenhouse gas (GHG) emissions, as well as how critical it is to address poverty and social inequality by encouraging local economic growth and employment opportunities.

In summary, 2021 was another solid year for Ormat, displaying resilience as we successfully navigated the global pandemic challenges. In 2022, we will continue our focus of laying the foundation for accelerated growth through 2022 and beyond, with expectations that we will deliver \$500 million Adjusted EBITDA on a run-rate basis as we close the year. Ormat remains an industry leader, and the only vertically integrated participant, in a critically important industry where we are materially increasing our capacity.

We see encouraging increases in the demand for geothermal energy. Both California and Nevada, which employ a massive amount of intermediate power, recognize the importance of geothermal with zero emissions and high capacity. This encouraging development in the US market as well as other regulatory tailwinds support our efforts to grow our portfolio in the US, and we are prepared to build upon the solid foundation laid in 2021 to maintain that positive momentum. We believe a continued focus on renewable energy is the future, and we are proud to be industry leaders in this important space.

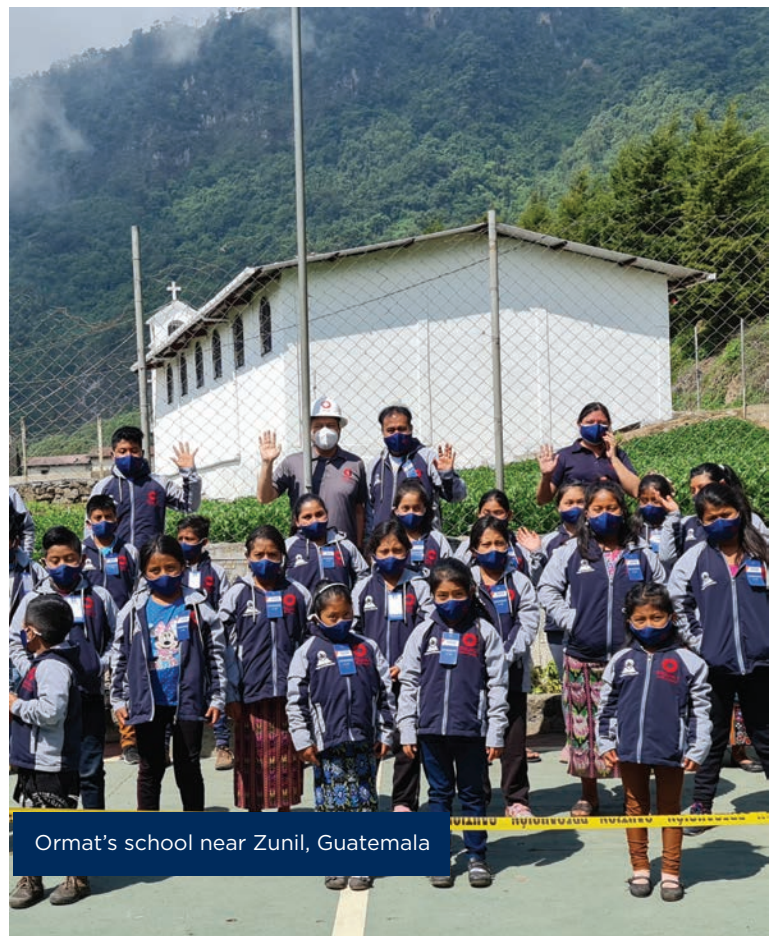
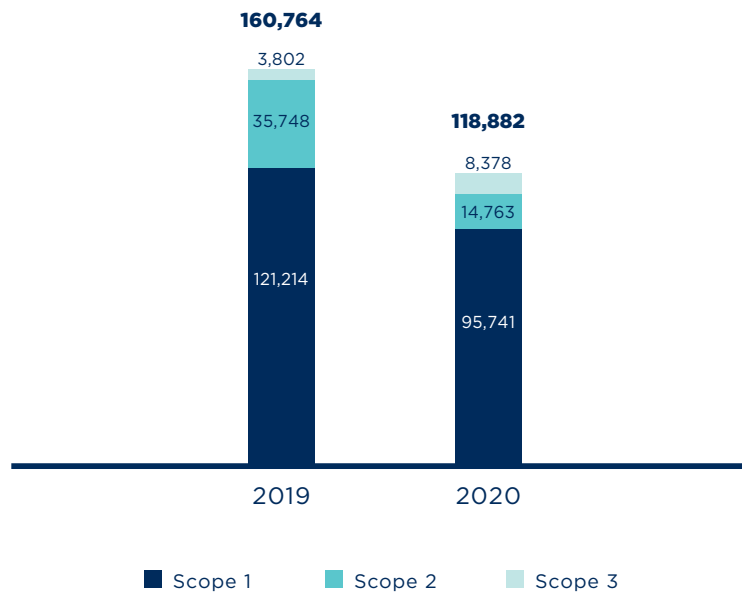
Before I conclude this letter, I would like to personally thank all our stakeholders, and first and foremost our customers, shareholders, employees, and the Ormat management team for their continued commitment and support. We look forward to achieving great things in 2022 together.

Regards,

**Doron Blachar**  
Chief Executive Officer



### Ormat's carbon footprint (tons CO<sub>2</sub>e)





**Stability**



**Courage**



**Constant Renewal**



**Creativity**



**Commitment**





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**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, 2021**
- or**
- ☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Commission file number: 001-32347

**ORMAT TECHNOLOGIES, INC.**

*(Exact name of registrant as specified in its charter)*

**Delaware**

**88-0326081**

*(State or other jurisdiction of incorporation or organization)*

*(I.R.S. Employer Identification Number)*

**6140 Plumas Street, Reno, Nevada**

**89519-6075**

*(Address of principal executive offices)*

*(Zip Code)*

**(775) 356-9029**

*(Registrant's telephone number, including area code)*

**Securities Registered Pursuant to Section 12(b) of the Act:**

**Title of Each Class**

**Trading Symbol(s)**

**Name of Each Exchange on Which Registered**

Common Stock \$0.001 Par Value

ORA

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 Exchange 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 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 the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

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 ☒

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

As of June 30, 2021 the aggregate market value of the registrant's common stock held by non-affiliates was \$3,126,510,918. As of February 16, 2022, the number of outstanding shares of common stock, par value \$0.001 per share was 56,056,450.

Portions of the registrant's definitive proxy statement for its 2021 Annual Meeting of Stockholders are incorporated by reference into Part III of this Form 10-K.

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ORMAT TECHNOLOGIES, INC.

FORM 10-K FOR THE YEAR ENDED DECEMBER 31, 2021

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## Glossary of Terms

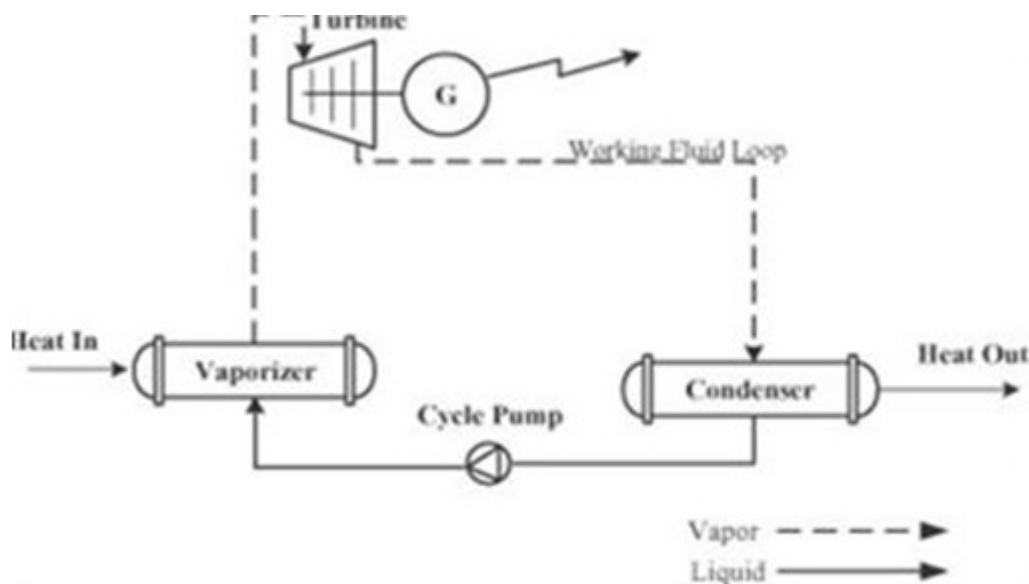
Unless the context otherwise requires, all references in this Annual Report on Form 10-K (this “Annual Report”) to “Ormat”, “the Company”, “we”, “us”, “our company”, “Ormat Technologies”, or “our” refer to Ormat Technologies, Inc. and its consolidated subsidiaries. A glossary of certain terms and abbreviations used in this annual report appears at the beginning of this Annual Report. When the following terms and abbreviations appear in the text of this report, they have the meanings indicated below:

<b>Term</b>	<b>Definition</b>
AC	Alternating Current
ACUA	Atlantic County Utilities Authority
Amatitlan Loan	\$42,000,000 in initial aggregate principal amount borrowed by our subsidiary Ortitlan Limitada from Banco Industrial S.A. and Westrust Bank (International) Limited.
AMM	Administrador del Mercado Mayorista (administrator of the wholesale market — Guatemala)
ARRA	American Recovery and Reinvestment Act of 2009
Auxiliary Power	The power needed to operate a geothermal power plant’s auxiliary equipment such as pumps and cooling towers
Availability	The ratio of the time a power plant is ready to be in service, or is in service, to the total time interval under consideration, expressed as a percentage, independent of fuel supply (heat or geothermal) or transmission accessibility
BESS	Battery Energy Storage Systems
BLM	Bureau of Land Management of the U.S. Department of the Interior
BOT	Build, operate and transfer
BPP	PLN's existing average cost of generation
CAISO	California Independent System Operator
CalGEM	California Geologic Energy Management
Capacity	The maximum load that a power plant can carry under existing conditions, less auxiliary power
Capacity Factor	The ratio of the actual MWh generated and the generating capacity times 8760 hours expressed as a percentage
CARES	Coronavirus Aid, Relief, and Economic Security Act
CCA	Community Choice Aggregator
CDC	Caisse des Dépôts et Consignations, a French state-owned financial organization
CEO	Chief Executive Officer
CFO	Chief Financial Officer
C&I	Refers to the Commercial and Industrial sectors, excluding residential
CNEE	National Electric Energy Commission of Guatemala
COD	Commercial Operation Date
Company	Ormat Technologies, Inc., a Delaware corporation, and its consolidated subsidiaries
CPA	Clean Power Alliance
CPI	Consumer Price Index
CPUC	California Public Utilities Commission
DEG	Deutsche Investitions-und Entwicklungsgesellschaft mbH
CREE	The Regulatory Commission of Electric Power in Honduras
DFC	U.S. International Development Finance Corporation (formerly OPIC)
DOE	U.S. Department of Energy
DSCR	Debt Service Coverage Ratio
EBITDA	Earnings before interest, taxes, depreciation and amortization
EDF	Electricite de France S.A.
EGS	Enhanced Geothermal Systems

EIB	European Investment Bank
EMRA	Energy Market Regulatory Authority in Turkey
ENEE	Empresa Nacional de Energía Eléctrica
Enthalpy	The total energy content of a fluid; the heat plus the mechanical energy content of a fluid (such as a geothermal brine), which, for example, can be partially converted to mechanical energy in an Organic Rankine Cycle.
EPA	U.S. Environmental Protection Agency
EPC	Engineering, procurement and construction
ERCOT	Electric Reliability Council of Texas, Inc.
EPRA	Energy and Petroleum Regulatory Authority of Kenya
EWG	Exempt Wholesale Generators
Exchange Act	U.S. Securities Exchange Act of 1934, as amended
FASB	Financial Accounting Standards Board
FERC	U.S. Federal Energy Regulatory Commission
FIT	Feed-in Tariff
FPA	U.S. Federal Power Act, as amended
GAAP	Generally accepted accounting principles
GCCU	Geothermal Combined Cycle Unit
GDC	Geothermal Development Company
Geothermal Power Plant	The power generation facility and the geothermal field
Geothermal Steam Act	U.S. Geothermal Steam Act of 1970, as amended
GERD	Grand Ethiopian Renaissance Dam
GHG	Greenhouse gas
GIS	Geographic Information Systems
GW	Giga watt
GWh	Giga watt hour
HELCO	Hawaii Electric Light Company
IDWR	Idaho Department of Water
IFM	In Front of the Meter
IGA	International Geothermal Association
IID	Imperial Irrigation District
INDE	Instituto Nacional de Electrificación
IOUs	Investor-Owned Utilities
IPPs	Independent Power Producers
IESO	The Independent Electricity System Operator (IESO) works at the heart of Ontario's power system.
ISO	Independent System Operator
ISONE	ISO New England
ITC	Investment Tax Credit
JBIC	Japan Bank for International Cooperation
JOGMEC	Japan state-owned resources agency
John Hancock	John Hancock Life Insurance Company (U.S.A.)
JPM	J.P. Morgan Capital Corporation
KenGen	Kenya Electricity Generating Company Ltd.
Kenyan Energy Act	Kenyan Energy Act, 2006
KETRACO	Kenya Electricity Transmission Company Limited
KGRA	Known Geothermal Resource Area
KLP	Kapoho Land Partnership
KPLC	Kenya Power and Lighting Co. Ltd.
KRA	Kenya Revenue Authority



kW	Kilowatt - A unit of electrical power that is equal to 1,000 watts
kWh	Kilowatt hour(s), a measure of power produced
LCOE	Levelized Costs of Energy
Mammoth Pacific	Mammoth-Pacific, L.P.
MEMR	The Indonesian Minister of Energy and Mineral Resources
MW	Megawatt - One MW is equal to 1,000 kW or one million watts
MWh	Megawatt hour(s), a measure of energy produced
NIS	New Israeli Shekel
NOA	Notice of Assessments
NV Energy	NV Energy, Inc.
NYSE	New York Stock Exchange
NYISO	New York Independent System Operator, Inc.
OEC	Ormat Energy Converter
OFC	Ormat Funding Corp., a wholly owned subsidiary of the Company
OFC 2	OFC 2 LLC, a wholly owned subsidiary of the Company
OFC 2 Senior Secured Notes	Up to \$350,000,000 Senior Secured Notes, due 2034 issued by OFC 2
Opal Geo	Opal Geo LLC
OPC	OPC LLC, a consolidated subsidiary of the Company
OrCal	OrCal Geothermal Inc., a wholly owned subsidiary of the Company
ORC	Organic Rankine Cycle - A process in which an organic fluid such as a hydrocarbon or fluorocarbon (but not water) is boiled in an evaporator to generate high pressure vapor. The vapor powers a turbine to generate mechanical power. After the expansion in the turbine, the low-pressure vapor is cooled and condensed back to liquid in a condenser. A cycle pump is then used to pump the liquid back to the vaporizer to complete the cycle. The cycle is illustrated in the figure below:



Ormat International	Ormat International Inc., a wholly owned subsidiary of the Company
Ormat Nevada	Ormat Nevada Inc., a wholly owned subsidiary of the Company
Ormat Systems	Ormat Systems Ltd., a wholly owned subsidiary of the Company
ORIX	ORIX Corporation
ORPD	ORPD LLC, a holding company subsidiary of the Company in which Northleaf Geothermal Holdings, LLC holds a 36.75% equity interest
OrPower 4	OrPower 4 Inc., a wholly owned subsidiary of the Company
Ortitlan	Ortitlan Limitada, a wholly owned subsidiary of the Company
ORTP	ORTP, LLC, a consolidated subsidiary of the Company
Orzunil	Orzunil I de Electricidad, Limitada, a wholly owned subsidiary of the Company

PEC	Portfolio Energy Credits
PG&E	Pacific Gas and Electric Company
PGV	Puna Geothermal Venture, a wholly owned subsidiary of the Company
PJM	PJM Interconnection, LLC
PLN	PT Perusahaan Listrik Negara
Power plant equipment	Interconnection equipment, cooling towers for water cooled power plant, etc., including the generating units
PPA	Power purchase agreement
PTC	Production Tax Credit
PUC	Public Utilities Commission
PUCH	Public Utilities Commission of Hawaii
PUCN	Public Utilities Commission of Nevada
PUHCA	U.S. Public Utility Holding Company Act of 1935
PUHCA 2005	U.S. Public Utility Holding Company Act of 2005
PURPA	U.S. Public Utility Regulatory Policies Act of 1978
Qualifying Facility(ies)	Certain small power production facilities are eligible to be “Qualifying Facilities” under PURPA, provided that they meet certain power and thermal energy production requirements and efficiency standards. Qualifying Facility status provides an exemption from PUHCA 2005 and grants certain other benefits to the Qualifying Facility
RCEA	Redwood Coast Energy Authority
REC	Renewable Energy Credit
REG	Recovered Energy Generation
RER	Renewable Energy Resource certificate
RPS	Renewable Portfolio Standards
RTO	Regional Transmission Organization
SCE	Southern California Edison
SCPPA	Southern California Public Power Authority
SDG&E	San Diego Gas and Electric
SEC	U.S. Securities and Exchange Commission
Securities Act	U.S. Securities Act of 1933, as amended
SOL	Sarulla Operations Ltd.
Solar PV	solar photovoltaic
SOX Act	Sarbanes-Oxley Act of 2002
SRAC	Short Run Avoided Costs
TASE	Tel Aviv Stock Exchange
Tax Act	Tax Cuts and Jobs Act
UIC	Underground Injection Control
Union Bank	Union Bank, N.A.
U.S.	United States of America
U.S. Treasury	U.S. Department of the Treasury
USG	U.S. Geothermal Inc.
VAT	Value Added Tax
VCE	Valley Clean Energy
Viridity	Viridity Energy Solutions Inc., a wholly owned subsidiary of the Company
YTL	Turkish Lira



## Cautionary Note Regarding Forward-Looking Statements and Risk Factor Summary

This Annual Report includes “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, included in this report that address activities, events or developments that we expect or anticipate will or may occur in the future, including such matters as our projections of annual revenues, expenses and debt service coverage with respect to our debt securities, future capital expenditures, business strategy, competitive strengths, goals, development or operation of generation assets, market and industry developments and the growth of our business and operations, are forward-looking statements. When used in this Annual Report, the words “may”, “will”, “could”, “should”, “expects”, “plans”, “anticipates”, “believes”, “estimates”, “predicts”, “projects”, “potential”, or “contemplate” or the negative of these terms or other comparable terminology are intended to identify forward-looking statements, although not all forward-looking statements contain such words or expressions. The forward-looking statements in this Annual Report are primarily located in the material set forth under the headings Item 1 — “Business” contained in Part I of this Annual Report, Item 1A — “Risk Factors” contained in Part I of this Annual Report, Item 7 — “Management’s Discussion and Analysis of Financial Condition and Results of Operations” contained in Part II of this Annual Report, and “Notes to Financial Statements” contained in Item 8 — “Financial Statements and Supplementary Data” contained in Part II of this Annual Report, but are found in other locations as well. These forward-looking statements generally relate to our plans, objectives and expectations for future operations and are based upon management’s current estimates and projections of future results or trends. Although we believe that our plans and objectives reflected in or suggested by these forward-looking statements are reasonable, we may not achieve these plans or objectives. You should read this Annual Report completely and with the understanding that actual future results and developments may be materially different from what we expect attributable to a number of risks and uncertainties, many of which are beyond our control.

These forward-looking statements are made only as of the date hereof, and, except as legally required, we undertake no obligation to update or revise the forward-looking statements, whether as a result of new information, future events or otherwise.

A summary of the risks that may cause actual results to differ from our expectations include, but are not limited to the following:

### ***Risks Related to the Company’s Business and Operation***

- Our financial performance depends on the successful operation of our geothermal, REG, Solar PV power plants under the Electricity segment as well as, our energy storage facilities, which are subject to various operational risks.
- Our exploration, development, and operation of geothermal energy resources are subject to geological risks and uncertainties, which may result in decreased performance or increased costs for our power plants.
- We may experience a cyber incident, cyber security breach, severe natural event or physical attack on our operational networks and information technology systems.
- We may decide not to implement, or may not be successful in implementing, one or more elements of our multi-year strategic plan, and the plan may not achieve its goal of enhancing shareholder value.
- Concentration of customers, specific projects and regions may expose us to heightened financial exposure.
- Our international operations expose us to risks related to the application of foreign laws and regulations, political or economic instability and major hostilities or acts of terrorism.
- Political, economic and other conditions in the emerging economies where we operate may subject us to greater risk than in the developed U.S. economy.
- Conditions in and around Israel, where the majority of our senior management and our main production and manufacturing facilities are located, may adversely affect our operations and may limit our ability to produce and sell our products or manage our power plants.
- Continued reduction in our Products backlog may affect our ability to fully utilize our main production and manufacturing facilities.
- Some of our leases will terminate if we do not extract geothermal resources in “commercial quantities”, thus requiring us to enter into new leases or secure rights to alternate geothermal resources, none of which may be available on terms as favorable to us as any such terminated lease, if at all.
- Our BLM leases may be terminated if we fail to comply with any of the provisions of the Geothermal Steam Act or if we fail to comply with the terms or stipulations of such leases.
- Some of our leases (or subleases) could terminate if the lessor (or sublessor) under any such lease (or sublease) defaults on any debt secured by the relevant property, thus terminating our rights to access the underlying geothermal resources at that location.

- Reduced levels of recovered energy required for the operation of our REG power plants may result in decreased performance of such power plants.
- Our business development and construction activities may not be successful and our projects under construction may not commence operation as scheduled.
- Our future growth depends, in part, on the successful enhancement of a number of our existing facilities.
- We rely on power transmission facilities that we do not own or control.
- Our use of joint ventures may limit our flexibility with jointly owned investments.
- Our operations could be adversely impacted by climate change.
- Geothermal projects that we plan to develop in the future, may operate as "merchant" facilities without long-term PPAs and therefore such projects will be exposed to market fluctuations.
- Storage projects that we are operating, currently developing or plan to develop in the future, may operate as "merchant" facilities without long-term power services agreements for some or all of their output and therefore such projects will be exposed to market fluctuations.
- We may not be able to successfully conclude the transactions, integrate companies, which we acquired and may acquire in the future.
- We encounter intense competition from other companies engaged in power generation and energy storage.
- Changes in costs and technology may significantly impact our business by making our power plants and products less competitive, resulting in our inability to sign new or recontracted PPAs for our Electricity segment and new supply and EPC contracts for our Products segment.
- Our intellectual property rights may not be adequate to protect our business.
- We may experience difficulties implementing and maintaining our new enterprise resource planning system.

***Risks Related to Governmental Regulations, Laws and Taxation***

- Our financial performance could be adversely affected by changes in the legal and regulatory environment affecting our operations.
- Pursuant to the terms of some of our PPAs with investor-owned electric utilities and publicly-owned electric utilities in states that have renewable portfolio standards, the failure to supply the contracted capacity and energy thereunder may result in the imposition of penalties.
- If any of our domestic power plants loses its current Qualifying Facility status under PURPA, or if amendments to PURPA are enacted that substantially reduce the benefits currently afforded to Qualifying Facilities, our domestic operations could be adversely affected.
- We may experience a reduction or elimination of government incentives.
- We are a holding company and our cash depends substantially on the performance of our subsidiaries and the power plants they operate, most of which are subject to restrictions and taxation on dividends and distributions.
- The costs of compliance with federal, state, local and foreign environmental laws and our ability in obtaining and maintaining environmental permits and governmental approvals required for development, construction and/or operation may result in liabilities, costs and delays in construction (as well as any fines or penalties that may be imposed upon us in the event of any non-compliance or delays with such laws or regulations).
- We could be exposed to significant liability for violations of hazardous substances laws because of the use or presence of such substances at our power plants.
- Current and future urbanizing activities and related residential, commercial, and industrial developments may encroach on or limit geothermal or solar PV activities in the areas of our power plants, thereby affecting our ability to utilize access, inject and/or transport geothermal resources on or underneath the affected surface areas.
- U.S. federal income tax reform could adversely affect us.

***Risks Related to Economic and Financial Conditions***

- We may be unable to obtain the financing we need on favorable terms to pursue our growth strategy.
- Our foreign power plants and foreign manufacturing operations expose us to risks related to fluctuations in currency rates, which may reduce our profits from such power plants and operations.
- Our power plants have generally been financed through a combination of our corporate funds and limited or non-recourse project finance debt and lease financing. If our project subsidiaries default on their obligations under such limited or non-recourse debt or lease financing, we may be required to make certain payments to the relevant debt holders, and if the collateral supporting such leveraged financing structures is foreclosed upon, we may lose certain of our power plants.



- We may experience fluctuations in the cost of construction, raw materials, commodities and drilling.
- We are exposed to swap counterparty credit risk.
- We may not be able to obtain sufficient insurance coverage to cover damages resulting from any damages to our assets and profitability including, but not limited to, natural disasters such as volcanic eruptions, lava flows, wind and earthquakes.

#### ***Risks Related to Force Majeure***

- The global spread of a public health crisis, including the COVID-19 pandemic may have an adverse impact on our business.
- The existence of a prolonged force majeure event or a forced outage affecting a power plant, or the transmission systems could reduce our net income.

#### ***Risks Related to Our Stock***

- A substantial percentage of our common stock is held by stockholders whose interests may conflict with the interests of our other stockholders.
- The price of our common stock may fluctuate substantially, and your investment may decline in value.

### **Market and Industry Data**

This Annual Report includes market and industry data and forecasts that we have derived from publicly available information, various industry publications, other published industry sources and internal data and estimates. Industry publications and other published industry sources generally indicate that the information contained therein was obtained from sources believed to be reliable. Internal data and estimates are based upon information obtained from trade and business organizations and other contacts in the markets in which we operate and our management's understanding of industry conditions. Any estimates underlying such market-derived information and other factors could cause actual results to differ materially from those expressed in the independent parties' estimates and in our estimates.

### **Company Contact and Sources of Information**

Our website is [www.ormat.com](http://www.ormat.com). Information contained on our website is not part of this Annual Report. Information that we furnish to or file with the U.S. Securities and Exchange Commission (the "SEC"), including our Annual Reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to, or exhibits included in, these reports are made available for download, free of charge, through our website as soon as reasonably practicable. Our SEC filings, including exhibits filed therewith, are also available directly on the SEC's website at [www.sec.gov](http://www.sec.gov).

We may use our website as a distribution channel of material company information. Financial and other important information regarding the Company is routinely posted on and accessible through our website at [www.ormat.com](http://www.ormat.com). Accordingly, investors should monitor this channel, in addition to following our press releases, SEC filings and public conference calls and webcasts.

## PART I

### ITEM 1. BUSINESS

#### Overview

We are a leading vertically integrated company that is primarily engaged in the geothermal energy power business. We leverage our core capabilities and global presence to expand our activity in recovered energy generation and into different energy storage services and solar PV (including hybrid geothermal and solar PV as well as energy storage plus solar PV). Our objective is to become a leading global provider of renewable energy and we have adopted a strategic plan to focus on several key initiatives to expand our business.

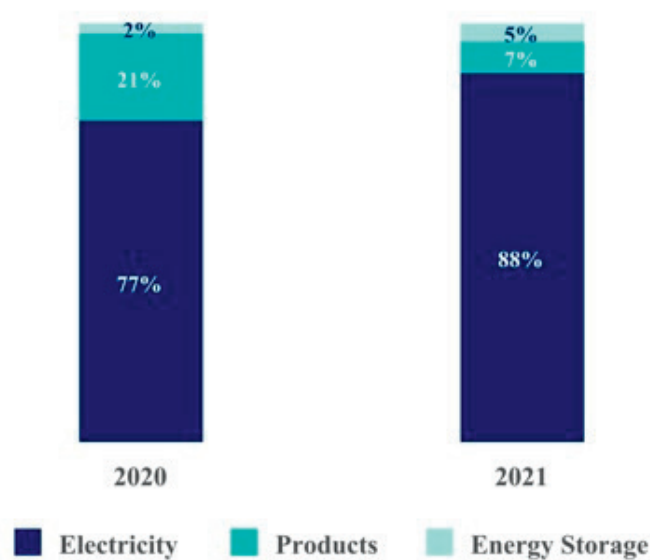
We currently conduct our business activities in three business segments:

- *Electricity Segment.* In the Electricity segment, which contributed 88.3% of our total revenues in 2021, we develop, build, own and operate geothermal, solar PV and recovered energy-based power plants in the United States and geothermal power plants in other countries around the world and sell the electricity they generate. In 2021, we derived 69.0% of our Electricity segment revenues from our operations in the U.S. and 31.0% from the rest of the world.
- *Product Segment.* In the Product segment, which contributed 7.1% of our total revenues in 2021, we design, manufacture and sell equipment for geothermal and recovered energy-based electricity generation and remote power units and provide services relating to the engineering, procurement and construction of geothermal and recovered energy-based power plants. In 2021, we derived 11.5% of our Product segment revenues from our operations in the United States and 88.5% from the rest of the world.
- *Energy Storage Segment.* In the Energy Storage segment, which contributed 4.6% of our total revenues in 2021, we own and operate grid connected In Front of the Meter (IFM) BESS facilities, which provide capacity, energy and ancillary services directly to the electric grid. We derived all of our Energy Storage segment revenues from our operations in the United States. In 2021, we commissioned one energy storage facility with a total of 10MW/40 MWh in California and started development and construction of six energy storage projects with a total capacity of 89 MW/124 MWh in California, Texas, New Jersey and Ohio. We plan to accelerate long-term growth in the Energy Storage segment market to establish a leading position in the United States.

The charts below show the relative contributions of each of our segments to our consolidated revenues and the geographical breakdown of our segment revenues for the fiscal year ended December 31, 2021.

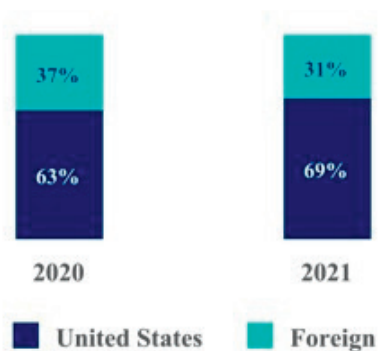
The following chart sets forth a breakdown of our revenues for each of the years ended December 31, 2020 and 2021:

### Revenue Breakdown by Segment

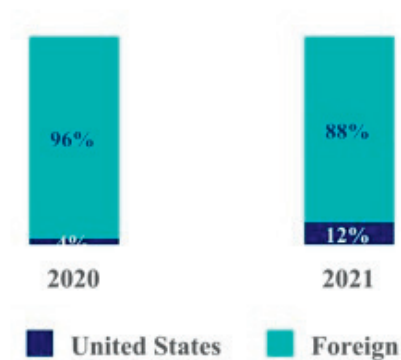


The following chart sets forth the geographical breakdown of revenues attributable to our Electricity and Product segments for each of the years ended December 31, 2020 and 2021:

### Geographic Breakdown of the Electricity Segment Revenue



### Geographic Breakdown of the Product Segment Revenue



The revenues attributable to our Energy Storage segment for each of the years ended December 31, 2020 and 2021 were 100% generated in the United States.



## **Our Power Generation Business (Electricity Segment)**

Our company-owned power plants include both power plants that we have built and power plants that we have acquired. The substantial majority of the power plants that we currently own or operate produce electricity from geothermal energy sources. Geothermal energy is a clean, renewable and generally sustainable form of energy derived from the natural heat of the earth. Unlike electricity produced by burning fossil fuels, electricity produced from geothermal energy sources is produced without emissions of certain pollutants such as nitrogen oxide, and with far lower emissions of other pollutants such as carbon dioxide. As a result, electricity produced from geothermal energy sources contributes significantly less to climate change and local and regional incidences of acid rain than energy produced by burning fossil fuels. In addition, compared to power plants that utilize other renewable energy sources, such as wind or solar, geothermal power plants are generally available all year-long and all day-long and can therefore provide base-load electricity services. Geothermal power plants can also be custom built to provide a range of electricity services such as baseload, voltage regulation, reserve and flexible capacity.

We own and operate a geothermal and solar PV hybrid project and have similar projects currently under construction, in which the electricity generated from a solar PV power plant is used to offset the equipment's energy use at the geothermal facility, thus increasing the geothermal energy delivered by the project to the grid.

We also construct, own, and operate recovered energy-based power plants. We have built all of the recovered energy-based plants that we operate. Recovered energy comes from residual heat that is generated as a by-product of gas turbine-driven compressor stations, solar thermal units and a variety of industrial processes, such as cement manufacturing. Such residual heat, which would otherwise be wasted, may be captured in the recovery process and used by recovered energy power plants to generate electricity without burning additional fuel and without additional emissions.

Each of our current geothermal power plants sells substantially all of its output pursuant to long-term, in most of the cases, fixed price PPAs to various counterparties denominated in or linked to the U.S. dollar or Euro. These contracts had a total weighted average remaining term, based on contributions to segment revenue, of approximately 15 years at December 31, 2021. In addition, the counterparties to our PPAs in the United States had a credit rating of between A3 to Baa2 by Moody's and BB- to A by S&P. The purchasers of electricity from our foreign power plants are mainly state-owned entities in countries with below investment grade rating.

### ***Power Plants in Operation***

We own and operate 27 geothermal, REG and solar sites globally with an aggregate generating capacity of 1,012 MW. Geothermal comprises 94% of our generating capacity. In 2021, our geothermal and REG power plants generated at a capacity factor of 86% and 71%, respectively, which is much higher than typical capacity factors for wind and solar producers that are usually at 20% to 30%.

The table below summarizes certain key non-financial information relating to our power plants and complexes as of February 16, 2022. The generating capacity of certain of our power plants and complexes listed below has been updated from our 2020 disclosure to reflect changes in the resource temperature and other factors that impact resource capabilities:

Type	Region	Plant	Ownership <sup>(1)</sup>	Generating capacity (MW) <sup>(2)</sup>	PPA Tenor	Capacity Factor
Geothermal.....	California	Ormesa Complex	100%	36	23	77%
		Heber Complex	100%	81	14	
		Mammoth Complex	100%	30	13	
		Brawley	100%	13	12	
	West Nevada	Steamboat Complex	100%	79	18	86%
		Brady Complex	100%	24	16	
	East Nevada	Tuscarora	100%	18	13	90%
		Jersey Valley	100%	8	13	
		McGinness Hills	100%	160 <sup>(3)</sup>	19	
		Don A. Campbell	63.3%	32	16	
		Tungsten Mountain	100%	29 <sup>(6)</sup>	24	
		Dixie Valley	100%	58 <sup>(4)</sup>	17	
		Beowawe	100%	14 <sup>(5)</sup>	4	
		North West Region	Neal Hot Springs	60%	24 <sup>(7)</sup>	19
	Raft River		100%	12	13	
	San Emidio		100%	11	19	
	Hawaii	Puna	63.3%	38	33	55% <sup>(8)</sup>
	International	Amatitlan (Guatemala)	100%	20	9	76% <sup>(9)</sup>
		Zunil (Guatemala)	97%	20	15	
		Olkaria III Complex (Kenya)	100%	150	15	
		Bouillante (Guadeloupe Island, France)	63.75% <sup>(10)</sup>	15	11	
		Platanares (Honduras)	100%	38	13	
Total Consolidated Geothermal				910		83% <sup>(11)</sup>
REG .....		OREG 1	63.3%	22	12	
		OREG 2	63.3%	22	15	
		OREG 3	63.3%	5.5	10	
		OREG 4	100%	3.5 <sup>(12)</sup>	10	
Total REG				53		71%
Solar .....		Tungsten Mountain	100%	7	24	
Total solar				7		
Unconsolidated						
Geothermal.....	Indonesia	Sarulla Complex	12.75%	42	28	
Total Unconsolidated Geothermal				42		
Total				1,012		

1. We have a controlling interest and we operate all of our power plants, except for Sarulla, although financial institutions hold equity interests in four of our subsidiaries: (i) Opal Geo subsidiaries, which own the McGinness

Hills Phases 1 and 2 geothermal power plants, the Tuscarora and Jersey Valley power plants and the second phase of the Don A. Campbell power plant, all located in Nevada; (ii) ORNI 41, which owns the McGinness Hills Phase 3 located in Nevada; (iii) ORNI 43, which owns the Tungsten Mountain geothermal power plant located in Nevada; and (iv) Steamboat Hills, LLC, which owns the Steamboat Hills power plant located in Nevada. In the table above, we list these power plants as being 100% owned because all of the generating capacity is owned by these subsidiaries and we control the operation of the power plants. The nature of the equity interests held by the financial institution is described below in Item 8 — “Financial Statements and Supplementary Data” under Note 13.

We own 63.75% equity interest in the Bouillante power plant, 60% equity interest in the Neal Hot Spring power plant and 63.25% direct equity interest in the Puna plant, the first phase of Don A. Campbell, OREG 1, OREG 2 and OREG 3 power plants as well as the indirect interest in the second phase of the Don A. Campbell complex owned by our subsidiary, ORPD. We list 100% of the generating capacity of the Bouillante power plant, the Neal Hot Springs power plant and the power plants in the ORPD portfolio in the table above because we control their operations. We list our 12.75% share of the generating capacity of the Sarulla complex as we own a 12.75% minority interest. Revenues from the Sarulla complex are not consolidated and are presented under “Equity in earnings (losses) of investees, net” in our consolidated financial statements.

2. References to generating capacity generally refer to gross generating capacity less auxiliary power. We determine the generating capacity of these power plants by taking into account resource and power plant capabilities. In any given year, the actual power generation of a particular power plant may differ from that power plant’s generating capacity due to variations in ambient temperature, the availability of the geothermal resource, and operational issues affecting performance during that year. In 2021 the capacity factors of Brawley, Olkaria, Puna, Steamboat, Bouillante and Sarulla were significantly impacted by operational and resource issues, as discussed further under “Description of our power plants”.
3. The McGinness Hills complex includes the 15MW expansion that commenced commercial operation in May 2021.
4. The Dixie Valley geothermal power plant was acquired from TG Geothermal Portfolio, LLC in July 2021.
5. The Beowawe geothermal power plant was acquired from TG Geothermal Portfolio, LLC in July 2021.
6. Tungsten Mountain is a hybrid geothermal and solar power plant that uses the solar energy for geothermal power plant auxiliary power. The solar power plant's capacity is 7 MW and is presented separately in the table above.
7. We own 60% and Enbridge owns 40% of the Neal Hot Springs power plant.
8. The Puna geothermal power plant shut down on May 3, 2018 when the Kilauea volcano located in close proximity to it erupted following a significant increase in seismic activity in the area. The Puna power plant resumed operations in November 2020 and during 2021 operated at a level of 25 MW. In addition, we signed an amended PPA, subject to PUC approval, to extend its duration and expand its contract capacity as described below in Item 7 — “Management’s Discussion and Analysis of Financial Condition and Results of Operations” under the headings “Recent Development”.
9. Capacity factor was impacted by lower performance of the resource as further discussed below under “Description of our Power plants”.
10. We own 63.75%, CDC owns 21.25% and Sageos owns 15.0% of the Bouillante power plant.
11. The total availability of the geothermal power plants excludes the Puna power plant that is not in full operation, as discussed above.
12. The OREG 4 power plant is not operating at full capacity due to low run time of the compressor station that serves as the power plant’s heat source. This has resulted in lower power generation.

### ***New Power Plants***

We are currently in various stages of construction of new power plants and expansion of existing power plants. Our construction and expansion plans include between 160 MW and 165 MW in generating capacity from geothermal and solar PV power plants in the United States. In addition, we have several geothermal and solar PV projects in the United States,



Indonesia, Guatemala and Guadeloupe that are under different stages of construction and development with an aggregate capacity of between 61 MW and 72 MW.

We have substantial land positions across 30 prospects in the United States and 11 prospects in Ethiopia, Guatemala, Honduras, Indonesia and New Zealand that we expect will support future geothermal development and on which we have started or plan to start exploration activity. These land positions are comprised of various leases, exploration concessions for geothermal resources and an option to enter into leases.

## **Our Product Segment**

We design, manufacture and sell products for electricity generation and provide the related services described below. In addition, we are providing cementing services for well drilling to third parties. We primarily manufacture products to fill customer orders, but in some situations, we manufacture products as inventory for future projects that we will own and for future third party projects.

### ***Power Units for Geothermal Power Plants***

We design, manufacture and sell power units for geothermal electricity generation, which we refer to as OECs. In geothermal power plants using OECs, geothermal fluid (either hot water, also called brine, or steam or both) is extracted from the underground reservoir and flows from the wellhead to a vaporizer that heats a secondary working fluid, which is vaporized and used to drive the turbine. The secondary fluid is then condensed in a condenser, which may be cooled directly by air through an air cooling system or by water from a cooling tower and sent back to the vaporizer. The cooled geothermal fluid is then reinjected back into the reservoir. Our customers include contractors, geothermal power plant developers, owners and operators.

### ***Power Units for Recovered Energy-Based Power Generation***

We design, manufacture and sell power units used to generate electricity from recovered energy, or so-called “waste heat”. This heat is generated as a residual by-product of gas turbine-driven compressor stations, solar thermal units, biomass facilities and a variety of industrial processes, such as cement manufacturing, and is not otherwise used for any purpose. Our existing and target customers include interstate natural gas pipeline owners and operators, gas processing plant owners and operators, cement plant owners and operators, and other companies engaged in other energy-intensive industrial processes.

### ***EPC of Power Plants***

We serve as an EPC contractor for geothermal and recovered energy power plants on a turnkey basis, using power units we design and manufacture. Our customers are geothermal power plant owners as well as our target customers for the sale of our recovered energy-based power units as described above. Unlike many other companies that provide EPC services, we believe that our competitive advantage is in using equipment that we manufacture allowing us better quality and control over the timing and delivery of required equipment and its related costs.

### ***Remote Power Units and Other Generators***

We design, manufacture and sell fossil fuel powered turbo-generators with capacities ranging from 200 watts to 5,000 watts, which operate unattended in extreme hot or cold climate conditions. Our customers include contractors who install gas pipelines in remote areas and offshore platform operators and contractors. In addition, we design, manufacture, and sell generators, including heavy duty direct-current generators, for various other uses.

## **Our Energy Storage Segment**

Our energy storage segment has grown consistently since 2019 and we expect continuous and even stronger growth over the coming years, while we target the sector as one of our major segments for further investment and growth.

In 2021, we successfully brought on line one new Ormat-owned BESS project, the 10 MW/40 MWh Vallecito project in California, which increased our operating portfolio at the end of 2021 to approximately 83 MW / 176 MWh within the footprint of 4 RTOs or ISOs: CAISO, PJM Interconnect, ERCOT and ISONE.

We are currently in the process of constructing 7 energy storage projects with a total capacity of 189 MW / 464 MWh in California, Texas, New Jersey and Ohio, with two new projects that were added in early 2022.

In addition, we have an approximately 2.3 GW/5.7 GWh pipeline of potential projects, in different stages of development across the United States that will support our target to reach an energy storage portfolio of between 313MW to 373MW by the end of 2023. The development of such projects is dependent, inter alia, on site permitting, interconnection agreement, supply of Lithium- Ion batteries and economic viability, which are not certain. We plan to continue leveraging our experience in project development and finance, as well as our engineering, procurement and construction know-how and our relationships with utilities and other market participants, to develop additional BESS projects.

### ***Business Strategy***

Our strategy is focused on further developing a geographically balanced portfolio of geothermal, energy storage, solar (PV) and recovered energy assets and continuing our leading position in the geothermal energy market with the objective of becoming a leading global provider of renewable energy. Our strategy focuses on three main elements:

- Developing our geothermal business in the United States as well as globally;
- establishing a strong market position in the IFM energy storage market; and
- exploring opportunities in new areas by looking for synergistic growth opportunities utilizing our core competence, market reputation as a successful company, and new market opportunities focused upon environmental solutions.

We intend to implement this strategy through:

- *Development and Construction of New Geothermal Power Plants* — continuously seeking out commercially exploitable geothermal resources, to accelerate the development and construction of new geothermal power plants by either into long-term PPAs providing stable cash flows;
- *Expanding our Geographical Reach* — increasing our business development activities in an effort to grow our business in the global markets in all business segments. While we continue to evaluate global opportunities, we currently see the U.S., Indonesia, and Central America as attractive markets for our Electricity segment and New Zealand, Philippines, Turkey, Chile, Indonesia, the United States and China as attractive markets for our Product segment. We are actively looking at ways to expand our presence in those countries;
- *Accelerating the Development and Construction of New Energy Storage Assets* - increasing our business development activities seeking potential sites for development and construction of energy storage facilities (including hybrid storage and solar PV facilities) in an effort to significantly grow our energy storage market;
- *Acquisition of New Geothermal Assets* — expanding and accelerating growth through acquisition activities globally, aiming to acquire additional geothermal assets with signed PPAs or without a PPA as well as operating and development assets that can support our geothermal business;
- *Acquisition of Energy Storage Projects and Assets* – expanding and accelerating growth through acquisition activities of operating assets, shovel ready projects and projects in various stages of development;
- *Using Our Operational Capabilities to Increase Output from our Existing Geothermal Power Plants* — increasing output from our existing geothermal power plants by adding additional generating capacity, upgrading plant technology, and improving geothermal reservoir operations, including improving methods of heat source supply and delivery;
- *Creating Cost Savings through Increased Operating Efficiency* — increasing efficiencies in our operating power plants and manufacturing facility including procurement by adding new technologies, restructuring of management control, automating part of our manufacturing work and centralizing our operating power plants;
- *Diversifying our Customer Base* — evaluating a number of strategies for expanding our customer base to the CCA and C&I markets. In the near term, however, we expect that the substantial majority of our revenues will continue to be generated from our traditional electrical utility customer base for the Electricity segment;

- *Maintaining a Prudent and Flexible Capital Structure* — we have various financing structures in place, including non-recourse project financings, the sale of differential membership interests and equity interests in certain subsidiaries, as well as revolving credit facilities and term loans. We believe our cash flow profile, the long-term nature of our contracts, and our ability to raise capital provide greater flexibility for optimizing our capital structure;
- *Improving our Technological Capabilities* — investing in research and development of renewable energy technologies and leveraging our technological expertise to continuously improve power plant components, reduce operations and maintenance costs, develop competitive and environmentally friendly products for electricity generation and target new service opportunities. In addition, we are expanding our core geothermal competencies to provide high efficiency solutions for high enthalpy applications by utilizing our binary enhanced cycle and technology;
- *Manufacturing and Providing Products and EPC Services Related to Renewable Energy* — designing, manufacturing and contracting power plants for our own use and selling to third parties power units and other generation equipment for geothermal and recovered energy-based electricity generation;
- *Expanding into New Technologies* - leveraging our technological capabilities over a variety of renewable energy platforms, including solar power generation, energy storage and recovered energy generation. We may acquire companies with integration and technological capabilities that we do not currently have, or develop new technology ourselves, where we can effectively leverage our expertise to implement this part of our strategic plan.

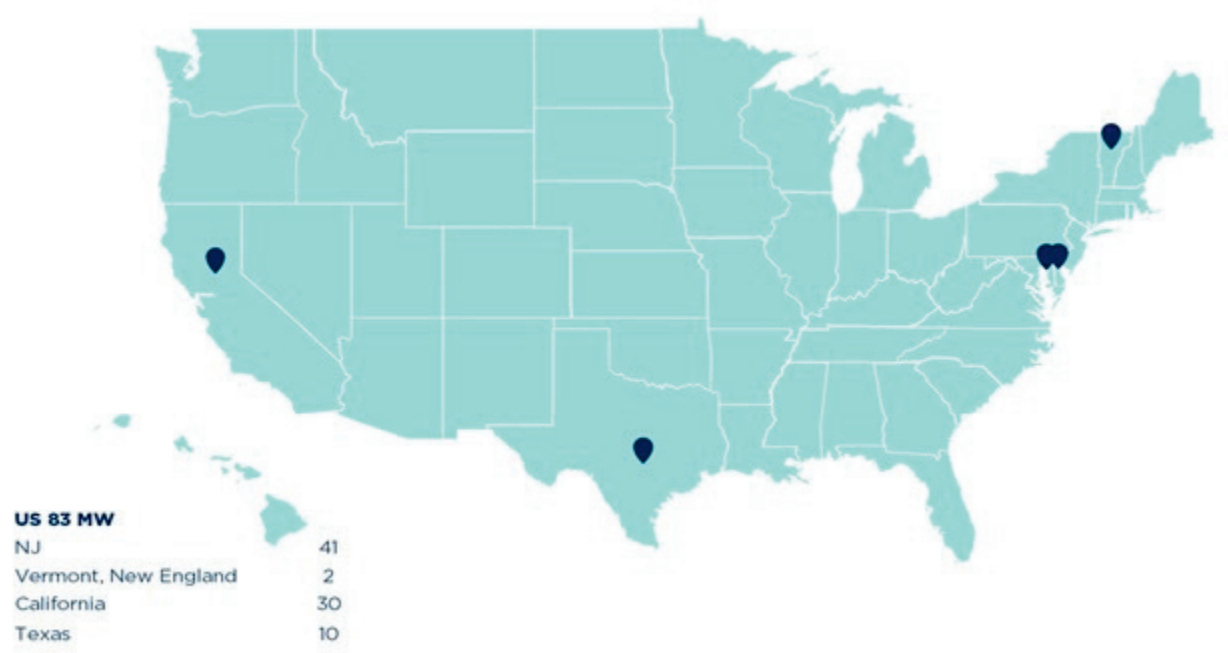
The map below shows our worldwide portfolio of operating geothermal, solar PV and recovered energy power plants as of February 25, 2022.



\* In the Sarulla complex, we include our 12.75% share only.



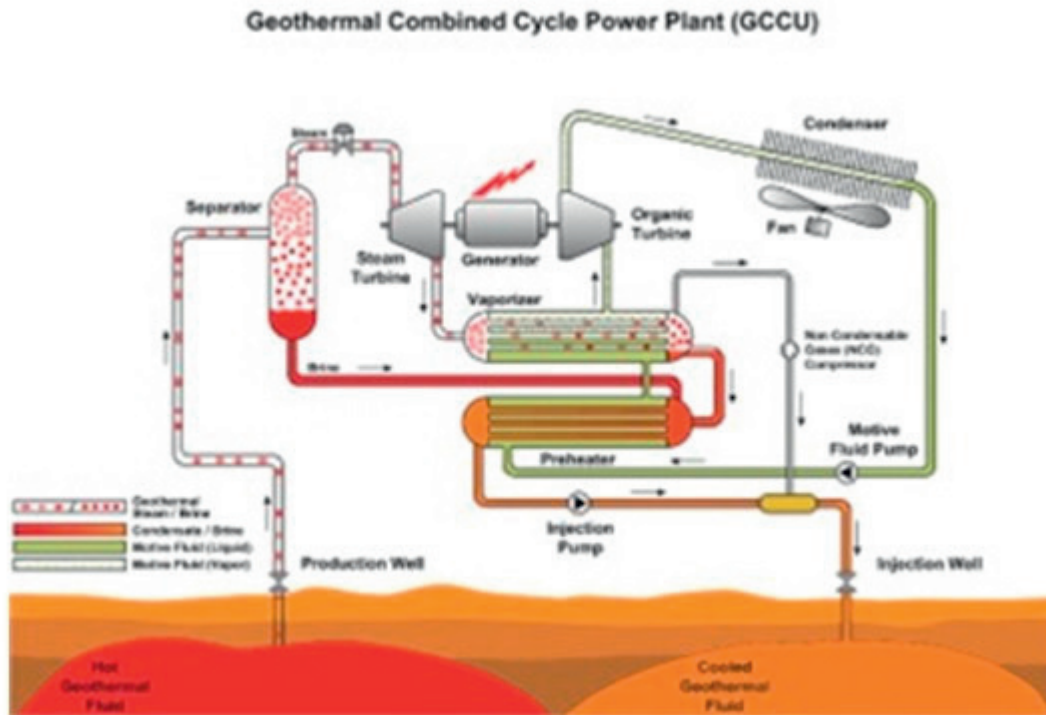
The map below shows our portfolio of operating storage facilities as of February 25, 2022.



## Our Proprietary Technology

Our proprietary technology involves original designs of turbines, pumps, and heat exchangers, as well as formulation of organic motive fluids (all of which are non-ozone-depleting substances) and may be used either in power plants operating according to the ORC alone or in combination with various other commonly used thermodynamic technologies that convert heat to mechanical power, such as gas and steam turbines. It can be used with a variety of thermal energy sources, such as geothermal, recovered energy, biomass, solar energy and fossil fuels. By using advanced computational fluid dynamics techniques and other computer aided design software as well as our test facilities, we continuously seek to improve power plant components, reduce operations and maintenance costs, and increase the range of our equipment and applications. We are always examining ways to increase the output of our plants by utilizing evaporative cooling, cold reinjection, configuration optimization, and topping turbines.

We also developed, patented and constructed GCCU power plants in which the steam first produces power in a backpressure steam turbine and is subsequently condensed in a vaporizer of a binary plant, which produces additional power. Our Geothermal Combined Cycle technology is depicted in the diagram below.

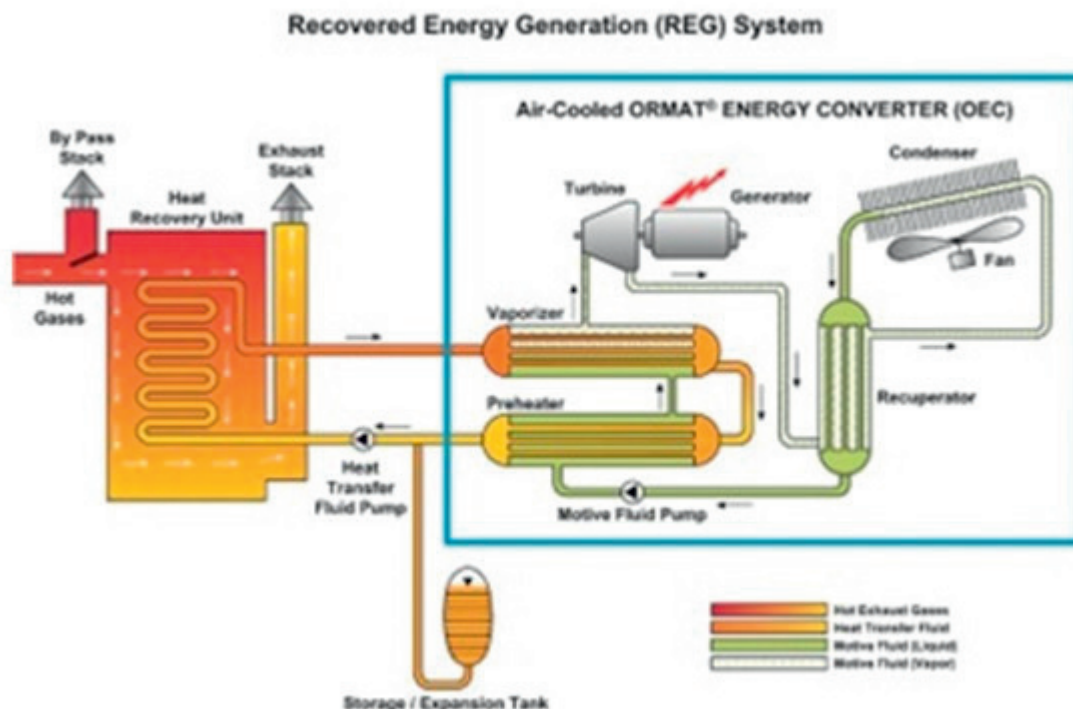


In the conversion of geothermal energy into electricity, our technology has a number of advantages over conventional geothermal steam turbine plants. A conventional geothermal steam turbine plant consumes significant quantities of water, causing depletion of the aquifer and requiring cooling water treatment with chemicals and consequently a need for the disposal of such chemicals. A conventional geothermal steam turbine plant also creates a significant visual impact in the form of an emitted plume from the cooling towers, especially during cold weather. By contrast, our binary and combined cycle geothermal power plants have a low profile with minimal visual impact and do not emit a plume when they use air-cooled condensers. Our binary and combined cycle geothermal power plants reinject all of the geothermal fluids utilized in the respective processes into the geothermal reservoir. Consequently, such processes generally have no emissions.

Other advantages of our technology include simplicity of operation and maintenance and higher yearly availability. For instance, the OEC employs a low speed and high efficiency organic vapor turbine directly coupled to the generator, eliminating the need for reduction gear. In addition, with our binary design, there is no contact between the turbine blade and geothermal fluids, which can often be very erosive and corrosive. Instead, the geothermal fluids pass through a heat exchanger, which is less susceptible to erosion and can adapt much better to corrosive fluids. In addition, with the organic vapor condensed above atmospheric pressure, no vacuum system is required.

We use the same elements of our technology in our recovered energy products. The heat source may be exhaust gases from a Brayton cycle gas turbine, low-pressure steam, or medium temperature liquid found in the process industries such as oil refining and cement manufacturing. In most cases, we attach an additional heat exchanger in which we circulate thermal oil or water to transfer the heat into the OEC's own vaporizer in order to provide greater operational flexibility and control. Once this stage of each recovery is completed, the rest of the operation is identical to that of the OECs used in our geothermal power plants and enjoys the same advantages of using the ORC. In addition, our technology allows for better load following than conventional steam turbines, requires no water treatment (since it is air cooled and organic fluid motivated), and does not require the continuous presence of a licensed steam boiler operator on site.

Our REG technology is depicted in the diagram below.



## Patents

As of December 31, 2021, we have 75 issued U.S. patents and five pending U.S. patent application. These patents and patent applications cover our products (mainly power units based on the ORC) and systems (mainly geothermal power plants and industrial waste heat recovery plants for electricity production). The product-related patents cover components that include turbines, heat exchangers, air coolers, seals and controls as well as control of operation of geothermal production well pumps. The system-related patents cover not only particular components but also the overall energy conversion system from the “fuel supply” (e.g., geothermal fluid, waste heat, biomass or solar) to electricity production.

The system-related patents also cover subjects such as waste heat recovery related to gas pipeline compressors and industrial waste heat, solar power systems, disposal of non-condensable gases present in geothermal fluids, reinjection of other geothermal fluids ensuring geothermal resource sustainability, power plants for very high-pressure geothermal resources, two-phase fluids, low temperature geothermal brine as well as processes related to EGS. 55 of our patents cover combined cycle geothermal power plants, in which the steam first produces power in a backpressure steam turbine and is subsequently condensed in a vaporizer of a binary plant, which produces additional power. The remaining terms of our issued patents range from one year to 16 years. The loss of any single patent would not have a material effect on our business or results of operations.

## Research and Development

We conduct research and development activities intended to improve plant performance, reduce costs, and increase the breadth of our product offerings. The primary focus of our research and development efforts is targeting power plant conceptual thermodynamic cycle and major equipment including continued performance, cost and land usage improvements to our condensing equipment, and development of new higher efficiency and higher power output turbines and brine



production pumps. New realms for innovation include implementation of predictive maintenance software and automation of power plants performance analysis.

We also devote resources to research and development related to our energy storage segment. Our engineering and R&D teams are working to optimize the dispatch strategy of a battery energy storage system (BESS), develop and deploy capabilities to self-integrate BESS and test different battery cell and inverter technologies under simulated operating criteria of various energy markets to allow us to bring to market cost-effective BESS more rapidly and more optimized to the specific use cases and target revenue streams. Additionally, we are continuing to evaluate investment opportunities in companies with innovative technology or product offerings for renewable energy and energy storage solutions.

## **Market Opportunities**

### ***Geothermal Market Opportunities***

Renewable energy provides a sustainable alternative to the existing solutions to two major global issues: climate change and diminishing fossil fuel reserves. Renewable energy is sustainable, clean and decarbonizes the grid. These environmental benefits have led major countries to focus their efforts on the development of renewable energy sources in general and geothermal specifically.

Based on data provided by ThinkGeo Energy in January 2022, the total installed geothermal power generation capacity at year-end 2021 stood at 15,854 MW, an increase of 246 MW over 2020. The leading countries are the U.S., Indonesia, the Philippines, Turkey, Mexico and New Zealand. The largest growth in 2021 happened in Indonesia, which had an addition of 143 MW with two new power plants, followed by Chile and Turkey.

Having realized the importance of renewable energy including geothermal alternatives, various governments have been preparing regulatory frameworks and policies, and providing incentives to develop the sector.

### **United States**

Interest in geothermal energy in the United States continues to grow based on supportive legislation and regulation at the local, state, and federal levels. Policy makers and regulators are becoming increasingly aware of the comparatively high value of geothermal energy in contrast to intermittent renewable technology, and this is readily apparent through individual state's renewable portfolio standard (RPS) goals (as described below) accounting for more baseload energy than ever before as coal, natural gas and nuclear power plants reach retirement.

Today, electricity generation from geothermal resources is concentrated mainly in California, Nevada, Hawaii, Idaho, Oregon, and Utah, and we believe there are opportunities for expansion in other states such as New Mexico due to the potential of its geothermal resources and recent legislation that has increased its renewable energy goals to 100% by 2045 for investor-owned utilities.

Geothermal energy provides numerous benefits to the U.S. grid and economy. Geothermal development and operation bring economic benefits in the form of tax incentives and long term high-paying jobs, and it currently has one of the lowest LCOE of all power sources in the United States, according to the U.S. Energy Information Administration's report published in February 2019. Additionally, improvements in geothermal production make it possible to provide ancillary and on-demand services. This helps load serving entities avoid additional costs from purchasing and then balancing intermittent resources with storage or new transmission.

At the end of 2020, the United States Congress passed its most significant energy legislation in over a decade as part of the omnibus spending and coronavirus relief package. The legislation includes a budget for the Geothermal Technology Office to support geothermal research and development, a one-year extension of the production tax credit, and specific language to improve permitting efforts for renewable projects on federal land.

### State level legislation

Many state governments have enacted an RPS program under which utilities are required to include renewable energy sources as part of their energy generation portfolio. Under an RPS, participating states have set targets for the production of their energy from renewable sources with specific deadlines. Renewable energy generation under an RPS program is tracked through the production of RECs. Load serving entities track the RECs to ensure they are meeting the mandate prescribed by the RPS.

Currently in the United States, 42 states plus the District of Colombia and four territories have enacted an RPS, renewable portfolio goals, or similar laws or incentives (such as clean energy standards or goals) requiring or encouraging load serving entities in such states to generate or buy a certain percentage of their electricity from renewable energy or recovered heat sources. The vast majority of Ormat's geothermal projects can be found in California, Nevada, and Hawaii which have some of the most stringent RPS programs in the country.

We see the impact of RPS and climate legislation as the most significant driver for us to expand existing power plants and to build new renewable projects.

States also provide incentives to geothermal energy producers. Nevada provides a property tax abatement of up to 55% for real and tangible personal property used to generate electricity from geothermal sources. The abatement may extend up to twenty years if certain job creation requirements are met. The California Energy Commission provides favorable grants and loans to promote the development of new or existing geothermal resources and technologies within the state. In Idaho, geothermal energy producers are exempt from property tax and, in lieu, pay a tax of 3% of gross energy earnings. Also in California, in its recent ruling, the CPUC requiring Electric Load Service Entities (LSEs) to procure 11.5 GW of new clean electricity by 2026, 1 GW of this procurement must deliver firm power with an 80% capacity factor, produce zero on-site emissions, and be weather independent. With a high capacity factor and firm and flexible generation, geothermal energy addresses these requirements and is the natural replacement for baseload fossil fuels and nuclear generation.

### Global

We believe the global markets continue to present growth and expansion opportunities in both established and emerging markets.

Operations outside of the United States may be subject to and/or benefit from increasing efforts by governments and businesses around the world to fight climate change and move towards a low carbon, resilient and sustainable future. According to a recent report by the International Renewable Energy Agency entitled *Toward 100% Renewable Energy*, in 2019, a total of 61 countries had set a 100% renewable energy target in at least one end-use sector, up from 60 countries in 2018.

We believe that several global initiatives will create business expansion opportunities for us internationally and support global growth of the renewable sector, such as: the historic Paris Agreement approved by the Twenty-first Conference of the Parties to the United Nations Framework Convention on Climate Change on December 12, 2015, which committed parties to the agreement to set nationally determined efforts with the view to strengthening the global response to the threat of climate change and reporting on their progress; the Mission Innovation, pursuant to which 22 countries and the European Commission have pledged to double their respective budgets for renewable energy technology over five years, increasing investments by \$4.9 billion annually since its inception in 2015; and the Breakthrough Energy Coalition, among others. Following the Paris Agreement, the EIB and other multilateral institutions committed to provide \$100 billion of new financing for climate action projects over the next five years to assist countries in reaching their targets, and in 2021, the UN Climate Change Conference in Glasgow (COP26) brought together 120 world leaders to set the global agenda on climate change for the next decade. It was agreed, among other things, that countries will meet next year to pledge further cuts to emissions of CO<sub>2</sub> to keep temperature rises within 1.5°C.

Outside of the United States, the majority of power generating capacity has historically been owned and controlled by governments. Since the early 1990s, however, many foreign governments have privatized their power generation industries through sales to third parties encouraging new capacity development and/or refurbishment of existing assets by independent power developers. These foreign governments have taken a variety of approaches to encourage the development of competitive power markets, including awarding long-term contracts for energy and capacity to independent power generators and creating competitive wholesale markets for selling and trading energy, capacity, and related products. Some foreign regions and countries have also adopted active government programs designed to encourage clean renewable energy power generation such as the following countries in which we operate, sell products and/or are conducting business development activities:

## Europe

Europe has the fourth largest geothermal power capacity, the majority of which stems from Italy and Turkey and recently small scale projects in Germany. A significant part of our European operations is in Turkey. We are looking for opportunities to expand in Europe mostly in the Product segment.

A significant part of our European operations is in Turkey, which, until recently, was the fastest growing geothermal market worldwide with the theoretical potential for 31 GW of geothermal capacity and with a proven geothermal capacity of 4.5 GW, according to the Turkish Mineral Technical Exploration Agency. Since 2004, we have established strong business relationships in the Turkish geothermal market and provided our wide range of solutions including our binary systems, to over 40 geothermal power plants with a total capacity of approximately 950 MW. The potential for geothermal growth in Turkey is still high, specifically in center-south and east areas of the country, however, due to the economic crisis in Turkey, there has been a practical stop of new projects and investments.

## Latin America

Several Latin American countries have renewable energy programs and pursue the development of the geothermal market.

In Guatemala, where our Zunil and Amatitlan power plants are located, the government approved and adopted the Energy Policy 2013-2027 that secures, among other things, a supply of electricity at competitive prices by diversifying the energy mix with an 80% renewable energy share target for 2027.

In Honduras, where we operate our Platanares power plant, the government set a target to reach at least 80% renewable energy production by 2034.

## New Zealand

In New Zealand, where we have been actively providing geothermal power plant solutions since 1988, the government's policies to fight climate change include a net zero GHG emissions reduction target by 2050 and a renewable electricity generation target of 90% of New Zealand's total electricity generation by 2035. We continue selling power plants and products to our New Zealand customers and our cooperate with other potential customers for adding geothermal power generation capacity within the coming years.

## Asia

Indonesia has become an important geothermal market for Ormat to expand its core business, due to its significant potential for future development, financial strength (rated at BBB by S&P and Baa2 by Moody's) and active geothermal industry that is supported by regulatory incentives. The government intends to increase the share of renewable energy sources in the energy mix, aiming to meet a target of 29% of domestic energy demand by 2025. In addition to two joint venture projects in Indonesia, we are advancing drilling in two prospects, Toca Tindung (formerly known as Bitung) and Wapsalit. We are also pursuing various supply opportunities in Indonesia, and in other countries in Southeast Asia, and in China, where we supplied our equipment to one of our clients' geothermal projects, and Japan, which has the third largest potential geothermal output in the world at 23,470 MW and the ninth largest installed capacity. In March 2021, China's National Energy Administration adopted the 14th Renewable Energy Development Five Year Plan that seeks to increase the share of non-fossil fuel energy in total primary energy consumption to 20% by 2030, among other goals. In October 2021, the Japanese Cabinet approved the Sixth Strategic Energy Plan targeting the ratio of renewable energy to total power generation in 2030 of 36% to 38%, up from 22% to 24% under the previous Plan in 2018. State-owned resources agency JOGMEC started conducting test bores as part of the financially risky early phase of development on behalf of potential developers beginning in the fiscal year from April 2020. Japan's Ministry of Economy, Trade and Industry (METI) determined 22 successful applicants for the full year 2020 Research Project for Developing Resources for Geothermal Power Generation, managed by State-owned resources agency JOGMEC.

## East Africa

In East Africa the geothermal potential along the Rift Valley is estimated at several thousand MW. The different countries along the Rift Valley are at different stages of development of their respective geothermal potential.

In Kenya, there are already several geothermal power plants, including our 150 MW Olkaria III complex. The Kenyan government has identified the country's untapped geothermal potential as the most suitable indigenous source of electricity.

While the Kenyan government is aiming to reach 10 GW of power generating capacity by 2037, under the Least-Cost Power Development Plan 2017-37, which had a target of 62% of such capacity generated from renewable energy sources (including large hydro and solar), a Task Force was appointed by Kenya's president to review and analyze PPAs entered into between various independent power producers and the local utility, and their recommendation at this stage is to reconsider new PPAs and review all new development in the country.

## ***Energy Storage***

Globally, there is a continued increase in the use of renewable energy. In the United States and Europe, this increase is placing strains on the electric grid as adding wind and solar PV power creates situations where a significant amount of power plant capacity must be available to ramp up and down to accommodate these intermittent resource's daily output cycles and variations due to weather conditions. Furthermore, the output from wind and solar PV power plants can change significantly over short periods of time due to environmental conditions like cloud movement and fog burn off and can cause instability on the electric grid. As a result, energy storage is positioned to become a key component of the grid.

Energy storage systems utilize surplus, available electricity that enables utilities and grid operators to optimize the operation of the grid, run generators closer to full capacity for longer periods, and operate the grid more efficiently and effectively. As penetration of wind and solar resources increases, so does the need for services that energy storage systems can provide to "balance the grid", such as local capacity, frequency regulation, ramping, reactive power, black start and movement of energy from times of excess supply to times of high demand. Common applications for energy storage systems include ancillary services, wind/solar smoothing, energy trading, peaker replacement, and transmission and distribution deferral.

According to Wood Mackenzie's Energy Storage Monitor for Q3 2021, approximately 1.1 GW/3.5 GWh of new energy storage projects were installed in the United States as of Q3 2021 and this number represents a 135%/349% increase compared to Q3 2020. Wood Mackenzie is forecasting that annual energy storage deployments will grow to 37GWh by 2025.

2021 saw record growth in BESS deployment in the United States and significant growth in BESS deployment is expected to continue primarily for grid-connected (also referred to as "in front of the meter") applications. Many power systems are also undergoing significant challenges and changes such as grid aging, grid congestion, retirement of aging generators, implementation of greenhouse gas emission reduction rules and increasing penetration of variable renewable energy resources.

We own and operate several grid-connected BESS facilities, where revenues are derived from selling energy, capacity and/or ancillary services in merchant markets like PJM Interconnect, ISO New England, the ERCOT and the CAISO. We are pursuing the development of additional grid-connected BESS projects in multiple regions, with expected revenues coming from providing energy, capacity and/or ancillary services on a merchant basis, or through bilateral contracts with load serving entities, e.g. investor owned utilities, publicly owned utilities and community choice aggregators. We are also pursuing the development of storage plus Solar PV facilities.

## ***Solar PV***

The solar PV market continues to grow, driven by a decline in equipment prices and an increasing desire to replace conventional generation with renewable resources that are commonly supported by favorable regulatory policies. We are monitoring market drivers with the potential to develop solar PV power plants in locations where we can offer competitively priced power generation. Our current focus is in adding solar PV systems in some of our operating geothermal power plants to reduce internal consumption loads, as well as developing solar PV and BESS projects in targeted regions where economics are favorable. In 2019 we successfully placed in service a solar PV augmentation system at our Tungsten Mountain geothermal power plant in Churchill County, Nevada and we are currently constructing projects adjacent to some of our geothermal power plants in Nevada. We are also currently constructing the 20 MW(AC) Wister solar PV project in Imperial County, California, for which a power purchase agreement with San Diego Gas & Electric is in effect and we are currently targeting commercial operation in the second half of 2022.



## ***Other Opportunities***

### **Recovered Energy Generation**

In addition to our geothermal power generation activities, we are pursuing recovered energy-based power generation opportunities in the United States and worldwide. We believe recovered energy-based power generation will ultimately benefit from the efforts to reduce GHG emissions. We have built 23 power plants in North America which generate electricity utilizing “waste heat” from gas turbine-driven compressor stations along interstate natural gas pipelines, from midstream and gas processing facilities, and from other applications.

Several states, and to some extent the federal government, have recognized the environmental benefits of recovered energy-based power generation. For example, according to trade association data, 20 states currently include waste heat to power facilities in their renewable portfolio standard, efficiency standard, or similar program. In addition, California modified the Self Generation Incentive Program to allow recovered energy-based power generation to qualify for a per watt incentive.

At the end of 2020, the United States Congress passed legislation including a provision that makes recovered energy generation property eligible for the energy investment tax credit. Recovered energy property that begins construction in 2021 or 2022 is eligible for a 26 percent tax credit, and property that begins construction in 2023 is eligible for a 22 percent tax credit.

In 2016, the Canadian government ratified its commitments in the Paris Agreement, which features a commitment to reduce emissions by 30% from 2005 levels by 2030. In July 2021, Pursuant to the Greenhouse Gas Pollution Pricing Act, Canadian provinces must have an emission reduction plan in place or be subject to a federal carbon tax in 2018. Canada updated its commitment under the agreement to reduce emissions by 40-45% below 2005 levels by 2030.

Canada’s comprehensive climate policy, once fully implemented, will encourage the development of renewable energy technologies, including waste heat recovery, throughout the country. We believe that Europe and other markets worldwide may offer similar opportunities in recovered energy-based power generation.

In summary, the market for the recovery of waste heat converted into electricity exists either when already available electricity is expensive or where the regulatory environment facilitates construction and marketing of power generated from recovered waste heat. However, such projects tend to be smaller than 9 MW and we expect any growth to be relatively slow and geographically scattered.

## **Operations of our Electricity Segment**

### ***How We Own Our Power Plants***

We customarily establish a separate subsidiary to own interests in each of our power plants. This ensures that the power plant, and the revenues generated by it, will be the only source for repaying indebtedness, if any, incurred to finance the construction or the acquisition (or to refinance the construction or acquisition) of the relevant power plant. If we do not own all of the interest in a power plant, we enter into a shareholders’ agreement or a partnership agreement that governs the management of the specific subsidiary and our relationship with our partner in connection with the specific power plant. Our ability to transfer or sell our interests in certain power plants may be restricted by certain purchase options or rights of first refusal in favor of our power plant partners or the power plant’s power purchasers and/or certain change of control and assignment restrictions in the underlying power plant and financing documents. All of our domestic geothermal and REG power plants are Qualifying Facilities under the PURPA and are eligible for regulatory exemptions from most provisions of the FPA and certain state laws and regulations.

## ***How We Explore and Evaluate Geothermal Resources***

We conduct our exploration activities in the United States and internationally. It generally takes two to three years from the time we start active exploration of a particular geothermal resource to the time we have an operating production well, assuming we conclude the resource is commercially viable and determine to pursue its development. Exploration activities generally involve the phases described below.

### **Initial Evaluation**

We identify and evaluate potential geothermal resources by sampling and studying new areas combined with information available from public and private sources.

Our initial evaluation is usually conducted by our own staff, although we might engage outside service providers for some tasks from time to time. The costs associated with an initial evaluation vary from site to site, based on various factors, including the acreage involved and the costs, if any, of obtaining information from private databases or other sources. On average, our expenses for an initial evaluation range from approximately \$10,000 (mainly in the U.S.) to \$50,000 (mainly in the international prospects) including travel, chemical analyses, and data acquisition.

If we conclude, based on the information considered in the initial evaluation, that the geothermal resource could support a commercially viable power plant, taking into account various factors described below, we proceed to land rights acquisition.

### **Land Acquisition**

We acquire land rights to any geothermal resources our initial evaluation indicates could potentially support a commercially viable power plant. For domestic power plants, we either lease or own the sites on which our power plants are located. For our foreign power plants, our lease rights for the power plant site are generally contained in the terms of a concession agreement or other contract with the host government or an agency thereof. In certain cases, we also enter into one or more geothermal resource leases (or subleases) or a concession or an option agreement or other agreement granting us the exclusive right to extract geothermal resources from specified areas of land, with the owners (or sublessors) of such land.

For most of our current exploration sites in the United States, we acquire rights to use the geothermal resource through land leases with the BLM (which regulates leasehold interests in U.S. federal land), with various states, or through private leases. A summary of our typical lease terms is provided below under “Description of our Leases and Lands”. The up-front bonus and royalty payments vary from site to site and are based on, among other things, current market conditions.

### **Surveys**

We conduct geological, geochemical, and/or geophysical surveys on the site we acquire. These surveys are conducted incrementally considering relative impact and cost, and the geologic model is updated continuously.

We make a further determination of the commercial viability of the geothermal resource based on the results of this process, particularly the results of the geochemical surveys estimating temperature and the overall geologic model, including potential resource size. If the results from the geochemical surveys are poor (i.e., low derived resource temperatures or poor permeability) or the geologic model indicates small or deep resource, we re-evaluate the commercial viability of the geothermal resource and may not proceed to exploratory drilling. We generally only move forward with those sites that we believe have a high probability of successful development.

### **Exploratory Drilling**

We drill one or more exploratory wells on the high priority, relatively low risk sites to confirm and/or define the geothermal resource. Each year we determine and approve an exploration budget for the entire exploration activity in such year. We prioritize budget allocation between the various geothermal sites based on commercial and geological factors. The costs we incur for exploratory drilling vary from site to site based on various factors, including the accessibility of the drill site, the geology of the site, and the depth of the resource. However, on average, exploration costs, prior to drilling of a full-size well are approximately \$1.0 million to \$3.0 million for each site, not including land acquisition. We only reach such spending levels for sites that proved to be successful in the early stages of exploration.

At various points during our exploration activities, we re-assess whether the geothermal resource involved will support a commercially viable power plant based on information available at that time.

If we conclude that the geothermal resource involved will support a commercially viable power plant, we proceed to constructing a power plant at the site.

### ***How We Construct Our Power Plants.***

The principal phases involved in constructing one of our geothermal power plants are as follows:

- *Drilling production and injection wells.* We consider completing the drilling of the first production well to be the beginning of our construction phase for a power plant. However, this is not always sufficient for a full release of a project for construction. The number of production wells varies from plant to plant depending on, among other things, the geothermal resource, the projected capacity of the power plant, the power generation equipment to be used and the way geothermal fluids will be re-injected through injection wells to maintain the geothermal resource and surface conditions. We generally drill the wells ourselves although in some cases we use outside contractors. The cost for each production and injection well varies depending on, among other things, the depth and size of the well and market conditions affecting the supply and demand for drilling equipment, labor and operators. In the last five years, our typical cost for each production and injection well ranges between \$2.5 million to \$10 million. A typical cost for a domestic well is approximately \$3.3 million and \$7.3 million for international wells.
- *Designing the well field, power plant, equipment, controls, and transmission facilities.* We usually use our own employees to design the well field and the power plant, including equipment that we manufacture and that will be needed for the power plant. In some cases, depending on complexity and location, we use third parties to help us with the design. The designs vary based on various factors, including local laws, required permits, the geothermal resource, the expected capacity of the power plant and the way geothermal fluids will be re-injected to maintain the geothermal resource and surface conditions.
- *Obtaining any required permits, electrical interconnection and transmission agreements.* We use our own employees and from time to time, depending on complexity and location, outside consultants to obtain any required permits and licenses for our power plants that are not already covered by the terms of our site leases. The permits and licenses required vary from site to site and are described below under “Environmental Permits”.
- *Manufacturing (or in the case of equipment we do not manufacture ourselves, purchasing) the equipment required for the power plant.* Generally, we manufacture most of the power generating unit equipment we use at our power plants. Multiple sources of supply are generally available for all other equipment we do not manufacture.
- *Assembling and constructing the well field, power plant, transmission facilities, and related facilities.* We use our own employees to manage the construction work. For site grading, civil, mechanical, and electrical work we use subcontractors.

In recent years, it has taken us two to three years from the time we drill a production well until the power plant becomes operational. During 2021, in the Electricity segment, we focused on the commencement of operations at McGinness Hills Expansion in Nevada, the construction of Mammoth CD-4 plant and the construction of Tungsten Mountain Enhancement. We also began construction of North Valley power plant and Heber 2 repower as well as with enhancement work in some other of our operating power plants worldwide.

When deciding whether to continue holding lease rights and/or to pursue exploration activity, we diligently prioritize our prospective investments, taking into account resource and probability assessments in order to make informed decisions about whether a particular project will support commercial operation.

We may conclude that a respective geothermal resources will not support commercial operations and therefore costs associated with exploration activities at this site will be expensed accordingly under the Write-off of Unsuccessful Exploration Activities line item in the consolidated statements of operations in or financial statements.

### ***How We Operate and Maintain Our Power Plants***

Our operations and maintenance practices are designed to minimize operating costs without compromising safety or environmental standards while maximizing plant flexibility and maintaining high reliability. Our operations and maintenance practices for geothermal power plants seek to preserve the sustainable characteristics of the geothermal resources we use to produce electricity and maintain steady-state operations within the constraints of those resources reflected in our relevant geologic and hydrologic studies. Our approach to plant management emphasizes the operational autonomy of our individual plant or complex managers and staff to identify and resolve operations and maintenance issues at their respective power plants; however, each power plant or complex draws upon our available collective resources and experience, and that of our subsidiaries. We have organized our operations such that inventories, maintenance, backup, and other operational functions are pooled within each power plant complex and provided by one operation and maintenance provider. This approach enables us to realize cost savings and enhances our ability to meet our power plant availability goals.

Safety is a key area of concern to us. We believe that the most efficient and profitable performance of our power plants can only be accomplished within a safe working environment for our employees. Our compensation and incentive program includes safety as a factor in evaluating our employees, and we have a well-developed reporting system to track safety and environmental incidents, if any, at our power plants.

### ***How We Sell Electricity***

In the United States, the purchasers of power ally from our power plants are typically investor-owned electric utility companies or electric cooperatives including public owned utilities, and recently we signed a PPA with CCAs. Outside of the United States, our purchasers are either state-owned utilities or privately-owned-entities and we typically operate our facilities under rights granted to us by a governmental agency pursuant to a concession agreement. In each case, we enter into long-term contracts (typically, PPAs) for the sale of electricity or the conversion of geothermal resources into electricity. Although previously our power plants' revenues under a PPA generally consisted of two payments, energy payments and capacity payments, our recent PPAs provide for energy payments only. Energy payments are normally based on a power plant's electrical output actually delivered to the purchaser measured in kWh, with payment rates either fixed or indexed to the power purchaser's "avoided" power costs (i.e., the costs the power purchaser would have incurred itself had it produced the power it is purchasing from third parties) or rates that escalate at a predetermined percentage each year. Capacity payments are normally calculated based on the generating capacity or the declared capacity of a power plant available for delivery to the purchaser, regardless of the amount of electrical output actually produced or delivered. In addition, we have four domestic power plants located in California, Nevada and Hawaii that are eligible for capacity payments under the respective PPAs upon reaching certain levels of generation, or subject to a capacity payment reduction if certain levels of generation are not reached.

### ***How We Finance Our Power Plants***

Historically we have funded our power plants with different sources of liquidity such as a non-recourse or limited recourse debt, lease financing, tax monetization transactions, internally generated cash, which includes funds from operations, as well as proceeds from loans under corporate credit facilities, public equity offerings, senior unsecured corporate bonds, and the sale of equity interests and other securities. Such leveraged financing permits the development of power plants with a limited amount of equity contributions, but also increases the risk that a reduction in cashflow could adversely affect a particular power plant's ability to meet its debt obligations. Leveraged financing also means that distributions of dividends or other distributions by our power plant subsidiaries to us are contingent on compliance with financial and other covenants contained in the applicable finance documents.



In 2021, we raised several corporate loans and expanded and renewed our revolving credit facilities to support our geothermal and storage growth.

We have used financing structures to monetize PTCs and depreciation, such as our tax equity partnership transaction involving McGinness Hills phase 3, Tungsten and Steamboat Hills Repowering Project. Our Dixie Valley project, acquired from Terra-Gen in 2021, has a leveraged lease financing arrangement.

We have also used a sale of equity interests in three of our geothermal assets and nine of our REG facilities to fund corporate needs including funding for the construction of new projects. We may use some of the same financing structures in the future.

### ***How We Mitigate International Political Risk.***

We generally purchase insurance policies to cover our book equity exposure to certain political risks involved in operating in developing countries, as described below under “Insurance”. However, insurance may not cover all political risks or coverage amounts may not be sufficient.

### **Description of Our Leases and Lands**

We have domestic leases on approximately 355,973 acres of federal, state, and private land in California, Hawaii, Nevada, New Mexico, Utah, Idaho and Oregon. The approximate breakdown between federal, state and private leases and owned land is as follows:

- 76% of the acreage under our control is leased from the U.S. government, acting mainly through the BLM;
- 20% is leased or subleased from private landowners and/or leaseholders;
- 3% is owned by us; and
- 1% is leased from various states.

Each of the leases within each of the categories above has standard terms and requirements, as summarized below. Internationally, our land position includes approximately 60,903 acres.

### ***BLM Geothermal Leases***

Certain of our domestic project subsidiaries have entered into geothermal resources leases with the U.S. government, pursuant to which they have obtained the right to conduct their geothermal development and operations on federally-owned land. These leases are made pursuant to the Geothermal Steam Act and the lessor under such leases is the U.S. government, acting through the BLM.

BLM geothermal leases grant the geothermal lessee the right and privilege to drill for, extract, produce, remove, utilize, sell, and dispose of geothermal resources on certain lands, together with the right to build and maintain necessary improvements thereon. The actual ownership of the geothermal resources and other minerals beneath the land is retained in the federal mineral estate. The geothermal lease does not grant to the geothermal lessee the exclusive right to develop the lands, although the geothermal lessee does hold the exclusive right to develop geothermal resources within the lands. Since BLM leases do not grant to the geothermal lessee the exclusive right to use the surface of the land, BLM may grant rights to others for activities that do not unreasonably interfere with the geothermal lessee’s uses of the same land, including use, off-road vehicles, and/or wind or solar energy developments.

Typical BLM leases issued to geothermal lessees before August 8, 2005 have a primary term of ten years and will renew so long as geothermal resources are being produced or utilized in commercial quantities but cannot exceed a period of forty years after the end of the primary term. If at the end of the forty-year period geothermal steam is still being produced or utilized in commercial quantities and the lands are not needed for other purposes, the geothermal lessee will have a preferential right to renew the lease for a second forty-year term, under terms and conditions as the BLM deems appropriate.

BLM leases issued after August 8, 2005 have a primary term of ten years. If the geothermal lessee does not reach commercial production within the primary term, the BLM may grant two five-year extensions. If the lessee is drilling a well for the purposes of commercial production, the lease may be extended for five years and thereafter, as long as steam is being produced and used in commercial quantities, the lease may be extended for up to thirty-five years. If, at the end of the extended thirty-five-year term, geothermal steam is still being produced or utilized in commercial quantities and the lands are not needed for other purposes, the geothermal lessee will have a preferential right to renew the lease under terms and conditions as the BLM deems appropriate.

For BLM leases issued before August 8, 2005, the geothermal lessee is required to pay an annual rental fee (on a per acre basis), which escalates according to a schedule described therein, until production of geothermal steam in commercial quantities has commenced. After such production has commenced, the geothermal lessee is required to pay royalties (on a monthly basis) on the amount or value of (i) steam, (ii) by-products derived from production, and (iii) commercially mineralized water sold or utilized by the project (or reasonably susceptible to such sale or use).

For BLM leases issued after August 8, 2005, (i) a geothermal lessee who has obtained a lease through a non-competitive bidding process will pay an annual rental fee equal to \$1.00 per acre for the first ten years and \$5.00 per acre each year thereafter; and (ii) a geothermal lessee who has obtained a lease through a competitive process will pay a rental equal to \$2.00 per acre for the first year, \$3.00 per acre for the second through tenth year and \$5.00 per acre each year thereafter. Rental fees paid before the first day of the year for which the rental is owed will be credited towards royalty payments for that year. For BLM leases issued, effective, or pending on August 5, 2005 or thereafter, royalty rates are fixed between 1.0-2.5% of the gross proceeds from the sale of electricity during the first ten years of production under the lease. The royalty rate set by the BLM for geothermal resources produced for the commercial generation of electricity but not sold in an arm's length transaction is 1.75% for the first ten years of production and 3.5% thereafter. The royalty rate for geothermal resources sold by the geothermal lessee or an affiliate in an arm's length transaction is 10.0% of the gross proceeds from the arm's length sale.

In the event of a default under any BLM lease, or the failure to comply with any of the provisions of the Geothermal Steam Act or regulations issued under the Geothermal Steam Act or the terms or stipulations of the lease, the BLM may, 30 days after notice of default is provided to the relevant project, (i) suspend operations until the requested action is taken, or (ii) cancel the lease.

### ***Private Geothermal Leases***

Certain of our domestic project subsidiaries have entered into geothermal resources leases with private parties, pursuant to which they have obtained the right to conduct their geothermal development and operations on privately owned land. In many cases, the lessor under these private geothermal leases owns only the geothermal resource and not the surface of the land.

Typically, the leases grant our project subsidiaries the exclusive right and privilege to drill for, produce, extract, take and remove from the leased land water, brine, steam, steam power, minerals (other than oil), salts, chemicals, gases (other than gases associated with oil), and other products produced or extracted by such project subsidiary. The project subsidiaries are also granted certain non-exclusive rights pertaining to the construction and operation of plants, structures, and facilities on the leased land. Additionally, the project subsidiaries are granted the right to dispose geothermal fluid as well as the right to re-inject into the leased land water, brine, steam, and gases in a well or wells for the purpose of maintaining or restoring pressure in the productive zones beneath the leased land or other land in the vicinity. Because the private geothermal leases do not grant to the lessee the exclusive right to use the surface of the land, the lessor reserves the right to conduct other activities on the leased land in a manner that does not unreasonably interfere with the geothermal lessee's uses of the same land, which other activities may include agricultural use (farming or grazing), recreational use and hunting, and/or wind or solar energy developments.

The leases provide for a term consisting of a primary term in the range of five to 30 years, depending on the lease, and so long thereafter as lease products are being produced or the project subsidiary is engaged in drilling, extraction, processing, or reworking operations on the leased land.

As consideration under most of our project subsidiaries' private leases, the project subsidiary must pay to the lessor a certain specified percentage of the value "at the well" (which is not attributable to the enhanced value of electricity generation), gross proceeds, or gross revenues of all lease products produced, saved, and sold on a monthly basis. In certain of our project subsidiaries' private leases, royalties payable to the lessor by the project subsidiary are based on the gross revenues received by the lessee from the sale or use of the geothermal substances, either from electricity production or the value of the geothermal resource "at the well".

In addition, pursuant to the leases, the project subsidiary typically agrees to commence drilling, extraction or processing operations on the leased land within the primary term, and to conduct such operations with reasonable diligence until lease products have been found, extracted and processed in quantities deemed "paying quantities" by the project subsidiary, or until further operations would, in such project subsidiary's judgment, be unprofitable or impracticable. The project subsidiary has the right at any time within the primary term to terminate the lease and surrender the relevant land. If the project subsidiary has not commenced any such operations on said land (or on the unit area, if the lease has been unitized), or terminated the lease within the primary term, the project subsidiary must pay to the lessor, in order to maintain its lease position, annually in advance, a rental fee until operations are commenced on the leased land.

If the project subsidiary fails to pay any installment of royalty or rental when due and if such default continues for a period of fifteen days specified in the lease, for example, after its receipt of written notice thereof from the lessor, then at the option of the lessor, the lease will terminate as to the portion or portions thereof as to which the project subsidiary is in default. If the project subsidiary defaults in the performance of any obligations under the lease, other than a payment default, and if, for a period of 90 days after written notice is given to it by the lessor of such default, the project subsidiary fails to commence and thereafter diligently and in good faith take remedial measures to remedy such default, the lessor may terminate the lease.

We do not regard any property that we lease as material unless and until we begin construction of a power plant on the property, that is, until we drill a production well on the property.

## Description of Our Power Plants

### *Domestic Operating Power Plants*

The following descriptions summarize certain industry metrics for our domestic operating power plants:

#### *Power plants in the United States*

Project Name	Size (MW)	Technology	Resource Cooling	Customer	PPA Expiration
Brawley	13	Geothermal water-cooled binary system	Depends on the mix of used production wells , with current decline rate around 2°F per year	SCE	2031
Brady Complex	26	Geothermal air and water-cooled binary system	Brady and Desert Peak 2 - 3°F per year	NV Energy	Brady — 2022 Desert Peak 2 — 2027
Don A. Campbell Complex <sup>(1)(2)</sup>	32	Geothermal air cooled binary system	Testing is in process to confirm the impact on temperature decline	SCPPA	Phase 1 - 2034 Phase 2 - 2036
Heber Complex <sup>(3)</sup>	81	Geothermal dual flash and binary systems using a water cooled system	1°F per year	SCPPA	Heber 1 — 2025 Heber 2 — 2023 <sup>(4)</sup> Heber South — 2031 <sup>(5)</sup>
Jersey Valley	8	Geothermal air cooled binary system	2°F per year	Nevada Power Company	2032

Mammoth Complex	30	Geothermal air cooled binary system	Less than 0.5°F per year	PG&E and Southern California Edison.	G-1 and G-3 - 2034 G-2 plant - 2027
McGinness Hills Complex	160 <sup>(14)</sup>	Geothermal air cooled binary system	5°F per year	Nevada Power Company and SCPPA.	Phases 1 and 2 - 2033 Phase 3 - 2043.
Neal Hot Springs <sup>(6)</sup>	24	Geothermal air cooled binary system	1.5°F over the past year	Idaho Power Company	2038
OREG 1 <sup>(2)</sup>	22	Geothermal air cooled binary system	NA	Basin Electric Power Cooperative	2031
OREG 2 <sup>(2)</sup>	22	Geothermal air cooled binary system	NA	Basin Electric Power Cooperative	2034
OREG 3 <sup>(2)</sup>	5.5	Geothermal air cooled binary system	NA	Great River Energy.	2029
OREG 4	3.5	Geothermal air cooled binary system	NA	Highline Electric Association.	2029
Ormesa Complex <sup>(7)</sup>	36	Geothermal water-cooled binary system and water-cooled flash system.	Less than 1°F per year	SCPPA under a single PPA.	2042
Puna Complex <sup>(2),(8)</sup>	38	Geothermal combined cycle and air cooled binary system	The resource temperature is stable	HELCO	2027
Raft River	12	Geothermal water-cooled binary system	No cooling. Temperatures remain stable.	Idaho Power Company.	2032
San Emidio	11	Geothermal- water-cooled binary system	1°F per year	NV Energy.	2038
Steamboat Complex	79	Geothermal air and water-cooled binary system and a single flash system	Lower Steamboat - between 2°F to 3°F per year Steamboat Hills 4°F per year	* Steamboat 2 & 3- Sierra Pacific Power Company * Galena 1 & 3- Nevada Power Company * Galena 2 & Steamboat Hills- SCPPA	Steamboat 2 and 3- 2022 Galena 1- 2026 Steamboat Hills and Galena 2 - 2043 Galena 3- 2028



Tungsten Mountain Geothermal	29	Geothermal air and water-cooled binary system	2°F per year	SCPPA	2043
Tungsten Mountain solar	7	solar PV System	NA	Internal use <sup>(15)</sup>	2043
Tuscarora	18	Geothermal water-cooled binary system	We expect continued gradual decline in the cooling rate from about 3°F per year to less than 1°F per year over the long term	Nevada Power Company.	
Dixie Valley <sup>(9)</sup>	58	Geothermal air-cooled binary system and water-cooled flash system.	The resource temperature is stable	SCE	2038
Beowawe <sup>(9)</sup>	14	Flash System and Binary	1°F per year	NV Energy	2025

***Power plants in Rest of the World***

Project Name	Size (MW)	Technology	Resource Cooling	Customer	PPA Expiration
Amatitlan (Guatemala)	20	Geothermal air cooled binary system and a small back pressure steam turbine (one MW)	Stable	INDE and another local purchaser.	2028
Bouillante (France) <sup>(10)</sup>	15	Geothermal direct steam turbines.	Stable	EDF pursuant to a PPA.	2030
Olkaria III Complex (Kenya) <sup>(11)</sup>	150	Geothermal air cooled binary system	Less than 1°F per year	KPLC	Plant 2 - 2033 Plant 1&3 - 2034 Plant 4 - 2036
Platanares (Honduras) <sup>(12)</sup>	38	Geothermal air cooled binary system	2°F per year	ENEE pursuant to a PPA.	2047
Sarulla Complex - (Indonesia) <sup>(13)</sup>	330 (our share is 42)	Geothermal Combined Cycle steam and binary systems	Stable	PLN	2047
Zunil (Guatemala)	20	Geothermal air cooled binary system	Stable	INDE	2034

<sup>(1)</sup> Don A. Campbell is experiencing cooling since mid-2016, with 6°F in recent years, that is reducing its generating capacity. Injection tests and tracer studies, along with reservoir modeling have been used to develop a plan to mitigate temperature decline of the reservoir. Temperature mitigation program is ongoing. New production and injection wells are scheduled for early 2022.

<sup>(2)</sup> Indirectly owned 36.75% by Northleaf.

<sup>(3)</sup> We are currently in the process of enhancing the Heber 1 and Heber 2 power plants as discussed below.

<sup>(4)</sup> In 2021, we signed a 15-year PPA with the CPA for our Heber South power plant. Under the terms of the agreement, effective January 1, 2022, CPA started to purchase 14 MW from the facility located in Imperial Valley, CA. The PPA replaces the original PPA with SCPPA, which had a shorter remaining duration and was subject to an early termination option. This is Ormat's first contract with CPA, creating the potential for additional agreements in the future as CPA pursues aggressive goals to provide renewable energy to southern California.

<sup>(5)</sup> Under the Heber 2 PPA with SCE, that expires in mid-2023, the parties have six months' notice termination right that we used and sent a termination notice to SCE. We are currently negotiating a new long-term PPA for the project following a request for bid we issued in 2021.

<sup>(6)</sup> Owned 40% by Enbridge Inc. Upgrades to the power plant were completed in 2020.

<sup>(7)</sup> Continued workover in Ormesa to maintain production.

<sup>(8)</sup> On May 3, 2018, the Kilauea volcano located in close proximity to our Puna 38 MW geothermal power plant in the Puna district of Hawaii's Big Island erupted following a significant increase in seismic activity in the area. The Puna power plant resumed operations in November 2020 and during 2021 operated at a level of 25 MW. We continue with drilling and workovers into 2022 to increase generation. In 2019, we reached an agreement with HELCO and signed a new PPA that is currently subject to PUC approval. The new PPA extends the current until 2052 and increases the current contract capacity by 8 MW to 46MW. In addition, the new PPA has a fixed price with no escalation, regardless of changes to fossil fuel pricing, which impacts the majority of our current pricing under the existing PPA. The existing PPA remains in effect with its current terms until the earlier of a) PPA's expiration date at the end of 2027 and b) the new PPA will be in effect.

<sup>(9)</sup> Dixie Valley geothermal and Beowawe power plants located in Nevada were acquired from Terra-Gen LLC in July 2021.

<sup>(10)</sup> 85% of the Bouillante power plant is owned jointly by Ormat and CDC allocated 75% to Ormat and 25% to CDC.

<sup>(11)</sup> The Olkaria complex experienced lower performance of the wellfield in 2021 and currently is generating 123 MW. In addition, a task force was appointed by the President to review and analyze PPAs between various independent power producers and KPLC, including Ormat's long term PPA for the Olkaria complex. In September 2021 the task force recommended to the President that KPLC review its contracts and attempt renegotiation with Independent Power Producers to secure reductions in PPA tariffs within existing contractual arrangements. Ormat was approached by the task force following release of the report.

<sup>(12)</sup> We hold the Platanares assets, including the project's wells, land, permits and a PPA, under a BOT structure for 15 years from the date the Platanares plant commenced commercial operation on September 26, 2017. A portion of the land on which the project is located is held by us through a lease from a local municipality.

<sup>(13)</sup> The Sarulla complex is experiencing a reduction in generation primarily due to wellfield issues at one of its power plants, as well as equipment failures which resulted in a decrease in profitability. To address these issues, the project management developed a Long-Term Recovery Plan ("LTRP") that includes drilling of additional wells and various equipment modifications. The LTRP is expected to be implemented starting in 2022, pending approval by the lenders. Additional initiatives are also undergoing in an effort to strengthen the Sarulla project's financial position, including potential tariff changes. We are following the progress and results of the LTRP in Sarulla as well as the accounting impact and its implication on our financial statements on our investment in Sarulla.

<sup>(14)</sup> In May 2021, we successfully completed a 15MW enhancement to the MGH complex and its generating capacity increased to 160 MW.

<sup>(15)</sup> The Tungsten solar power plant generates energy that is used for the auxiliary power of the geothermal power plant.

## ***Future Projects***

### ***Projects Released for Construction***

We have several projects in various stages of construction, including 13 projects that we have fully released for construction with a total capacity of 150MW and one project with capacity of 10MW to 15MW that is in the early stage of construction. In 2021, due to COVID-19 and other factors, we saw continuous delays in getting all relevant permits as well as panels for the Solar PV project, and as a result we are seeing continuous delays in the expected COD.

These projects are expected to have a total geothermal generating capacity of between 108 MW and 113MW (representing our interest) and solar PV projects with a total AC capacity of 52 MW.

Project Name	Location	Expected Size (MW)	Technology	Customer	Expected COD	Current Condition
Heber Complex	California, U.S.	11	Geothermal air-cooled binary system	SCE and SCPPA	Q1 2023	Permitting is ongoing and construction commenced.
CD4	California, U.S.	30	Geothermal air-cooled binary system	SCPPA - 16 MW Silicon Valley Clean Energy - 7 MW Monterey Bay Community Power - 7 MW	Q2 2022	Construction is near completion and drilling ongoing. Permits delay for power plant connection.
Dixie Meadows	Nevada, U.S.	12	Geothermal air-cooled binary system	SCPPA	End 2022	Engineering and procurement are completed. OEC Equipment shipped and stored in the US until start of construction
Tungsten Mountain 2	Nevada, U.S.	11	Geothermal air-cooled binary system	SCPPA	H1 2022	Construction near completion
North Valley	Nevada, U.S.	25	Geothermal air-cooled binary system	PPA subject to PUC approval	End 2022	Engineering, procurement and manufacturing ongoing. Construction commenced.
Dixie Valley upgrade	Nevada, U.S.	4	Geothermal air-cooled binary system	SCE	End 2022	Engineering and procurement are ongoing
Zunil	Guatemala	5	Geothermal air-cooled binary system	INDE	H1 2022	Construction near completion
Wister solar	California, U.S.	20 AC	solar PV	SDG&E	H2 2022	Engineering and procurement ongoing
Steamboat Solar Phase 1	Nevada, U.S.	5 AC	Solar PV System	Internal use	H1 2022	Engineering and procurement are ongoing
Tungsten Solar 2	Nevada, U.S.	9 AC	Solar PV System	Internal use	H1 2022	Construction commenced
Brady Solar	Nevada, U.S.	6 AC	Solar PV System	Internal use	H1 2023	Engineering and procurement are ongoing
Steamboat Solar Phase 2	Nevada, U.S.	5 AC	Solar PV System	Internal use	H2 2023	Engineering and procurement are ongoing
North Valley Solar	Nevada, U.S.	7 AC	Solar PV System	Internal use	H2 2023	Engineering and procurement are ongoing
Carson Lake	Nevada, U.S.	10 - 15	Geothermal air-cooled binary system	No PPA	TBD	Early stage of construction

### ***Projects under Various Stages of Development that were not Released for Construction***

We also have projects under various stages of development in the United States, Indonesia and Guadeloupe that we estimate will increase the generating capacity of our geothermal projects by approximately 47 MW to 58 MW (representing our interest) and Solar PV project with a total of 14 MW. We expect to continue to explore these and other opportunities for expansion so long as they continue to meet our business objectives and investment criteria. However, we prioritize our investments based on their readiness for continued construction and expected economics and therefore we are not planning to invest in all of such projects in 2022.

<b>Project</b>	<b>Location</b>	<b>Technology</b>	<b>Size (MW)</b>	<b>Customer</b>	<b>Expected COD</b>
Bouillante power plant	Guadeloupe	Geothermal	10	Under discussion with EDF	H2 2023
Puna Expansion	Hawaii, U.S.	Geothermal	8	HELCO	2024
Ijen	Indonesia	Geothermal	15 <sup>(1)</sup>	PLN	H2 2023
North Valley Enhancement	Nevada, U.S.	Geothermal	5-10	TBD	H1 2023
Beowawe Repower	Nevada, U.S.	Geothermal	9-15	NV Energy	End 2023
McGinness Solar	Nevada, U.S.	Solar PV	14 AC	SCPPA	H2 2023

<sup>(1)</sup> The size of the project reflects Ormat's 49% interest share in the project

### ***Future Prospects***

We have a substantial land position that is expected to support future development and on which we have started or plan to start exploration activity. When deciding whether to continue holding lease rights and/or to pursue exploration activity, we diligently prioritize our prospective investments, taking into account resource and probability assessments in order to make informed decisions about whether a particular project will support commercial operation.

Our current land position is comprised of various leases, concessions and private land for geothermal resources of approximately 205,000 acres in **41** prospects across the western United States, Latin America, Africa and New Zealand. In the United States we hold **30** prospects:

- 21 prospects in Nevada
- 4 prospects in California
- 2 in Oregon
- 2 in Utah
- 1 in New Mexico

Outside the U.S. we hold **11** prospects:

- 4 prospects in Indonesia
- 3 prospects Ethiopia
- 2 prospects in Guatemala
- 1 prospect in Honduras
- 1 prospect in New Zealand.

### **Operations of our Product Segment**

#### ***Power Units for Geothermal Power Plants***

We design, manufacture, and sell power units for geothermal electricity generation, which we refer to as OECs. Our customers include contractors and geothermal plant owners and operators.

The power units are usually paid for in installments, in accordance with milestones set forth in the supply agreement. We also provide the purchaser with spare parts (either upon their request or our recommendation). We provide the purchaser with at least a 12-month warranty for such products. We provide the purchaser with performance guarantees (usually in the



form of standby letters of credit), which partially terminates upon delivery of the equipment to the site and terminates in full at the end of the warranty period.

### ***Power Units for Recovered Energy-Based Power Generation***

We design, manufacture, and sell power units used to generate electricity from recovered energy or so-called “waste heat”. Our existing and target customers include interstate natural gas pipeline owners and operators, gas processing plant owners and operators, cement plant owners and operators, biomass facilities owners and operators and all other companies engaged in energy-intensive industrial processes such as glass, steel and other. We manufacture and sell the power units for recovered energy-based power generation to third parties for use in “inside-the-fence” installations or otherwise.

### ***Remote Power Units and other Generators***

We design, manufacture and sell fossil fuel powered turbo-generators with capacities ranging from 200 watts to 5,000 watts, which operate unattended in extreme hot or cold climate conditions. The remote power units supply energy to remote unmanned installations and along communications lines and provide cathodic protection along gas and oil pipelines. Our customers include contractors installing gas pipelines in remote areas. In addition, we manufacture and sell generators, including heavy duty direct current generators, for various other uses. The terms for sale of the turbo-generators are similar to those for the power units we produce for power plants.

### ***EPC of Power Plants***

We engineer, procure and construct, as an EPC contractor, geothermal and recovered energy power plants on a turnkey basis, using power units we design and manufacture. Our customers are geothermal power plant owners as well as our target customers for the sale of our recovered-energy based power units described above. Unlike many other companies that provide EPC services, we believe that our advantage is in using our own manufactured equipment and thus have better quality and control over the timing and delivery of equipment and related costs. The consideration for such services is usually paid in installments, in accordance with milestones set forth in the EPC contract and related documents. We provide performance guarantees securing our obligations under the contract.

In connection with the sale of our power units for geothermal power plants, power units for recovered energy-based power generation, remote power units and other generators, we enter into sales agreements, from time to time, with sales representatives for the marketing and sale of such products pursuant to which we are obligated to pay commissions to such representatives upon the sale of our products in the relevant territory covered by such agreements by such representatives or, in some cases, by other representatives in such territory.

Our manufacturing operations and products are certified ISO 9001, ISO 14001, American Society of Mechanical Engineers (ASME), and TÜV, and we are an approved supplier to many electric utilities around the world.

### **Backlog**

We have a product backlog of approximately \$53.5 million as of February 16, 2022, which includes revenues for the period between January 1, 2022 and February 16, 2022, compared to \$33.4 million as of February 25, 2021, which included revenues for the period between January 1, 2021 and February 25, 2021. The increase in the 2022 backlog is mainly related to an initial recovery following COVID-19 related impacts. After a slowdown in raw materials and marine transportation costs, we expect the recovery to continue.

The following is a breakdown of the Product segment backlog amount (in \$ millions) by countries as of February 16, 2022:

<b>Country</b>	<b>Backlog Amount</b>	<b>Percentage of Backlog</b>
Germany .....	5.9	11.0 %
Guatemala.....	8.1	15.1 %
Indonesia.....	17.0	31.8 %
Taiwan .....	5.8	10.8 %
Israel .....	3.0	5.6 %
Nicaragua.....	8.0	15.0 %
New Zealand.....	1.4	2.6 %
Turkey.....	0.8	1.5 %
Others .....	3.5	6.5 %
Total.....	53.5	100 %

The following is a breakdown of the Product segment backlog by technology as of February 16, 2022:

	<b>% of Total Backlog</b>	<b>Latest Expected Completion</b>
Geothermal.....	93.8%	2022
Recovered Energy .....	0.7%	2022
Pumps.....	5.1%	2022
Other .....	0.4%	2022

## **Operations of our Energy Storage Segment**

### ***Storage Projects***

In addition to our Geothermal activity, we own, operate and develop energy storage projects in the United States including the following:

#### ***Under operation***

<b>Project Name</b>	<b>Customer</b>	<b>Location</b>	<b>Size (MW)</b>	<b>MWh</b>	<b>Type of contract</b>
ACUA .....	PJM	NJ	1	1	Merchant
Plumsted.....	PJM	NJ	20	20	Merchant
Stryker.....	PJM	NJ	20	20	Merchant
Hinesburg.....	ISONE	VT	2.0	5.0	Merchant
Rabbit Hill.....	ERCOT	TX	10.0	10.0	Merchant
Pomona .....	SCE/CAISO	CA	20.0	80.0	Capacity PPA and Merchant
Vallecito.....	CAISO and SCE	CA	10.0	40.0	Capacity PPA and Merchant
<b>Total .....</b>			<b>83.0</b>	<b>176.0</b>	

#### ***Under construction and development***

<b>Project Name</b>	<b>Customer</b>	<b>Location</b>	<b>Size (MW)</b>	<b>MWh</b>	<b>Type of contract</b>	<b>Expected COD</b>
Tierra Buena.....	CAISO, RCEA and VCE	CA	5	20	Capacity PPA and Merchant	Q1 2022
Upton .....	ERCOT	TX	25	25	Merchant	Q1 2022
Andover .....	PJM	NJ	20	20	Merchant	Q2 2022
Howell.....	PJM	NJ	7	7	Merchant	Q2 2022
Bowling Green.....	PJM	OH	12	12	Capacity and Merchant	Q3 2022
Pomona 2 .....	SCE/CAISO	CA	20	40	Capacity and Merchant	Q3 2022
Bottleneck .....	CAISO	CA	80	320	Merchant	End of 2023
East Flemington .....	PJM	NJ	20	20	Merchant	H1 2023
<b>Total .....</b>			<b>189.0</b>	<b>464.0</b>		

### ***Energy Storage Pipeline***

For an energy storage prospect to move into the EPC phase, it requires site control, an executed interconnection agreement, permits from all authorities and a viable financial model. We have a substantial pipeline of approximately 2.3GW/5.7GWh of projects in different stages of development for future development in the United States that will support our target to reach an energy storage portfolio of between 313MW to 373MW by the end of 2023.

## **Competition**

### ***Electricity Segment***

In our Electricity segment, we face competition from geothermal power plant owners and developers as well as other renewable energy providers and developers.

Competition in the Electricity segment occurs in the very early stage of development and in advanced stages when obtaining a PPA. The early stage is primarily obtaining the rights to the resource for development of future projects or acquiring a site already in a more advanced stage of development. From time to time and in different jurisdictions competing geothermal developers become our customers in the Product segment.

Our main competitors in the geothermal sector in the United States are CalEnergy, Calpine Corporation, Enel Green Power S.p.A., Cyrq Energy Inc. and other smaller pure play developers. Outside the United States, in many cases our competitors are companies that are gaining experience developing geothermal projects in their own countries such as Mercury and Contact Energy in New Zealand, Energy Development Corporation from the Philippines, Storenergy and Meridian from France and Enel Green Power from Italy. Some Turkish developers are also focusing on the international market. Additionally, we face competition from country-specific companies and smaller pure play geothermal developers.

In obtaining new PPAs, we also face competition from companies engaged in the power generation business from other renewable energy sources, such as wind power, biomass, solar power and hydroelectric power. In the United States we primarily compete against solar power generation combined with energy storage. We also face competition from existing geothermal power plants as they are re-contracted.

As a geothermal company, we are focused on niche markets where our baseload and flexibility advantages can allow us to develop competitive projects.

### ***Product Segment***

In our Product segment, we face competition from power plant equipment manufacturers and system integrators as well as engineering or project management companies.

Our competitors among power plant equipment suppliers are divided by technology, steam turbines and binary power plant manufacturers. Our main steam turbine competitors are industrial steam turbine manufacturers such as Mitsubishi Heavy Industries, Fuji Electric Co., Ltd. and Toshiba Corporation of Japan, GE/Nuovo Pignone and Ansaldo Energia of Italy.

Our binary technology competitors are manufacturers using the ORC technology such as Mitsubishi Heavy Industries through Turboden, TICA, a Chinese air conditioning company that acquired Italian Exergy, Egesim, a Turkish electrical contractor who is collaborating with Atlas Copco mainly in the Turkish market and internationally, Kaishan, a compressor manufacturer from China who also develops its own projects and Fuji Electric Co., Ltd of Japan. While we believe that we have a distinct competitive advantage based on our accumulated experience and current worldwide share of installed binary geothermal generation capacity (which is approximately 78%), an increase in competition, which we are currently experiencing, has started to affect our ability to secure new purchase orders from potential customers. The increased competition in addition to increase in raw material costs led to a reduction in the operating margins, which in turn impacted our profitability.

In the REG business, our competitors are other ORC manufacturers, mainly Mitsubishi/Turboden and TICA/Exergy, which dominate binary waste heat recovery market installations. Other manufacturers are conventional steam turbines and small scale ORC suppliers.

In the case of proposed EPC projects we also compete with other service suppliers, such as project/engineering companies or EPC contractors.

### ***Energy Storage Segment***

In our Energy Storage segment, we face significant competition from companies that already have established businesses in those technologies and markets as well as companies seeking to acquire established businesses and other new market entrants.

The energy storage space is comprised of many companies divided into different verticals and sub verticals like independent power producers, project developers, system integrators, EPC contractors, component suppliers (e.g. batteries, inverters, control software, and balance of plant), scheduling coordinators, etc. The energy storage space is seeing tremendous interest that is manifested by the consolidation of small and medium players under big energy players. We continue to develop greenfield projects with great emphasis on the quality of the location and other characteristics that will make for highly profitable projects as well as target strategic acquisitions of development assets or platforms. Additionally, our analytical operational platform and growing experience in energy storage operation and integration with electricity markets, as well as our engineering and system integration capabilities, allow us to provide multiple value streams from a single storage installation. We have continued and plan to continue to grow our energy storage business in these markets.

## Customers

All of our revenues from the sale of Electricity in the year ended December 31, 2021 were derived from fully-contracted energy and/or capacity payments under long-term PPAs with governmental, public or private utility entities. The percentage of total revenues above 5% is detailed in the table below:

<u>Utility</u>	<u>% of total revenues for the year ended</u> <u>December 31, 2021</u>
SCPPA (U.S.).....	23.7%
NV Energy (U.S.).....	18.6%
KPLC (Kenya) .....	15.5%

Based on publicly available information, as of December 31, 2021, the credit ratings of our rated electric utility customers are as set forth below:

<u>Issuer</u>	<u>Standard &amp; Poor's Ratings Services</u>	<u>Moody's Investors Service Inc.</u>
<b>Southern California Edison</b> .....	BBB (Stable)	Baa2 (Stable)
<b>HELCO</b> .....	BBB- (Stable)	Ratings withdrawn
<b>Sierra Pacific Power Company</b> .....	A (Stable)	Baa1 (Stable)
<b>Nevada Power Company</b> .....	A (Stable)	Baa1 (Stable)
<b>SCPPA</b> .....	BBB+ (Stable)	(Stable)
<b>PG&amp;E</b> .....	BB- (Negative)	B1 (Stable)
<b>EDF</b> .....	BBB+ (Stable)	A3 (Stable)

The credit ratings of any power purchaser may change from time to time. There is no publicly available information with respect to the credit rating or stability of the power purchasers under the PPAs for our foreign power plants other than EDF (France).

Our revenues from the Product segment are derived from contractors, owners, or operators of power plants, process companies, and pipelines.

Our revenues from the Energy Storage segment are derived from selling energy, capacity services under long term capacity contracts and/or ancillary services in merchant markets like PJM, ISO New England, ERCOT and CAISO. We are pursuing the projects that will serve entities, such as investor owned utilities, publicly owned utilities and community choice aggregators.

## Human Capital Resources

### *Our Team*

As a global renewable energy company, we are proud to employ and work closely with the communities that we serve, knowing we contribute to local economies and social well-being. With nearly one power plant on every continent, we have a commitment to generating a stable and secure economic future for all, based on sharing our knowledge and expertise regarding sustainable energy solutions. The promise of renewable energy that we deliver to our customers and stakeholders goes hand in hand with our commitment to local employment and skill development wherever we work.



We believe our success depends in large part on our ability to recruit, develop and retain a productive and engaged workforce. Accordingly, investing in our employees, focusing on safety, offering competitive compensation and benefits, promoting a diverse workforce, adopting forward thinking human capital management practices and community outreach are critical elements of our corporate strategy.

As of December 31, 2021, we employed 1,385 employees, of whom 532 were located in Israel, 649 were located in the United States and 204 were located in other countries. We expect that any material future growth in the number of our employees will be generally attributable to the purchase or development of new power plants and energy storage facilities.

### ***Workforce Health and Safety***

The health and safety of our employees, subcontractors, the public and the environment is an overarching priority for us. We manage risks by identifying, assessing and managing risks in our facilities and offices that we own and operate. We promote safety awareness and values and our goal is to report, analyze, learn and improve performance in order to reduce the number of incidents. We also work to continuously improve our safety performance and to instill a workplace safety culture. We also conduct quality, environment, health and safety audits of our plants and facilities on a periodic basis.

Ormat has an Integrated Quality, Environment, Health and Safety Policy that sets out our general commitments towards health and safety principles at our sites and for all our stakeholders. The policy is publicly available on Ormat's website and outlines our commitments to providing high quality products, conducting our business with care for the environment and for integrating our QEHS system into our business strategy and work processes. In addition, our Human Rights and Labor Policy, which is also available publicly on our website, outlines our commitments to ensuring that essential health and safety standards and practices are enforced in the workplace, to developing risk awareness and to encouraging responsible health and safety behavior among employees.

In response to the COVID-19 pandemic, we acted quickly to put social distancing mechanisms in place to protect our employees while maintaining and enhancing business activity during this global crisis. We did not lay off any employees due to the COVID-19 pandemic, except for in the ordinary course of business. We also launched an outreach plan to support communities where we do business such as addressing the reduced availability of food to vulnerable populations and providing medical and personal protective equipment to local communities' healthcare workers across the globe. Throughout this continued global pandemic, we will continue following stringent protective measures necessary to safeguard the health, and safety of our employees. This includes adhering to all government regulations and maintaining clear, comprehensive plans and protective measures for employees who work in our energy plants, manufacturing facilities, offices and elsewhere.

### ***Diversity Initiatives***

We strive to provide a diverse and inclusive working environment, where people are respected and feel a sense of belonging regardless of their race, nationality, gender, age, religion or sexual orientation. Our offices, manufacturing plants and power plants are in multiple jurisdictions and our global workforce operates across many different beliefs. We are committed to local employment at all our operational and manufacturing locations. While our first and foremost consideration of a potential candidate is professional skills and overall qualifications for the position, we work with several organizations in the U.S. to help us present opportunities to ethnic minorities and veterans for open positions. Furthermore, we are committed to eliminating any form of discrimination in our hiring and employment termination practices and ensuring that all employees are adequately accommodated and treated equally.

We actively seek opportunities to hire and promote female employees and managers across our Company, and we are working to ensure the complete integration of women in our workplaces, including our various offices in the operations around the world.

### ***Competitive Compensation and Benefits***

We strive to ensure that our employees receive fair and competitive compensation and benefits, including, for most of our employees, paid maternity or paternity leave, sponsorship of learning opportunities, health care insurance, sick leave benefits and coverage in the event of disability and/or infirmity, among others. At times, benefits are made available to part-time and temporary employees as well. All our global employees are entitled to retirement and pension benefits at or beyond the legally required level of employer contribution in the relevant country of operation, including access to 401(k) plans in the U.S. We fully cover retirement and pension plan liabilities in relevant countries of operation with our general resources. All current employees in Israel who are entitled to benefits in the event of termination or retirement in accordance with the Israeli Government sponsored programs are provided with limited non-pension benefits.

## ***Employee Investment***

We focus on creating opportunities for employee education, development and training and we strive to ensure that employees are fulfilling both their professional and personal goals. Our training opportunities include relevant professional as well as soft skills to help our employees improve their performance and expand their horizons. We have annual performance reviews for most of our employees. Our Human Resources department and various business units work together on initiatives to create a sense of community and togetherness and we offer employees options improve their work-life balance, including as community events, holiday and team milestone celebrations, volunteering opportunities and fitness support.

## ***Collective Bargaining Agreements & Employee Unions***

As of December 31, 2021, the only employees that are represented by a labor union are the employees of our acquired Bouillante power plant located in Guadeloupe. The employees in Guadeloupe are represented by the Confédération Générale du Travail de Guadeloupe. We have never experienced any labor dispute, strike or work stoppage. We believe that our relations with our employees are positive.

We have no collective bargaining agreements with respect to our Israeli employees. However, by order of the Israeli Ministry of Economy and Industry, the provisions of a collective bargaining agreement between the Histadrut (the General Federation of Labor in Israel) and the Coordination Bureau of Economic Organizations (which includes the Industrialists Association) may apply to some of our Israeli non-managerial, finance and administrative, and sales and marketing personnel. This collective bargaining agreement principally concerns cost of living pay increases, length of the workday, minimum wages and insurance for work-related accidents, annual and other vacation, sick pay, and determination of severance pay, pension contributions, and other conditions of employment. We currently provide such employees with benefits and working conditions, which are at least as favorable as the conditions specified in the collective bargaining agreement.

## ***Sustainability Strategy***

We are committed to engaging with its stakeholders on, and strengthening our commitment to, sustainability issues, including environmental, social and governance (“ESG”) matters. We endorse external initiatives and partner with national and international associations that we believe assist us in meeting our ESG commitments and values, in particular, relating to geothermal, energy and health and safety issues. We strive to provide recent, credible and comparable data to ESG agencies while engaging institutional investors and investor advocacy organizations around ESG issues.

As a renewable energy solution provider, we are motivated to identify our opportunities and risks with respect to climate change and take efforts to reduce our greenhouse gas (“GHG”) emissions and improve our energy efficiency. In addition to meeting our regulatory requirements, we report our annual GHG emissions to global organizations, including CDP and the Israeli Ministry of Environmental Protection’s voluntary business reporting initiative.

As noted above, we report our progress on environmental goals and commitments annually in our Sustainability Reports, including, but not limited to, our climate change mitigation measures, biodiversity conservation, and water management efforts. A copy of our most recent Sustainability Report is accessible, free-of-charge, on our website at <https://investor.ormat.com/sustainability-report>. The information that we include in these sustainability reports is incorporated into this Annual Report.

## **Insurance**

We maintain physical damage and business interruption insurance, including the perils of flood, volcanic eruption, earthquake and windstorm, cyber coverage, general and excess liability, pollution legal liability, control of well, drilling rigs, construction risks, as well as customary worker's compensation and automobile, marine transportation insurance and such other commercially available insurance as is generally carried by companies engaged in similar businesses and owning similar properties in the same general areas as us. Such insurance covering our properties extends to Ormat and/or our owned, controlled, direct or indirect affiliated or associated companies, subsidiary companies or corporations in amounts generally based upon the estimated replacement value and maximum foreseeable loss of our facilities (provided that certain perils including earthquake, volcanic eruption and flood coverage are subject to sublimit and/or annual aggregate limits depending on the type and location of the facility) and business interruption insurance coverage in an amount that also varies from location to location.

We purchase certain insurance policies to cover our book equity investment to specified political risks involved in operating in developing countries. We hold a global political risk insurance program covering the significant political risks at certain of our locations. This program is issued by the global insurers in the private sector. Such insurance policies generally cover, subject to the limitations and restrictions contained therein, losses derived from a specified governmental act, such as expropriation, political violence, and the inability to convert local currency into hard currency and, in certain cases, the breach of agreements with governmental entities, in approximately 90% of our book net equity investment.

## **Regulation of the Electric Utility Industry in the United States**

The following is a summary overview of the electric utility industry and applicable federal and state regulations and should not be considered a full statement of the law or all issues pertaining thereto.

### ***PURPA***

PURPA and FERC's regulations thereunder exempt owners of small power production Qualifying Facilities that use geothermal resources as their primary source and other Qualifying Facilities that are 30 MW or under in size from regulation under the PUHCA 2005, from many provisions of the FPA and from state laws relating to the financial, organization and rate regulation of electric utilities.

PURPA provides the owners of power plants certain benefits described below if a power plant is a "Qualifying Facility." A small power production facility is a Qualifying Facility if: (i) the facility does not exceed 80 MW; (ii) the primary energy source of the facility is biomass, waste, geothermal, or renewable resources, or any combination thereof, and at least 75% of the total energy input of the facility is from these sources, and fossil fuel input is limited to specified uses; and (iii) the facility, if larger than one megawatt, has filed with FERC a notice of self-certification of qualifying status, or has been certified as a Qualifying Facility by FERC. The 80 MW size limitation, however, does not apply to a facility if (i) it produces electric energy solely by the use, as a primary energy input, of solar, wind, waste or geothermal resources; and (ii) an application for certification or a notice of self-certification of qualifying status of the facility was submitted to not later than December 31, 1994, and construction of the facility commenced not later than December 31, 1999.

With respect to the FPA, FERC's regulations under PURPA do not exempt from the rate provisions of the FPA sales of energy or capacity from Qualifying Facilities larger than 20 MW in size that are made (a) pursuant to a contract executed after March 17, 2006 or (b) not pursuant to a state regulatory authority's implementation of PURPA. The practical effect of these regulations is to require owners of Qualifying Facilities that are larger than 20 MW in size to obtain market-based rate authority from FERC if they seek to sell energy or capacity other than pursuant to a contract executed on or before March 17, 2006 or pursuant to a state regulatory authority's implementation of PURPA. A sale to a public utility under PURPA at state approved avoided cost rates is generally exempt from FERC rate regulation.

In addition, provided that the purchasing electric utility has not been relieved from its mandatory purchase obligation, PURPA and FERC's regulations under PURPA obligate electric utilities to purchase energy and capacity from Qualifying Facilities at either the electric utility's avoided cost or a negotiated rate. FERC's regulations under PURPA allow FERC, upon request of a utility, to terminate a utility's obligation to purchase energy from Qualifying Facilities upon a finding that Qualifying Facilities have nondiscriminatory access to: (i) independently administered, auction-based day ahead, and real time markets for electric energy and wholesale markets for long-term sales of capacity and electric energy; (ii) transmission and interconnection services provided by a FERC-approved regional transmission entity and administered under an open-access transmission tariff that affords nondiscriminatory treatment to all customers, and competitive wholesale markets that provide a meaningful opportunity to sell capacity, including long-term and short-term sales, and electric energy, including long-term, short-term, and real-time sales, to buyers other than the utility to which the Qualifying Facility is interconnected;

or (iii) wholesale markets for the sale of capacity and electric energy that are at a minimum of comparable competitive quality as markets described in (i) and (ii) above. FERC regulations protect a Qualifying Facility's rights under any contract or obligation involving purchases or sales that are entered into before FERC has determined that the contracting utility is entitled to relief from the mandatory purchase obligation. FERC has granted the request of California investor-owned utilities for a waiver of the mandatory purchase obligation for Qualifying Facilities larger than 20 MW in size. In addition, FERC recently amended its PURPA regulations to reduce the rebuttable presumption that small power production facilities in organized markets have nondiscriminatory access to markets from 20 MW to 5 MW. Therefore, the California investor-owned utilities may have a basis to further reduce their mandatory purchase obligation.

We expect that our power plants in the U.S will continue to meet all of the criteria required for Qualifying Facility status under PURPA. However, since the Heber power plants have PPAs with Southern California Edison that require Qualifying Facility status to be maintained, maintaining Qualifying Facility status remains a key obligation. If any of the Heber power plants loses its Qualifying Facility status our operations could be adversely affected. Loss of Qualifying Facility status would eliminate the Heber power plants' exemption from the FPA and thus, among other things, the rates charged by the Heber power plants in the PPAs with Southern California Edison and SCPPA would become subject to FERC regulation. Further, it is possible that the utilities that purchase power from the power plants could successfully obtain a waiver of the mandatory-purchase obligation in their service territories. If a waiver of the mandatory purchase obligation is obtained, or if FERC reduces the 5 MW threshold or eliminates the mandatory purchase obligation, the power plants' existing PPAs will not be affected, but the utilities will not be obligated under PURPA to renew or extend these PPAs or execute new PPAs upon the existing PPAs' expiration.

### ***PUHCA***

Under PUHCA 2005, the books and records of a utility holding company, its affiliates, associate companies, and subsidiaries are subject to FERC and state commission review with respect to transactions that are subject to the jurisdiction of either FERC or the state commission or costs incurred by a jurisdictional utility in the same holding company system. However, if a company is a utility holding company solely with respect to Qualifying Facilities, exempt wholesale generators, or foreign utility companies, it will not be subject to review of books and records by FERC under PUHCA 2005. Qualifying Facilities or exempt wholesale generators that make only wholesale sales of electricity are not subject to state commissions' rate regulations and, therefore, in all likelihood would not be subject to any review of their books and records by state commissions pursuant to PUHCA 2005 as long as the Qualifying Facility is not part of a holding company system that includes a utility subject to regulation in that state. Additionally, most of our storage projects have exempt wholesale generator status, exempting them from PUHCA requirements as well.

### ***FPA***

Pursuant to the FPA, FERC has exclusive jurisdiction over the rates for most wholesale sales of electricity and transmission of electricity in interstate commerce. These rates may be based on a cost of service approach or may be determined on a market basis through competitive bidding or negotiation. FERC can accept, reject or suspend rates. The rates can be suspended for up to five months, at which point the rates become effective subject to refund. FERC can order refunds for rates that are found to be "unjust and unreasonable" or "unduly discriminatory or preferential."

Moreover, the loss of the Qualifying Facility status of any of our power plants might also permit the off-taker, pursuant to the terms of its PPA, to cease taking and paying for electricity from the relevant power plant and to seek refunds for past amounts paid and/or a reduction in future payments.

Additionally, FERC possesses civil penalty authority, up to approximately \$1.3 million per violation of the FPA per day. FERC can also require the disgorgement of unjust profits earned in connection with such violations of the FPA and revoke the right of the power plants to make sales at market-based rates.

Under the Energy Policy Act of 2005, the FPA was supplemented to empower FERC to ensure the reliability of the bulk electric system. Such authority required that FERC assume both oversight and enforcement roles. Pursuant to its new directive, FERC certified the North American Electric Reliability Corporation as the nation's Electric Reliability Organization (ERO) to develop and enforce mandatory reliability standards to address medium and long-term reliability concerns. Today, enforcement of the mandatory reliability standards, including the protection of critical energy infrastructure, is a substantial function of the ERO and of FERC, which may impose penalties of up to approximately \$1.3 million a day for violating mandatory reliability standards. We examine our projects' compliance with NERC standards on an ongoing basis and begin work on the process of NERC registration as new projects approach the threshold at which NERC standards become applicable.



Thus, if any of the power plants were to lose Qualifying Facility status, the application of the FPA and other applicable state regulations to such power plants could require compliance with an increasingly complex regulatory regime that may be costly and greatly reduce our operational flexibility. Even if a power plant does not lose Qualifying Facility status, the owner of a Qualifying Facility/power plant in excess of 20 MW will become subject to rate regulation under the FPA for sales of energy or capacity pursuant to a contract executed after March 17, 2006 or not pursuant to a state regulatory authority's implementation of PURPA. A decrease in existing rates or being ordered by FERC to pay refunds for rates found to be "unjust and unreasonable" or "unduly discriminatory or preferential" would likely result in a decrease in our future revenues.

### ***State Regulation***

Our power plants in California, Nevada, Oregon, and Idaho, by virtue of being Qualifying Facilities that make only wholesale sales of electricity, are not subject to rate, financial and organizational regulations applicable to electric utilities in those states. The power plants each sell or will sell their electrical output under PPAs to electric utilities (Sierra Pacific Power Company, Nevada Power Company, Southern California Edison, SCPA and Idaho Power Company). All of the utilities except SCPA are regulated by their respective state public utilities commissions. Sierra Pacific Power Company and Nevada Power Company, which merged and are doing business as NV Energy, are regulated by the PUCN. Southern California Edison is regulated by the CPUC.

Under Hawaiian law, non-fossil generators are not subject to regulation as public utilities. Hawaiian law provides that a geothermal power producer is to negotiate the rate for its output with the public utility purchaser. If such rate cannot be determined by mutual accord, the PUCH will set a just and reasonable rate. If a non-fossil generator in Hawaii is a Qualifying Facility, federal law applies to such Qualifying Facility and the utility is required to purchase the energy and capacity at its avoided cost. The rates for our power plant in Hawaii are established under a long-term PPA with HELCO.

### ***Environmental Permits***

U.S. environmental permitting regimes with respect to geothermal projects center upon several general areas of focus. The first involves land use approvals. These may take the form of Special Use Permits or Conditional Use Permits from local planning authorities or a series of development and utilization plan approvals and right of way approvals where the geothermal facility is entirely or partly on BLM or United States Forest Service lands. Certain federal approvals require a review of environmental impacts in conformance with the federal National Environmental Policy Act. In California, some local permit approvals require a similar review of environmental impacts under a state statute known as the California Environmental Quality Act. These federal and local land use approvals typically impose conditions and restrictions on the construction, scope and operation of geothermal projects.

The second category of permitting focuses on the installation and use of the geothermal wells themselves. Geothermal projects typically have three types of wells: (i) exploration wells designed to define and verify the geothermal resource, (ii) production wells to extract the hot geothermal liquids (also known as brine) for the power plant, and (iii) injection wells to inject the brine back into the subsurface resource. For example, on BLM lands in Nevada, California, Oregon, and Idaho, the well permits take the form of geothermal drilling permits for well installation. Approvals are also required to modify wells, including for use as production or injection wells. For all wells drilled in Nevada, a geothermal drilling permit must be obtained from the Nevada Division of Minerals. Those wells in Nevada to be used for injection will also require UIC permits from the Nevada Division of Environmental Protection and Bureau of Water Pollution Control. All geothermal wells drilled in Oregon (except on tribal lands) require a geothermal well drilling permit from the Oregon Department of Geology and Mineral Industries. All geothermal wells drilled in Idaho require a well construction permit from the IDWR and injection wells also require UIC permitting through IDWR. Geothermal wells on private lands in California require drilling permits from the California Department of Conservation's DOGGR. The eventual designation of these installed wells as individual production or injection wells and the ultimate closure of any wells is also reviewed and approved by DOGGR pursuant to a DOGGR-approved Geothermal Injection Program.

A third category of permits involves the regulation of potential air emissions associated with the construction and operation of wells and power plants and surface water discharges associated with construction and operations activities. Generally, each well and plant requires a preconstruction air permit and storm water discharge permit before earthwork can commence. In addition, in some jurisdictions the wells that are to be used for production require, and those used for injection may require air emissions permits to operate. Internal combustion engines and other air pollutant emissions sources at the projects may also require air emissions permits. For our projects, these permits are typically issued at the state or county level. Permits are also required to manage storm water during project construction and to manage drilling mud from well construction, as well as to manage certain discharges to surface impoundment, if any.

A fourth category of permits, required in Nevada, California, Oregon, and Idaho, includes ministerial permits such as building permits, hazardous materials storage and management permits, and pressure vessel operating permits. We are also required to obtain water rights permits in Nevada if water cooling is being used at the power plant. In addition to permits, there are various regulatory plans and programs that are required, including risk management plans (federal and state programs) and hazardous materials management plans (in California).

In some cases, our projects may also require permits, issued by the applicable federal agencies or authorized state agencies, regarding threatened or endangered species, permits to impact wetlands or other waters and notices of construction of structures which may have an impact on airspace. Environmental laws and regulations may change in the future that may modify the time to receive such permits and associated costs of compliance.

Our BESS projects are subject to similar permitting and regulatory compliance requirements. All of our current BESS projects are located on privately owned land and may require ministerial permits from local agencies as described above or undergo a state environmental permitting process (e.g., under the California Environmental Quality Act) with the city or county as the lead permitting agency. Storage projects are also required to comply with all applicable federal, state, and local laws and regulations, and similar to geothermal projects, storage projects may require various regulatory plans and programs including emergency action plans and fire response plans.

As of the date of this report, all of the material environmental permits and approvals currently required for our operating power plants and BESS projects have been obtained. We sometimes experience regulatory delays in obtaining various environmental permits and approvals required for projects in development and construction. These delays may lead to increases in the time and cost to complete these projects. Our operations are designed and conducted to comply with applicable environmental permit and approval requirements. Non-compliance with any such requirements could result in fines and penalties and could also affect our ability to operate the affected project.

### ***Environmental Laws and Regulations***

Our facilities and operations are subject to a number of federal, state, local and foreign environmental laws and regulations relating to development, construction and operation. In the U.S, these may include the Clean Air Act, the Clean Water Act, the Emergency Planning and Community Right-to-Know Act, the Endangered Species Act, the National Environmental Policy Act, the Resource Conservation and Recovery Act, and related state laws and regulations.

Our geothermal operations involve significant quantities of brine (substantially, all of which we reinject into the subsurface) and scale, both of which can contain materials (such as arsenic, antimony, lead, and naturally occurring radioactive materials) in concentrations that exceed regulatory limits used to define hazardous waste. We also use various substances, including isopentane and industrial lubricants that could become potential contaminants and are generally flammable. As a result, our projects are subject to domestic and foreign federal, state and local statutory and regulatory requirements regarding the generation, handling, transportation, use, storage, treatment, fugitive emissions, and disposal of hazardous substances. The cost of investigation and removal or remediation activities associated with a spill or release of such materials could be significant. Hazardous materials are also used in our equipment manufacturing operations in Israel.

Although we are not aware of any mismanagement of these materials, including any mismanagement prior to the acquisition of some of our power plants that has materially impaired any of the power plant sites, any disposal or release of these materials onto the power plant sites, other than by means of permitted injection wells, could lead to contamination of the environment and result in material cleanup requirements or other responsive obligations under applicable environmental laws.

## ***Regulation Related to the Energy Storage Segment***

Our participation in energy storage space and in energy management and demand response require us to obtain and maintain certain additional authorizations and approvals. These include (1) authorization from FERC to make wholesale sales of energy, capacity, and ancillary services at market-based rates, and (2) membership status with eligibility to serve designated contractual functions in the ISO/RTOs of PJM, NYISO, CAISO, ISO-NE, and ERCOT. Among other requirements, our market-based rate sellers are subject to certain market behavior and anti-market manipulation rules and, if any of our subsidiaries were deemed to have violated any one of those rules, such subsidiary could be subject to potential disgorgement of profits associated with the violation and/or suspension or revocation of market-based rate authority, as well as criminal and civil penalties. If the market-based rate authority for one (or more) of our subsidiaries was revoked or it was not able to obtain market-based rate authority when necessary, and it was required to sell energy on a cost-of-service basis, it could become subject to the full accounting, record keeping and reporting requirements of FERC. In the future, we may need to obtain and maintain similar membership and eligibility status with other ISO/RTOs in order to offer such services in their respective areas.

## **Regulation of the Electric Utility Industry in our Foreign Countries of Operation**

The following is a summary overview of certain aspects of the electric industry in the foreign countries in which we have an operating geothermal power plant. As such, it should not be considered a full statement of the laws in such countries or all of the issues pertaining thereto.

### ***Guatemala***

The General Electricity Law of 1996, Decree 93-96, created a wholesale electricity market in Guatemala and established a new regulatory framework for the electricity sector. The law created a new regulatory commission, the CNEE, and a new wholesale power market administrator, the AMM, for the operation and administration of the sector. The AMM is a private not-for-profit entity. The CNEE functions as an independent agency under the Ministry of Energy and Mines and is in charge of regulating, supervising, and controlling compliance with the electricity law, overseeing the market and setting rates for transmission services, and distribution to medium and small customers. All distribution companies must supply electricity to such customers pursuant to long-term contracts with electricity generators. Large customers can contract directly with the distribution companies, electricity generators or power marketers, or buy energy in the spot market. Guatemala has approved a Law of Incentives for the Development of Renewable Energy Power plants, Decree 52-2003, in order to promote the development of renewable energy power plants in Guatemala. This law provides certain benefits to companies utilizing renewable energy, including a 10-year exemption from corporate income tax and VAT on imports and customs duties. On September 16, 2008, CNEE issued a resolution that approved the Technical Norms for the Connection, Operation, Control and Commercialization of the Renewable Distributed Generation and Self-producers Users with Exceeding Amounts of Energy. This Technical Norm was created to regulate all aspects of generation, connection, operation, control and commercialization of electric energy produced with renewable sources to promote and facilitate the installation of new generation plants, and to promote the connection of existing generation plants which have excess amounts of electric energy for commercialization. It is applicable to projects with a capacity of up to 5 MW. At present, the General Electricity Law and the Law of Incentives for the Development of Renewable Energy Power Plants are still in force.

### ***Kenya***

The electric power sector in Kenya is regulated by the Kenyan Energy Act. Among other things, the Kenyan Energy Act provides for the licensing of electricity power producers and public electricity suppliers or distributors. KPLC is the major licensed public electricity supplier and has a virtual monopoly in the distribution of electricity in the country with the exception of a few off-grid, which have recently been licensed by the EPRA. The Kenyan Energy Act permits IPPs to install power generators and sell electricity to KPLC, which is owned by various private and government entities, and which currently purchases energy and capacity from other IPPs in addition to our Olkaria III complex. The electricity sector is regulated by the EPRA under the Kenyan Energy Act. KPLC's retail electricity rates are subject to approval by the EPRA. The EPRA has an expanded mandate to regulate not just the electric power sector but the entire energy sector in Kenya. Transmission of electricity is now undertaken by KETRACO while another company, GDC, is responsible for geothermal assessment, drilling of wells and sale of steam for electricity operations to IPPs and KenGen. Both KETRACO and GDC are wholly owned by the government of Kenya. Renewable energy dominated by geothermal, wind and, presently at a lower level, solar is one of the key energy sub-sectors in Kenya contributing significantly to the overall energy mix as a result of the implementation of the feed-in- tariff policy by the Ministry of Energy. Under the national constitution enacted in August 2010, formulation of energy policy (including electricity) and energy regulation are functions of the national government. However, the constitution lists the planning and development of electricity and energy regulation as a function of the county governments (i.e. the regional or local level where an individual power plant is or is intended to be located).

## ***Indonesia***

The 2009 Electricity Law (as amended by the Indonesian Omnibus Law in 2020) divides the power business into two broad categories: (i) activities that supply electrical power, both public supply and captive supply (own use), such as electrical power generation, electrical power transmission, electrical power distribution and the sale of electrical power and (ii) the activities involved in electrical power support such as services businesses (consulting, construction, installation, operation & maintenance, certification & training, testing etc.) and industry businesses (power tools & power equipment supply electricity power supporting businesses). Currently, power generation is dominated by PLN (state owned company), which controls around 70% of generating assets in Indonesia. Private sector participation is allowed through an IPP scheme. IPP appointment mostly is done through tenders although IPPs can also be directly appointed or selected. The 2009 Electricity Law, as amended, provides PLN priority rights to conduct the electricity power business nationwide. As the sole owner of transmission and distribution assets, PLN remains the only business entity involved in transmitting and distributing, although the 2009 Electricity Law, as amended, allows private participation. The Geothermal Law issued in 2014 (as also amended by the Indonesian Omnibus Law in 2020), endorses private participation as geothermal IPP. The geothermal IPP appointment is done through tender held by the Central Government. The central government will also award the tender winner a Geothermal License (IPB). Accordingly, the Geothermal License holder can conduct exploration and feasibility studies within five years and subject to two one-year extensions, conduct well development and power plant construction and sell the electricity generated to PLN for a maximum of 30 years. Prior to the expiration of the Geothermal License, the IPP can propose to extend the license for an additional 20 years. Starting in 2017, the regulatory framework with respect to tariffs is based on PLN's existing average cost of generation (known by its Indonesian acronym, BPP) with respect to the relevant local grid cost of generation, excluding transmission and distribution costs. The Indonesian Minister of Energy and Mineral Resources ("MEMR") releases each year a list of local BPPs for each region and a national BPP (which is an average of the local BPPs). The BPPs for a particular year are based on PLN's previous year audited generation costs. In 2019, the MEMR published BPP figures of year 2018. The national BPP was set at Rp 983/kWh (equivalent to US\$ cent 7.39/kWh at Rp 13,307/US\$).

For 2020, the regulation was not clear and has been revoked, but the general interpretation is that for geothermal projects in Sumatera, Java and Bali islands, the tariff will be determined based on mutual agreement between PLN and the IPP, regardless of the BPP figures in those regions.

Draft presidential regulation on new tariffs, which replaces the BPP tariff as a basis with attractive tariffs based on power plant size and region, has been publicly published, but not yet signed into law.

## ***Guadeloupe***

EDF is the transmission and distribution utility in Guadeloupe and also operates a significant portion of Guadeloupe's fossil fuel energy generation. There are also a number of IPPs in Guadeloupe, primarily producing renewable electricity. The electricity sector in Guadeloupe is regulated by the Commission Regulation of Energy (CRE), which also regulates EDF's operations in mainland France and its other overseas territories. The electricity sector in Guadeloupe is characterized by both enabling features and obstacles with respect to renewable energy. One of the most influential enabling features is a French law requiring the utility to purchase power from any interconnected renewable generator. The major obstacle preventing further uptake of renewable electricity generation is the cap on variable generation at 30% of instantaneous system load. According to the multi-annual energy program (PPE) for Guadeloupe, the island aims to reach total energy independence by 2030. The program outlines the development schedule with an emphasis on solar, wind and geothermal growth for the years 2023-2026. The PPE also predict a geothermal installed capacity of 78MW by 2028.



## ***Honduras***

In 2014, Honduras approved its new Law of Electrical Industry (Decree 404-2013, and its Regulation, published in the Official Newspaper on November 18, 2015; and by Executive Accord 07-2015), which provides the legal framework for the electricity sector and replaces the previous Electricity Subsector Framework Law (Decree 158 of 1994, regulated by Accord 934 of 1997). The Law establishes technology-specific auctions for renewable energy. It creates the Regulatory Commission of Electric Power (CREE) as the entity in charge of supervising the bidding processes and the awarding of PPAs. The CREE is also responsible for granting study permits for the construction of generation projects that use renewable natural resources. Permits will have a maximum duration of two years, and will be revoked if no studies have been initiated within a period of six months and the reports required by the CREE have not been submitted. The new Law also establishes that all new capacity must be contracted through auctions and that the government can set a minimum quota for renewables in each auction. With respect to metering, after previous regulation applied legal incentives to renewable energy metering, the new law mandates utilities to buy excess power and credit it towards monthly bills and to install bi-directional meters.

Among others, the objectives of the law are to adapt the electricity sector's legislation to the Framework Treaty for the Central American Electricity Market, which Honduras is a party to, and update the operating rules in the country's electricity industry by incorporating structures and modern practices to increase the sector's efficiency and competency in the production and marketing of electricity services.

With the passage of this new law, Honduras is moving into a new and open market. Under this legislation, all aspects of the market have been opened to private parties. This legislation is still being implemented within the market.

Honduras has also approved a Law of Incentives for Renewable Energy Projects, Decree 70-2007, further amended by Decree 138-2013, with additional incentives to solar PV projects, etc. The purpose, as in other countries of the region, is to promote the development of renewable energy power plants. Laws provide certain benefits to companies that generate power through renewable sources, including a 10-year exemption from corporate income tax and VAT on imports and customs duties, a fast track process for certain permits and a Sovereign Guaranty by the Central Government for the payments of the off-taker, the Public Utility Company, ENEE. At present, the Law of the Electrical Industry and the Laws of Incentives for Renewable Energy Projects are still in force.

## ITEM 1A. RISK FACTORS

The following risk factors should be read carefully in connection with evaluating us and this Annual Report. Certain statements in “Risk Factor” are forward-looking statements. See “Cautionary Note Regarding Forward-Looking Statements” elsewhere in this Annual Report.

### Risks Related to the Company’s Business and Operation

***Our financial performance depends on the successful operation of our geothermal, REG and Solar PV power plants under the Electricity segment, as well as our Storage facilities, which are subject to various operational risks.***

Our financial performance depends on the successful operation of our geothermal REG and Solar PV power plants. In connection with such operations, we derived 88.3% of our total revenues for the year ended December 31, 2021 from the sale of electricity. The cost of operation and maintenance and the operating performance of our geothermal power, REG and Solar PV power plants may be adversely affected by a variety of factors, including:

- regular and unexpected maintenance and replacement expenditures;
- shutdowns due to the breakdown or failure of our equipment or third party equipment of the transmission serving utility;
- labor disputes;
- labor market risk;
- the presence of hazardous materials on our power plant sites;
- continued availability of cooling water supply;
- catastrophic events such as fires, explosions, earthquakes, volcanic activity, landslides, floods, releases of hazardous materials, severe weather storms or other weather events (including weather conditions associated with climate change), or similar occurrences affecting our power plants or any of the power purchasers or other third parties providing services to our power plants, such as the 2018 volcanic eruption that occurred in Hawaii’s Big Island that impacted our Puna project, as discussed elsewhere in this Annual Report;
- the aging of power plants (which may reduce their availability and increase the cost of their maintenance);
- unsuccessful augmentation of batteries or other necessary equipment; and
- cyber-attacks that may interrupt the operation of our power plants.

Any of these events could significantly increase the expenses incurred by our storage facilities, our power plants, or could reduce the overall generating capacity of our power plants and could significantly reduce or entirely eliminate the revenues generated by one or more of our power plants, which in turn would reduce our net income and could materially and adversely affect our business, financial condition, future results and cash flows.

***Our exploration, development, and operation of geothermal energy resources are subject to geological risks and uncertainties, which may result in decreased performance or increased costs for our power plants.***

Our primary business involves the exploration, development, and operation of geothermal energy resources. These activities are subject to uncertainties that, in certain respects, are similar to those typically associated with oil and gas exploration, development, and exploitation, such as dry holes, uncontrolled releases, and pressure and temperature decline. Any of these uncertainties may increase our capital expenditures and our operating costs or reduce the efficiency of our power plants. We may not find geothermal resources capable of supporting a commercially viable power plant at exploration sites where we have conducted tests, acquired land rights, and drilled test wells, which would adversely affect our development of geothermal power plants. Further, since the commencement of their operations, several of our power plants have experienced geothermal resource cooling, uncontrolled flow and/or reservoir pressure decline in the normal course of operations. Because geothermal reservoirs are complex geological structures, we can only estimate their geographic area and sustainable output. The viability of geothermal power plants depends on different factors directly related to the geothermal resource (such as the temperature, pressure, storage capacity, transmissivity, and recharge) as well as operational factors relating to the extraction

or reinjection of geothermal fluids. Our geothermal energy power plants may also suffer an unexpected decline in the capacity of their respective geothermal wells and are exposed to a risk of geothermal reservoirs not being sufficient for sustained generation of the electrical power capacity desired over time. A recent example is the Olkaria complex, which experienced a reduction in generation due to lower performance of the wellfield. We are working to increase the capacity back and expect generation to reach between 135 and 140 MW by the end of 2022. Also, in the Sarulla complex, we experienced a reduction in generation primarily due to wellfield issues at one of its power plants, as well as equipment failures which resulted in a decrease in profitability. To address these issues, the project management developed a Long-Term Recovery Plan ("LTRP") that includes drilling of additional wells and various equipment modifications. The LTRP is expected to be implemented starting in 2022, pending approval by the lenders. Additional initiatives are also undergoing in an effort to strengthen the Sarulla project's financial position, including potential tariff changes. We are following the remediation plans as well as assessing the accounting impact and its implication on our financial statements and our investment in the Sarulla complex.

Another aspect of geothermal operations is the management and stabilization of subsurface impacts caused by fluid injection pressures of production and injection fluids to mitigate ground subsidence or inflation. Inflation and subsidence, if not controlled, can adversely affect farming operations and other infrastructure at or near the land surface.

Additionally, active geothermal areas, such as the areas in which our power plants are located, may be subject to frequent low-level seismic disturbances. Serious seismic disturbances, volcanic eruptions and lava flows are possible and could result in damage to our power plants (or transmission lines used by customers who buy electricity from us) or equipment or degrade the quality of our geothermal resources to such an extent that we could not perform under the PPA for the affected power plant, which in turn could reduce our net income and materially and adversely affect our business, financial condition, future results and cash flow. If we suffer a serious seismic disturbance, volcanic eruptions and lava flows, our business interruption and property damage insurance may not be adequate to cover all losses sustained as a result thereof. In addition, insurance coverage may not continue to be available in the future in amounts adequate to insure against such seismic disturbances, volcanic eruptions and lava flows.

Furthermore, absent additional geologic/hydrologic studies, any increase in power generation from our geothermal power plants, failure to reinject the geothermal fluid or improper maintenance of the hydrological balance may affect the operational duration of the geothermal resource and cause it to decline in value over time and may adversely affect our ability to generate power from the relevant power plant.

***We may decide not to implement, or may not be successful in implementing, one or more elements of our multi-year strategic plan, and the plan as implemented may not achieve its goal of enhancing shareholder value through the long-term growth of our Company***

We are implementing a multi-year strategic plan to:

- strengthen our core geothermal business in the United States as well as globally;
- establishing a strong market position in the IFM energy storage market; and
- exploring opportunities in new areas by looking for synergistic growth opportunities utilizing our core competence, market reputation as a successful company and new market opportunities focused upon environmental solutions.

There are uncertainties and risks associated with our strategic plan, including with respect to implementation and outcome. We may decide to change, or to not implement, one or more elements of the plan over time or we may not be successful in implementing one or more elements of the plan, in each case for a number of reasons. For example, we may face significant challenges and risks expanding into the energy storage market (or expanding our core geothermal business), including:

- our ability to compete with the large number of other companies pursuing similar business opportunities in energy storage and solar PV power generation, many of which already have established businesses in these areas and/or have greater financial, strategic, technological or other resources than we have;
- our ability to obtain financing on terms we consider acceptable, or at all, which we may need, for example, to develop new projects, to obtain any technology, personnel, intellectual property, or to acquire one or more existing businesses as a platform for our expansion, or to fund internal research and development, for energy storage and solar PV electric power generation products and services;

- our ability to provide energy storage services that keep pace with rapidly changing technology, customer preferences, equipment costs, increasing raw materials and transportation costs, market conditions and other factors that are unknown to us now that will impact these markets;
- our ability to manage the risks and uncertainties associated with our operating storage facilities and future development of storage and geothermal projects which may operate as "merchant" facilities without long-term sales agreements, including the variability of revenues and profitability of such projects;
- our ability to devote the amount of management time and other resources required to implement this plan, while continuing to grow our core geothermal and recovered energy businesses; and
- our ability to recruit appropriate employees and labor market challenges.

Strengthening our core geothermal business to new customers and geographical areas will have many of the same risks and uncertainties as those outlined above.

Implementing the plan may also involve various costs, including, among other things:

- opportunity costs associated with foregone alternative uses of our resources;
- various expense items that will impact our current financial results; and
- asset revaluations (for example, businesses or other assets acquired for new energy storage or solar PV power generation products or services may suffer impairment charges, as a result of rapidly changing technology, market conditions or otherwise).

These costs may not be recovered, in whole or in part, if one or more elements of the plan are not successfully implemented. These costs, or the failure to implement successfully one or more elements of the plan, could adversely affect our reputation and the reputation of our subsidiaries and could materially and adversely affect our business, financial condition, future results and cash flow.

Apart from the risks associated with implementing the plan, the plan itself will expose us to other risks and uncertainties once implemented. Expanding our customer base may expose us to customers with different credit profiles than our current customers. Expanding our geographic base will subject us to risks associated with doing business in new foreign countries in which we will have to learn the business and political environment. In addition, expanding into new technologies will expose us to new risks and uncertainties that are unknown to us now in addition to the risks and uncertainties that may be similar to those we now face. The success of the plan, once implemented, will depend, among other things, on our ability to manage these risks effectively.

The trading price of our common stock could decline if securities, industry analysts or our investors disagree with our strategic plan or the way we implement it. Accordingly, there is no assurance that the plan will enhance shareholder value through long-term growth of the Company to the extent currently anticipated by our management or at all.

***Concentration of customers, specific projects and regions may expose us to heightened financial exposure.***

Our businesses often rely on a single customer to purchase all or a significant portion of a facility's output. The financial performance of these facilities depends on the ability of each customer to perform its obligations under a long-term agreement between the parties. A facility's financial results could be materially and adversely affected if any of our customers fail to fulfill its contractual obligations and we are unable to find other customers in the marketplace to purchase at the same level of profitability. We cannot assure that such performance failures by our customers will not occur, or that if they do occur, such failures will not adversely affect the cash flows or profitability of our businesses. Moreover, there can be no assurance that we will be able to enter into replacement agreements on favorable terms or at all.

While we have historically been able to collect on substantially all of our receivable balances, we have received late payments and have amounts overdue from certain of our significant customers. In the Electricity segment, we are exposed to the credit and financial condition of KPLC that buys the power generated from our Olkaria III in Kenya. In 2021, KPLC accounted for 15.5% of our total revenues. There has been a deterioration in the collection from KPLC that became slower than in the past, and as of December 31, 2021, the amount overdue from KPLC in Kenya was \$25.5 million of which \$22.9 million was paid in January and February of 2022. Any change in KPLC's financial condition may adversely affect us.

In Honduras, as of December 31, 2021, the total amount overdue from ENEE was \$20.7 million of which \$2.9 million was collected in February 2022. In addition, due to continuing restrictive measures related to the COVID-19 pandemic in Honduras, the Company may experience additional delays in collection. The Company believes it will be able to collect all past due amounts in Honduras.

We are also exposed to the credit and financial condition of SCPPA and its municipal utility members that account for 23.7% of our total revenues, as customers that buy the output from seven of our geothermal power plants. Because our contracts with SCPPA are long-term, we may be adversely affected if the credit quality of any of these customers were to decline or if their respective financial conditions were to deteriorate or if they are otherwise unable to perform their obligations under our long-term contracts.

In addition, we generate a significant portion of our revenue from our two largest projects, the McGinness Hills complex in East Nevada and Olkaria III Complex in Kenya, which together accounted for approximately 30% of the total generating capacity of our Electricity segment in 2021. These two facilities accounted for 23% of our total revenues for the year ended December 31, 2021. Any disruption to the operation of these facilities would have a disproportionately adverse effect on our revenues and on our profitability.

***Our international operations expose us to risks related to the application of foreign laws and regulations, any of which may adversely affect our business, financial condition, future results and cash flows.***

Our foreign operations in Kenya, Turkey, Guadeloupe, Guatemala, Honduras, Indonesia and other countries requires us to comply with the laws and regulations of various foreign governments and regulatory authorities in addition to any legal or regulatory requirements in the United States. Such foreign laws or regulations may not provide the same type of legal certainty, rights, or judicial processes with respect to our contractual relationships in such countries, as are afforded to our operations in the United States. A failure to receive adequate judicial or enforcement protection of our contractual rights abroad may adversely affect our ability to fulfill our contracts successfully and generate revenues therefrom. In particular, the legal and regulatory systems in the foreign jurisdictions where we operate can be characterized by one or more of the following:

- Selective or inconsistent enforcement of laws or regulations, sometimes in ways that have been perceived as being motivated by political or financial considerations;
- A perceived lack of judicial and prosecutorial independence from political, social and commercial forces;
- A high degree of discretion on the part of the judiciary and governmental authorities;
- Legal and bureaucratic obstacles and corruption;
- Rapidly evolving legal systems whose systems may not always coincide with market developments.

We face additional risks inherent in conducting business internationally, including compliance with laws and regulations of many jurisdictions that apply to our international operations. These laws and regulations may apply to us, our subsidiaries, individual directors, officers, employees and agents, and may restrict our operations, trade practices, investment or acquisition decisions or partnership opportunities. These requirements include, but are not limited to, data privacy requirements, labor relations laws, tax laws, competition regulations, import and trade restrictions, economic sanctions, and export requirements.

In particular, our international operations are subject to United States and foreign anti-corruption laws and regulations, such as the Foreign Corrupt Practices Act of 1977, as amended (the “FCPA”) and other local laws that prohibit corrupt payments to governmental officials or certain payments or remunerations to customers. The FCPA prohibits United States companies and their officers, directors, employees and agents acting on their behalf from corruptly offering, promising, authorizing or providing anything of value to foreign officials for the purposes of influencing official decisions or obtaining or retaining business or otherwise obtaining favorable treatment. The FCPA also requires companies to make and keep books, records and accounts that accurately and fairly reflect transactions and dispositions of assets and to maintain a system of adequate internal accounting controls. As part of our business, we deal with state-owned business enterprises, the employees and representatives of which may be considered foreign officials for purposes of the FCPA. As a result, business dealings between our employees and any such foreign official could expose us to the risk of violating anti-corruption laws even if such business practices may be customary or are not otherwise prohibited between us and a private third party. Violations of these legal requirements are punishable by criminal fines and imprisonment, civil penalties, disgorgement of profits, injunctions, debarment from government contracts as well as other remedial measures.



Given the high level of complexity of these laws, there is a risk that some provisions may be breached by us, for example through fraudulent or negligent behavior of individual employees (or third parties acting on our behalf), our failure to comply with certain formal documentation requirements, or otherwise. Violations of these laws and regulations could result in fines, criminal sanctions against us, our officers or our employees, requirements to obtain export licenses, cessation of business activities in sanctioned countries, implementation of compliance programs and prohibitions on the conduct of our business. Any such violation could include prohibitions on our ability to offer our products in one or more countries and could materially damage our reputation, our brand, our ability to attract and retain employees, our business, our financial condition and our results of operations.

Furthermore, existing laws or regulations may be amended or repealed, and new laws or regulations may be enacted or issued. In addition, the laws and regulations of some countries may limit our ability to hold a majority interest in some of the power plants that we may develop or acquire, thus limiting our ability to control the development, construction and operation of such power plants, or our ability to import our products into such countries.

***Political, economic and other conditions in the emerging economies where we operate may subject us to greater risk than in the developed U.S. economy, which may have a materially adverse effect on our business.***

We have substantial operations outside of the United States, both in our Electricity segment and our Product segment. In 2021, 33.6% of our total revenues were derived from international operations, and our international operations were significantly more profitable than our U.S. operations. In 2021 a substantial portion of international revenues came from Kenya and, to a lesser extent, from Honduras, Guatemala, Guadeloupe and other countries. Thus, disturbances to and challenges facing our foreign operations, especially in Kenya, could have impacts on our business ranging from moderate to severe. Our foreign operations and our exposure to foreign customers that are in most cases, government owned utilities, subject us to significant political, economic and financial risks, which vary by country, and include:

- changes in government policies or personnel;
- changes in general economic conditions;
- restrictions on currency transfer or convertibility;
- the adoption or expansion of trade restrictions, the occurrence or escalation of a “trade war,” or other governmental action related to tariffs or trade agreements or policies among the governments of the United States and countries where we operate;
- reduced protection for intellectual property rights in some countries;
- changes in labor relations;
- political instability and civil unrest, and risk of war;
- terrorist acts or other similar events;
- changes in the local electricity and/or geothermal markets;
- difficulties enforcing our rights against a governmental agency because of the doctrine of sovereign immunity and foreign sovereignty over international operations;
- breach or repudiation of important contractual undertakings by governmental entities; and
- expropriation and confiscation of assets and facilities, including without adequate compensation.

***Electricity Segment.*** In 2021, the international operations of the Electricity segment accounted for 27% of our total revenues, but accounted for 45% of our gross profit, 68% of our net income and 42% of our EBITDA. A substantial portion of Electricity segment international revenues came from Kenya (which also contributed disproportionately to our gross profit and net income) and, to a lesser extent, from Guadeloupe, Guatemala and Honduras. In Kenya, any break-up or potential privatization of KPLC, the power purchaser for our power plants located in Kenya, may adversely affect our Olkaria III complex and our overall results of operations. Additionally, in Guatemala the electricity sector was partially privatized, and it is currently unclear whether further privatization will occur in the future. Such developments may affect our Amatitlan and

Zunil power plants if, for example, they result in changes to the prevailing tariff regime or in the identity and creditworthiness of our power purchasers.

*Product Segment.* With respect to our Product segment, 88% of our Product segment revenues in 2021 came from international sales, primarily Turkey. Since we primarily engage in sales in those markets where there is a geothermal reservoir, any such change might adversely affect geothermal developers in those markets and, subsequently, the ability of such developers to purchase our products.

*Generally.* Outbreaks of civil and political unrest and acts of terrorism have also occurred in several countries in Africa, the Middle East and Latin America, where we have operations, such as Kenya and Honduras. Kenya experienced numerous terrorist attacks in 2014 and 2015, and has experienced an upsurge in attacks in more recent years, including in early 2019, from extremist groups. Continued or escalated civil and political unrest and acts of terrorism in the countries in which we operate could result in our curtailing operations. In the event that countries in which we operate experience civil or political unrest or acts of terrorism, especially in events where such unrest leads to an unseating of the established government, our operations in such countries could be materially impaired.

As a result of these risks, we purchase certain types of political risk insurance policies for selected countries where we operate and which are exposed to political turmoil, geopolitical issues or political uncertainty. While such policies are designed to offer assistance with respect to some political incidents that could give rise to financial liability, it does not mitigate all of the above-mentioned risks. In addition, insurance proceeds received pursuant to our political risk insurance policies, where applicable, may not be adequate to cover all losses sustained as a result of any covered risks and may at times be pledged in favor of the power plant lenders as collateral. Also, insurance may not be available in the future with the scope of coverage and in amounts of coverage adequate to insure against such risks and disturbances. Any or all of the changes discussed above could materially and adversely affect our business, financial condition, future results and cash flow.

***Conditions in and around Israel, where the majority of our senior management and our main production and manufacturing facilities are located, may adversely affect our operations and may limit our ability to produce and sell our products or manage our power plants.***

The majority of our senior management and our main production and manufacturing facilities are located in Israel approximately 26 miles from the border with the Gaza Strip. As such, political, economic and security conditions in Israel and the Middle East region directly affect our operations.

The political instability and civil unrest in the Middle East and North Africa (including the ongoing civil war in Syria) as well as the increased tension between Iran and Israel have raised new concerns regarding security in the region and the potential for armed conflict or other hostilities involving Israel, any of which could impede our ability to manufacture and support our products offerings. We could be adversely affected by any such hostilities, the interruption or curtailment of trade between Israel and its trading partners, or a significant downturn in the economic or financial condition of Israel. In addition, the sale of products manufactured in Israel may be adversely affected in certain countries by restrictive laws, policies or practices directed toward Israel or companies having operations in Israel. If our facilities become temporarily or permanently disabled by an act of terrorism or war, we may be required to develop alternative infrastructure and we may not be able to avoid service interruptions.

These events and conditions could disrupt our operations in Israel, which could materially and adversely affect our business, financial condition, future results, and cash flow.

***Continued reduction in our Products backlog may affect our ability to fully utilize our main production and manufacturing facilities and may have a materially adverse effect on our business.***

In our Product segment, the economic downturn as a result of the continued COVID-19 pandemic has adversely impacted customers' purchasing decisions and travel restrictions have adversely impacted our sales and marketing efforts and we experienced a decrease in our backlog. Continued reduction in our backlog may affect our ability to fully utilize our manufacturing facility and we may incur higher costs that our Product segment revenues may not be able to cover or increase capital costs to develop our own power plants, which could materially and adversely affect our business, financial condition, future results, and cash flow.

***Some of our leases will terminate if we do not extract geothermal resources in “commercial quantities”, if we fail to comply with the terms or stipulations of such leases or any of the provisions of the Geothermal Steam Act or if the lessor under any such lease defaults on any debt secured by the relevant property, thus requiring us to enter into new leases or secure rights to alternate geothermal resources, none of which may be available on terms as favorable to us as any such terminated lease, if at all.***

Most of our geothermal resource leases are for a fixed primary term, and then continue for so long as geothermal resources are extracted in “commercial quantities” or pursuant to other terms of extension. The land covered by some of our leases (approximately 193,000 acres in the U.S. and approximately 13,000 acres elsewhere) is undeveloped and has not yet produced geothermal resources in commercial quantities. Leases that cover land which remains undeveloped and does not produce, or does not continue to produce, geothermal resources in commercial quantities and leases that we allow to expire, may terminate. In the event that a lease is terminated and we determine that we will need that lease once the applicable power plant is operating, we would need to enter into one or more new leases with the owner(s) of the premises that are the subject of the terminated lease(s) in order to develop geothermal resources from, or inject geothermal resources into, such premises or secure rights to alternate geothermal resources or lands suitable for injection. We may not be able to do this or may not be able to do so without incurring increased costs, which could materially and adversely affect our business, financial condition, future results and cash flow.

Additionally, pursuant to the terms of our BLM leases, we are required to conduct our operations on BLM-leased land in a workmanlike manner and in accordance with all applicable laws and BLM directives and to take all mitigating actions required by the BLM to protect the surface of and the environment surrounding the relevant land. Certain BLM leases contain additional requirements, some of which relate to the mitigation or avoidance of disturbance of any antiquities, cultural values or threatened or endangered plant, wildlife and species. In the event of a default under any BLM lease, or the failure to comply with such requirements, or any non-compliance with any of the provisions of the Geothermal Steam Act or regulations issued thereunder, the BLM may, 30 days after notice of default is provided to our relevant project subsidiary, suspend our operations until the requested action is taken or terminate the lease, either of which could materially and adversely affect our business, financial condition, future results and cash flow.

The fee interest in the land which is the subject of some of our leases (or subleases) may currently be or may become subject to encumbrances securing loans from third-party lenders to the lessor (or sublessor). Our rights as lessee (or sublessee) under such leases (or subleases) are or may be subject and subordinate to the rights of any such lender. Accordingly, a default by the lessor (or sublessor) under any such loan could result in a foreclosure on the underlying fee interest in the property and thereby terminate our leasehold interest and result in the shutdown of the power plant located on the relevant property and/or terminate our right of access to the underlying geothermal resources required for our operations.

***Reduced levels of recovered energy required for the operation of our REG power plants may result in decreased performance of such power plants.***

Our REG power plants generate electricity from recovered energy or so-called “waste heat” that is generated as a residual by-product of gas turbine-driven compressor stations and a variety of industrial processes. Any interruption in the supply of the recovered energy source, such as a result of reduced gas flows in the pipelines or reduced level of operation at the compressor stations, or in the output levels of the various industrial processes, may cause an unexpected decline in the capacity and performance of our recovered energy power plants.

***Our business development activities may not be successful and our projects under construction or facilities undergoing enhancement and repowering may encounter delays, which may impact our future growth.***

We are in the process of developing and constructing a number of new power plants. Our success in developing a project is contingent upon, among other things, negotiation of satisfactory engineering and construction agreements and obtaining PPAs and transmission services agreements, receipt of required governmental permits (including environmental permits), obtaining adequate financing, and the timely implementation and satisfactory completion of field development, testing and power plant construction and commissioning. We may be unsuccessful in accomplishing any of these matters or doing so on a timely basis such in cases where we have to handle legal proceedings with respect to environmental permits. Although we may attempt to minimize the financial risks attributable to the development of a project by securing a favorable PPA and applicable transmission services agreements, obtaining all required governmental permits and approvals and arranging, in certain cases, adequate financing prior to the commencement of construction, the development of a power project may require us to incur significant expenses for preliminary engineering, permitting and legal and other expenses before we can determine whether a project is feasible, economically attractive or capable of being financed.

Currently, we have geothermal projects and prospects under exploration, development or construction in the United States, as well as in Indonesia, Ethiopia, Guadeloupe, Guatemala, Honduras, and New Zealand and we intend to pursue the development of other new plants. In addition, our current growth plans include enhancement and repowering of a number of our operating facilities, including the Heber, Dixie Valley, Zunil and Puna power plants and involve replacement of old equipment and optimization of the geothermal field, including repair and enhancement of existing wells and drilling of new wells. Our completion of these facilities' development and/or enhancement is subject to substantial risks, including:

- inability to secure a PPA;
- inability to secure transmission services agreements;
- inability to secure the required financing;
- cost increases and delays due to unanticipated shortages of adequate resources to execute the project such as equipment, material and labor;
- work stoppages resulting from force majeure events including riots, strikes and weather conditions;
- inability to obtain permits, licenses and other regulatory approvals;
- inability to satisfactorily complete field development and testing;
- failure to secure sufficient land positions for the wellfield, power plant and rights of way;
- failure by key contractors and vendors to timely and properly perform, including where we use equipment manufactured by others;
- inability to secure or delays in securing the required transmission line and/or capacity;
- adverse environmental and geological conditions (including, but not limited to, discoveries of contamination, protected plant or animal species or habitat, archaeological or cultural resources, or inclement weather conditions);
- adverse local business law;
- our attention to other projects and activities, including those in the solar energy and energy storage sectors; and
- changes in laws that mandate, incentivize or otherwise favor renewable energy sources.

Any one of these could give rise to delays, cost overruns, the termination of the plant expansion, construction or development or the loss (total or partial) of our interest in the project under development, construction, or expansion.

In addition, we enter into various types of arrangements with communities and joint venture partners, including in some cases, Indigenous peoples, for the development of projects. In some circumstances, we may be required to notify, consult, or obtain the consent of certain stakeholders, such as Indigenous peoples, landowners, and/or municipalities. In some jurisdictions where we have greenfield power projects, it may be possible to claim Indigenous rights to land and the existence or declaration of Indigenous title may affect the existing or future activities of our projects and impact our business, financial condition and results of operations. Certain of these communities and partners may have or may develop interests or objectives which are different from or even in conflict with our objectives. Any such differences could have a negative impact on the success of our projects.

***We rely on power transmission facilities that we do not own or control.***

We depend on transmission facilities owned and operated by others to deliver the power we sell from our power plants to our customers. If transmission is disrupted, or if the transmission capacity infrastructure is inadequate, or if there is a failure that requires long shutdown for repair, or if curtailment is required due to load system inefficiency, our ability to sell and deliver power to our customers may be adversely impacted and we may either incur additional costs or forego revenues. In addition, lack of access to new transmission capacity may affect our ability to develop new projects. Existing congestion of transmission capacity, as well as expansion of transmission systems and competition from other developers seeking access to expanded systems, could also affect our performance.

***Our use of joint ventures may limit our flexibility with jointly owned investments.***

We have partners in several of our plants and we may continue in the future to develop and/or acquire and/or hold properties in joint ventures with other entities when circumstances warrant the use of these structures. These arrangements are often driven by the magnitude of capital required to complete acquisitions of generating assets, strategic partnering arrangements to access operating expertise, and other geothermal and energy industry wide trends that we presume will continue in the future. Where we hold a minority interest in a joint venture or share control or management with another party in a joint venture (such as in the case of our plant in Guadeloupe), our ability to influence joint venture operations may be limited. As such, our ownership of assets in joint ventures is subject to risks that may not be present with other methods of ownership, including:

- we could experience an impasse on certain decisions because we do not have sole decision-making authority, which could require us to expend additional resources on resolving such impasses or potential disputes, including arbitration or litigation;
- our joint venture partners could have investment goals that are not consistent with our investment objectives, including the timing, terms and strategies for any investments in the projects that are owned by the joint ventures, which could affect decisions about future capital expenditures, major operational expenditures and retirement of assets, among other things;
- our ability to transfer our interest in a joint venture to a third party may be restricted and the market for our interest may be limited;
- our joint venture partners may be structured differently than us for tax purposes, and this could impact our ability to fully take advantage of federal tax incentives available for renewable energy projects;
- our joint venture partners might become bankrupt, fail to fund their share of required capital contributions or fail to fulfill their obligations as a joint venture partner, which may require us to infuse our own capital into the venture on behalf of the partner despite other competing uses for such capital; and
- our joint venture partners may have competing interests in our markets and investments in companies that compete directly or indirectly with us that could create conflict of interest issues.

For example, we hold a 12.75% minority interest in the Sarulla complex and, as a result, cannot control the development of its remediation plan, pace of exploration or development or major drilling decisions. Because we may, in some instances, have a reduced level of influence over our joint ventures, we may not be able to realize some or all of the benefits that we believe will be created from our involvement. If any of the foregoing were to occur, our business, financial condition and results of operations could suffer as a result.

***Our operations could be adversely impacted by climate change.***

We are susceptible to losses and interruptions caused by extreme weather conditions such as droughts, hurricanes, tsunamis, floods, wildfires, and water or other natural resource shortages, occurrences of which may increase in frequency and severity as a result of climate change. Climate change may also produce general changes in weather or other environmental conditions, including temperature or precipitation levels, and thus may impact consumer demand for electricity. Daily and seasonal fluctuations in temperature generally have a more significant impact on the generating capacity of geothermal energy plants than conventional power plants. Some of our power plants experience reduced generation in warm periods due to the lower heat differential between geothermal fluid and the ambient surroundings. While we generally account for the projected impact seasonal fluctuations in temperature based on our historic experience, the impact of climate change on traditional weather patterns has become more pronounced. This has reduced the certainty of our modelling efforts. For example, in 2019, we experienced prolonged elevated temperatures in the Western United States which impacted generating capacity at our facilities and adversely impacted our revenues in the fourth quarter of the year. To the extent weather conditions continue to be impacted by climate change, the generating capacity of certain of our facilities may be adversely impacted in a manner that we could not predict which may in turn adversely impact our results of operations. In addition, the potential physical effects of climate change, such as increased frequency and severity of storms, floods, and other climatic events, could disrupt our operations and cause us to incur significant costs to prepare for or respond to these effects.



Climate change could also affect the availability of a secure and economical supply of water, which is essential for the continued operation of some of our power plants that use water cooling systems. Ormat monitors water risk carefully. If it is determined that a water supply risk exists that could impact projected generation levels at any plant, risk mitigation efforts are identified and evaluated for implementation.

***Geothermal projects that we plan to develop in the future, may operate as "merchant" facilities without long-term PPAs and therefore such projects will be exposed to market fluctuations.***

Geothermal projects that we plan to develop in the United States as part of our growth plans may operate as "merchant" facilities and sell electricity without long-term PPAs for some or all of their generating capacity and output. Merchant projects require that we sell directly into the market on a short term basis and our success with respect to any such projects depends, in large part, upon prevailing market prices. Given the volatility of commodity power prices, to the extent we are unable to secure the benefit of a long-term PPAs for these assets, we cannot be sure that we will be able to sell any or all of the power generated by these facilities at commercially attractive rates or that these facilities will be able to operate profitably. This could lead to future impairments of our property, plant and equipment resulting in economic losses and liabilities, which could have a material adverse effect on our results of operations, financial condition or cash flows.

***We may not be able to successfully conclude the transactions, integrate companies, which we acquired and may acquire in the future, which could materially and adversely affect our business, financial condition, future results and cash flow.***

Our strategy is to continue to expand in the future, including through acquisitions to enhance our geothermal portfolio and accelerate growth in our Electricity segment. Integrating acquisitions is often costly, and we may not be able to successfully integrate our acquired companies with our existing operations without substantial costs, delays or other adverse operational or financial consequences. Completion of M&A transactions may be subject to fulfilling conditions and receiving regulatory approval. Integrating our acquired companies involves a number of risks that could materially and adversely affect our business, including:

- failure of the acquired companies to achieve the results we expect;
- inability to retain key personnel of the acquired companies;
- risks associated with unanticipated events or liabilities; and
- the difficulty of establishing and maintaining uniform standards, controls, procedures and policies, including accounting controls and procedures.

If any of our acquired companies suffers customer dissatisfaction or performance problems, this could adversely affect the reputation of our group of companies and could materially and adversely affect our business, financial condition, future results and cash flow.

***We encounter intense competition from electric utilities, other power producers, power marketers, developers and third-party investors that could materially and adversely affect our business, financial condition, future results and cash flow.***

The power generation industry is characterized by intense competition from electric utilities, other power producers and power marketers. In recent years, there has been increasing competition in the sale of electricity, in part due to excess capacity in a number of United States markets and an emphasis on short-term or "spot" markets, and competition has contributed to a reduction in electricity prices. For the most part, we expect that power purchasers interested in long-term arrangements will engage in "competitive bid" solicitations to satisfy new capacity demands. This competition could adversely affect our ability to obtain and/or renew long-term PPAs and the price paid for electricity by the relevant power purchasers. In addition, competition between electric utilities has put pressure on electric utilities to lower their costs, including the cost of purchased electricity, and increasing competition in the future will put further pressure on power purchasers to reduce the prices at which they purchase electricity from us.

We also experiencing intense competition in the energy storage market from independent power producers, developers, and third-party investors. If we are unable, as a result of increased competition, to grow our energy storage portfolio while meeting our profitability goals, our business, financial condition, future results and cash flow could be materially and adversely affected.

***Changes in costs and technology may significantly impact our business by making our power plants and products less competitive resulting in the inability to sign new PPAs for our Electricity segment and new supply and EPC contracts for our Products segment.***

A basic premise of our business model is that generating baseload power at geothermal power plants produces electricity at a competitive price. However, traditional coal-fired systems and gas-fired systems may under certain economic conditions produce electricity at lower average prices than our geothermal plants. In addition, there are other technologies that can produce electricity such as hydroelectric systems, fuel cells, microturbines, wind turbines, energy storage systems and solar PV systems. Some of these alternative technologies currently produce electricity at higher average prices than our geothermal plants while others produce electricity at lower average prices. It is possible that technological advances and economies of scale will further reduce the cost of alternate methods of power generation. It is also possible that energy technologies will compete with our basic premise of a firm (non-intermittent) renewable baseload power source by combining renewable technologies with energy storage to provide an alternative to firm baseload energy. If this were to happen, the competitive advantage of our power plants may be significantly impaired and will cause reduction and/or inability to sign new PPAs for our Electricity segment and new supply and EPC contracts for our Products segment.

***Our intellectual property rights may not be adequate to protect our business.***

Our existing intellectual property rights may not be adequate to protect our business. We occasionally file patent applications which cover our products (mainly power units based on the ORC) and systems (mainly geothermal power plants and industrial waste heat recovery plants for electricity production). However, the patent application process is expensive, time-consuming and complex and we may not be able to prepare, file, prosecute, maintain and enforce all necessary or desirable patent applications at a reasonable cost or in a timely manner. Patents may be invalidated and patents may not be issued on the basis of our patent applications. Additionally, the scope of patent protection can be reinterpreted after issuance. Even if our patent applications do issue as patents, they may not issue in a form that is sufficiently broad to protect our technology, prevent competitors or other third parties from competing with us or otherwise provide us with any competitive advantage. In addition, any patents issued to us or for which we have use rights may be challenged, narrowed, invalidated or circumvented. Third parties may initiate opposition, interference, re-examination, post-grant review, inter partes review, nullification or derivation actions, or similar proceedings challenging the inventorship, validity, enforceability or scope of our patents. An adverse determination in any such proceeding or litigation could reduce the scope of, or invalidate our patent rights, allow third parties to commercialize our technology and compete directly with us, without payment to us, or result in our inability to commercialize our technology without infringing third-party patent rights. Such proceedings also may result in substantial cost and require significant time from our management, even if the eventual outcome is favorable to us. Our competitors or other third parties may also be able to circumvent our patents by developing similar or alternative technologies in a non-infringing manner. Consequently, we do not know whether any of our technology will be protectable or remain protected by valid and enforceable patents.

In order to safeguard our unpatented proprietary know-how, trade secrets and technology, we rely on a combination of trade secret protection and non-disclosure provisions in agreements with employees and third parties having access to confidential or proprietary information. These measures may not adequately protect us from disclosure, use, reverse engineering, infringement, misappropriation or other violation of our proprietary information and other intellectual property rights by third parties. Furthermore, non-disclosure provisions can be difficult to enforce and, even if successfully enforced, may not be entirely effective. In addition, we cannot guarantee that we have entered into non-disclosure agreements with all employees and third parties that have or may have had access to our trade secrets and other confidential or proprietary information.

Even if we adequately protect our intellectual property rights, litigation may be necessary to enforce these rights, which could result in substantial costs to us and a substantial diversion of management attention. Furthermore, attempts to enforce our intellectual property rights against third parties could also provoke these third parties to assert their own intellectual property or other rights against us, or result in a holding that invalidates or narrows the scope of our rights, in whole or in part. Our success and ability to compete also depends in part on our ability to operate without infringing, misappropriating or otherwise violating the intellectual or proprietary rights of third parties. While we have attempted to ensure that our technology and the operation of our business does not infringe other parties' patents and other intellectual property or proprietary rights, our competitors or other third parties may assert that certain aspects of our business or technology infringe upon, misappropriate or otherwise violate their intellectual property or proprietary rights. In addition, former employers of our current, former or future employees may assert claims that such employees have improperly disclosed to us the confidential or proprietary information of these former employers. Infringement, misappropriation or other intellectual property violation claims, regardless of merit or ultimate outcome, can be expensive, hard to predict and time-consuming and can divert management's attention from our core business. An assertion of an intellectual property infringement, misappropriation or other violation claim against us may result in adverse judgments, settlements on unfavorable terms or

cause us to pay significant money damages, lose significant revenues, be prohibited from using the relevant technology or other intellectual property, or incur significant license, royalty or technology development expenses. Future litigation may also involve non-practicing entities or other intellectual property owners who have no relevant product offerings or revenue and against whom our own intellectual property may therefore provide little or no deterrence or protection.

***We may experience difficulties implementing and maintaining our new enterprise resource planning system***

We purchased a new enterprise resource planning (“ERP”) system and are currently in the first phase of implementing the new system. ERP implementations are complex and time-consuming, and involve substantial expenditures on system software and implementation activities. The ERP system will be critical to our ability to provide important information to our management, obtain and deliver products, provide services and customer support, send invoices and track payments, fulfill contractual obligations, accurately maintain books and records, provide accurate, timely and reliable reports on our financial and operating results or otherwise file our financial statements with the SEC and operate our business. ERP implementations also require transformation of business and financial processes in order to reap the benefits of the ERP system; any such transformation involves risks inherent in the conversion to a new computer system, including loss of information and potential disruption to our normal operations. The implementation and maintenance of the new ERP system has required, and will continue to require, the investment of significant financial and human resources and the implementation may be subject to delays and cost overruns. In addition, we may not be able to successfully complete the implementation of the new ERP system without experiencing difficulties. Any disruptions, delays or deficiencies in the design and implementation or the ongoing maintenance of the new ERP system could adversely affect our ability to process orders, ship products, provide services and customer support, send invoices and track payments, fulfill contractual obligations, accurately maintain books and records, provide accurate, timely and reliable reports on our financial and operating results, or otherwise file our financial statements with the SEC and operate our business. Additionally, if we do not effectively implement the ERP system as planned or the system does not operate as intended, the effectiveness of our internal control over financial reporting could be adversely affected or our ability to assess it adequately could be delayed.

***A cyber-incident, cyber security breach, severe natural event or physical attack on our operational networks and information technology systems could have a material adverse effect on our financial condition, results of operations, liquidity and cash flows.***

We rely on information technology systems that allow us to create, store, retain, transmit and otherwise process proprietary and sensitive or confidential information, including our business and financial information, and personal information regarding our employees and third-parties. We also rely on our operational technology systems to manufacture equipment for our energy projects, operate our power plants and provide our services. In addition, we often rely on third-party vendors to host, maintain, modify and update our systems.

Our and our third-party vendors’ technology systems can be damaged by malicious events such as cyber and physical attacks, computer viruses, malicious and destructive code, phishing attacks, denial of service or information, as well as security breaches, natural disasters, fire, power loss, telecommunications failures, employee misconduct, human error, and third parties such as traditional computer hackers, persons involved with organized crime or foreign state or foreign state-supported actors. Furthermore, our disaster recovery planning may not be sufficient for all situations. Any failure, disruptions to or decrease in the functionality of our or our third-party vendors’ operational and information technology networks could impact our ability to maintain effective internal controls over financial reporting, cause harm to the environment, the public or our employees, and significantly disrupt and damage our assets and operations or those of third parties.

We and our third-party vendors have been, and may in the future be, subject to breaches and attempts to gain unauthorized access to our information technology systems or sensitive or confidential data, or to disrupt our operations. To date, none of these breaches or attempts has, individually or in the aggregate, resulted in a security incident with a material effect on our operations or our financial condition, results of operations, liquidity, or cash flows. Despite implementation of security and control measures, we and our third-party vendors have not always been able to, and there can be no assurance that we or our third-party vendors will be able to in the future, anticipate or prevent unauthorized access to our or our third-party vendors' operational technology networks, information technology systems or data, or the disruption of our or our third-party vendors' operations. The techniques used to obtain unauthorized access to our and our third-party vendors' operational technology networks, information technology systems or data are constantly evolving and have become increasingly complex and sophisticated. Furthermore, such techniques change frequently and are often not detected until after they have been launched against a target. Therefore, we may be unable to anticipate these techniques and may not become aware in a timely manner of such a security breach, which could exacerbate any damage we experience. Such events could cause interruptions in the operation of our business, damage our operational technology networks and information technology systems, subject us to significant expenses, remediation costs, litigation, disputes, claims by third parties and regulatory actions or investigations that could result in damages, material fines and penalties, and harm to our reputation, any of which could have a material adverse effect on our financial condition, results of operations, liquidity, and cash flows. We may maintain cyber liability insurance that covers certain damages caused by cyber incidents. However, there is no guarantee that adequate insurance will continue to be available at rates that we believe are reasonable or that the costs of responding to and recovering from a cyber incident will be covered by insurance or recoverable in rates.

In addition, we are subject to various legislation, regulations, directives and guidelines from federal, state, local and foreign agencies, such as FERC, that are intended to strengthen cybersecurity measures required for information and operational technology and critical energy infrastructure and that apply to the collection, use, retention, protection, disclosure, transfer and other processing of personal information. In California, for example, the California Consumer Privacy Act (the "CCPA") imposes obligations on businesses to be transparent with their data privacy practices and vests consumers with rights to access and delete the personal information held by businesses. These requirements will become even more robust under the California Privacy Rights Act (the "CPRA") which amends the CCPA to, among other things, extend consumer rights and business obligations to employees, and will become effective on January 1, 2023. These cybersecurity, data protection and privacy law regimes continue to evolve and may result in ever-increasing public scrutiny and escalating levels of capital expenditures, regulatory enforcement, sanctions and fines and increased costs for compliance. We have instituted security measures and safeguards to protect our operational systems and information technology assets, including certain safeguards required by FERC. Despite our implementation of security measures and safeguards, any failure to comply with FERC or any of these legal requirements could result in enforcement action against us, including fines, imprisonment of company officials and public censure, any of which could harm our reputation and have a material adverse effect on our financial condition, results of operations, liquidity, and cash flows.

### **Risks Related to Governmental Regulations, Laws and Taxation**

***Our financial performance could be adversely affected by changes in the legal and regulatory environment affecting our operations.***

All of our power plants are subject to extensive regulation, and therefore changes in applicable laws or regulations, or interpretations of those laws and regulations, could result in increased compliance costs, the need for additional capital expenditures or the reduction of certain benefits currently available to our power plants. The structure of domestic and foreign energy regulation currently is, and may continue to be, subject to challenges, modifications, the imposition of additional regulatory requirements, and restructuring proposals. We or our power purchasers may not be able to obtain all regulatory approvals that may be required in the future, or any necessary modifications to existing regulatory approvals, or maintain all required regulatory approvals. In addition, the cost of operation and maintenance and the operating performance of geothermal power plants may be adversely affected by changes in certain laws and regulations, including tax laws.

Any changes to applicable laws and regulations or interpretations of those laws and regulations could significantly increase the regulatory-related compliance, tax and other expenses incurred by the power plants and could significantly reduce or entirely eliminate the revenues generated by one or more of the power plants, which in turn would reduce our net income and could materially and adversely affect our business, financial condition, future results and cash flow.

***Pursuant to the terms of some of our PPAs with investor-owned electric utilities and publicly-owned electric utilities in states that have renewable portfolio standards, the failure to supply the contracted capacity and energy thereunder may result in the imposition of penalties.***

Pursuant to the terms of certain of our PPAs, we may be required to make payments to the relevant power purchaser under certain conditions, such as shortfall in delivery of renewable energy and energy credits, and not meeting certain performance threshold requirements, as defined in the relevant PPA. The amount of payment required is dependent upon the level of shortfall in delivery or performance requirements and is recorded in the period the shortfall occurs. In addition, if we do not meet certain minimum performance requirements, the capacity of the relevant power plant may be permanently reduced. Any or all of these considerations could materially and adversely affect our business, financial condition, future results and cash flow.

***If any of our domestic power plants loses its current Qualifying Facility status under PURPA, or if amendments to PURPA are enacted that substantially reduce the benefits currently afforded to Qualifying Facilities, our domestic operations could be adversely affected.***

Most of our domestic power plants are Qualifying Facilities pursuant to PURPA, which largely exempts the power plants from the FPA, and certain state and local laws and regulations regarding rates and financial and organizational requirements for electric utilities.

If any of our domestic power plants were to lose its Qualifying Facility status, such power plant could become subject to the full scope of the FPA and applicable state regulation. The application of the FPA and other applicable state regulation to our domestic power plants could require our operations to comply with an increasingly complex regulatory regime that may be costly and greatly reduce our operational flexibility.

If a domestic power plant were to lose its Qualifying Facility status, it would become subject to full regulation as a public utility under the FPA, and the rates charged by such power plant pursuant to its PPAs may be subject to the review and approval of FERC. FERC, upon such review, may determine that the rates currently set forth in such PPAs are not appropriate and may set rates that are lower than the rates currently charged. In addition, FERC may require that the affected domestic power plant refund amounts previously paid by the relevant power purchaser to such power plant. Even if a power plant does not lose its Qualifying Facility status, pursuant to regulations issued by FERC for Qualifying Facility power plants above 20 MW, if a power plant's PPA is terminated or otherwise expires, and the subsequent sales are not made pursuant to a state's implementation of PURPA, that power plant will become subject to FERC's ratemaking jurisdiction under the FPA. Moreover, a loss of Qualifying Facility status also could permit the power purchaser, pursuant to the terms of the particular PPA, to cease taking and paying for electricity from the relevant power plant or, consistent with FERC precedent, to seek refunds of past amounts paid. This could cause the loss of some or all of our revenues payable pursuant to the related PPAs, result in significant liability for refunds of past amounts paid, or otherwise impair the value of our power plants. If a power purchaser were to cease taking and paying for electricity or seek to obtain refunds of past amounts paid, there can be no assurance that the costs incurred in connection with the power plant could be recovered through sales to other purchasers or that we would have sufficient funds to make such payments. In addition, the loss of Qualifying Facility status would be an event of default under the financing arrangements currently in place for some of our power plants, which would enable the lenders to exercise their remedies and enforce the liens on the relevant power plant.

Pursuant to the Energy Policy Act of 2005, FERC also has the authority to prospectively lift the mandatory obligation of a utility under PURPA to offer to purchase the electricity from a Qualifying Facility if the utility operates in a workably competitive market. Our existing PPAs between a Qualifying Facility and a utility are not affected. If, in addition to the California utilities' waiver of the mandatory purchase obligation for QF projects that exceed 20 MW described in the risk factor above, the utilities in the other regions in which our domestic power plants operate were to be relieved of the mandatory purchase obligation, they would not be required to purchase energy from the power plant in the region under Federal law upon termination of the existing PPA or with respect to new power plants, which could materially and adversely affect our business, financial condition, future results and cash flow. Moreover, FERC has the authority to modify its regulations relating to the utility's mandatory purchase obligation under PURPA, which could result in the reduction in the purchase obligation of California and other utilities to a level below 5 MW, or the elimination of the purchase obligation. If that were to occur it could materially and adversely affect our business, financial condition, future results and cash flow.



The PURPA and QF described risks identified above are not likely to affect our Nevada based facilities that entered into PPAs with NV Energy as the off-taker after Nevada initially adopted its RPS in 2001. Those PPAs and the related rates agreed to for such facilities by the off-taker were not based upon PURPA or a QF mandated rate but were instead adopted as a result of a competitive bidding process and approved as part of the off-taker's integrated resource planning process and in order for the off-taker to comply with Nevada's RPS. While those PPAs were initially required to file for QF or EWG status with the FERC, the PPAs and their related prices for the term of the PPA were not approved by the FERC pursuant to PURPA. The PURPA and QF risks described above also are not likely to affect our Nevada and California based projects that have their PPAs with the SCPPA because SCPPA is not a regulated public utility under PURPA.

***The reduction or elimination of government incentives could adversely affect our business, financial condition, future results and cash flows.***

Construction and operation of our geothermal power plants and recovered energy-based power plants has benefited, and may benefit in the future, from public policies and government incentives that support renewable energy and enhance the economic feasibility of these projects in regions and countries where we operate. Such policies and incentives include PTCs (that are applicable for projects that begin construction by the end of 2021) and ITCs (tax credit of 30% of the project eligible cost is available for projects that start construction by end or 2021. The credit will phase down to 26% for solar PV projects starting construction by the end of 2022 and to 22% for solar PV projects starting construction in 2023. The credit will phase down to 26% for solar PV projects starting construction by the end of 2022 and to 22% for solar PV projects starting construction in 2023), accelerated depreciation tax benefits, renewable portfolio standards, carbon trading mechanisms, rebates, and mandated feed-in-tariffs, and may include similar or other incentives to end users, distributors, system integrators and manufacturers of geothermal, solar and other power products. Some of these measures have been implemented at the federal level, while others have been implemented by different states within the United States or countries outside the United States where we operate. In particular, the current U.S. presidential administration has made public statements that indicate that the administration may be supportive of various renewable energy programs.

The availability and continuation of these public policies and government incentives have a significant effect on the economics and viability of our development program and continued construction of new geothermal, recovered energy-based, solar PV facilities and, recently, energy storage projects. Any changes to such public policies, or any reduction in or elimination or expiration of such government incentives could affect us in different ways. For example, any reduction in, termination or expiration of renewable portfolio standards may result in less demand for generation from our geothermal and recovered energy-based, power plants. Any reductions in, termination or expiration of other government incentives could reduce the economic viability of, and cause us to reduce, the construction of new geothermal, recovered energy-based, solar PV or any other power plants. Policies supporting or deregulating the exploration, production and use of fossil fuels may create regulatory uncertainty in the renewable energy industry. Similarly, any such changes that affect the geothermal energy industry in a manner that is different from other sources of renewable energy, such as wind or solar, may put us at a competitive disadvantage compared to businesses engaged in the development, construction and operation of renewable power projects using such other resources. Any of the foregoing outcomes could have a material adverse effect on our business, financial condition, future results, and cash flows.

***We are a holding company and our cash depends substantially on the performance of our subsidiaries and the power plants they operate, most of which are subject to restrictions and taxation on dividends and distributions.***

We are a holding company whose primary assets are our ownership of the equity interests in our subsidiaries. We conduct no other business and, as a result, we depend entirely upon our subsidiaries' earnings and cash flow.

The agreements pursuant to which some of our subsidiaries have incurred debt restrict the ability of these subsidiaries to pay dividends, make distributions or otherwise transfer funds to us prior to the satisfaction of other obligations, including the payment of operating expenses, debt service and replenishment or maintenance of cash reserves. In the case of some of our power plants that are owned jointly with other partners, there may be certain additional restrictions on dividend distributions pursuant to our agreements with those partners. In all of the foreign countries where our existing power plants are located, dividend payments to us may also be subject to withholding taxes. Each of the events described above may reduce or eliminate the aggregate amount of cash we can receive from our subsidiaries.

***The costs of compliance with federal, state, local and foreign environmental laws and our ability to obtain and maintain environmental permits and governmental approvals required for development, construction and/or operation may result in liabilities, costs and delays in construction (as well as any fines or penalties that may be imposed upon us in the event of any non-compliance or delays with such laws or regulations) that could materially and adversely affect our business, financial condition, future results and cash flow and these liabilities and costs may increase in the future.***

Our operations are subject to extensive environmental laws, ordinances and regulations, which may cause us to incur significant costs and liabilities. These laws, ordinances and regulations can be subject to change and such change could result in increased compliance costs, the need for additional capital expenditures, or otherwise adversely affect us. In addition, our power plants are required to comply with numerous federal, state, local and foreign statutory and regulatory environmental standards and to maintain numerous environmental permits and governmental approvals required for development, construction and/or operation. We may not be able to renew, maintain or obtain all environmental permits and governmental approvals required for the continued operation or further development and construction of the power plants. We have not yet obtained certain permits and government approvals required for the completion and successful operation of power plants under development, construction or enhancement. Our failure to renew, maintain or obtain required permits or governmental approvals, including the permits and approvals necessary for operating power plants under development, construction or enhancement, could cause our operations to be limited or suspended resulting in fines under the PPA.

We may also be subject to litigation seeking to rescind or delay our receipt of environmental permits and governmental approvals. See “Litigation, legal proceedings, regulatory investigations or other administrative proceedings could expose us to significant liabilities and reputational damage that could have a material adverse effect on us” for additional information.

In addition, some of the environmental permits and governmental approvals that have been issued to the power plants contain conditions and restrictions, including restrictions or limits on emissions and discharges of pollutants and contaminants, or may have limited terms. If we fail to satisfy these conditions or comply with these restrictions, or with any statutory or regulatory environmental standards, we may become subject to regulatory enforcement action and the operation of the power plants could be adversely affected or be subject to fines, penalties or additional costs or other sanctions, including the imposition of investigatory or remedial obligations of the issuance of orders limiting or prohibiting our operations.

***We could be exposed to significant liability for violations of hazardous substances laws because of the use or presence of such substances at our power plants.***

Our power plants are subject to numerous domestic and foreign federal, regional, state and local statutory and regulatory standards relating to the generation, handling, transportation, use, storage, treatment and disposal of hazardous substances. We use butane, pentane, industrial lubricants, and other substances at our power plants which are or could become classified as hazardous substances. If any hazardous substances are found to have been released into the environment at or by the power plants in concentrations that exceed regulatory limits, we could become liable for the investigation and removal of those substances, regardless of their source and time of release. If we fail to comply with these laws, ordinances or regulations (or any change thereto), we could be subject to civil or criminal liability, the imposition of liens or fines, and cessation of operations, large expenditures to bring the power plants into compliance or other sanctions. Furthermore, under certain federal and states laws in the United States, we can be held liable for the cleanup of releases of hazardous substances at any of our current or former facilities or at any other locations where we arranged for disposal of those substances, even if we did not cause the release at that location or if the release complied with applicable law at the time it occurred. Liability under these laws can be joint and several. The cost of any remediation activities in connection with a spill or other release of such substances could be significant and could expose us to significant liability.

#### ***U.S. federal, state and international income tax law changes could adversely affect us***

The Company continuously monitors and examines the impact of U.S. and international tax law changes, such as the Tax Act, CARES and similar tax law changes internationally, in order to determine the impact it may have on our business. The overall impact of the global tax law changes is uncertain, and our business, financial condition, future results and cash flow, as well as our stock price, could be adversely affected.

***Litigation, legal proceedings, regulatory investigations or other administrative proceedings could expose us to significant liabilities and reputational damage that could have a material adverse effect on us.***

We are involved in the ordinary course of business and otherwise in a number of lawsuits involving, among other matters, employment, commercial, and environmental issues, and other claims for injuries and damages, including the lawsuit filed by the Center for Biological Diversity and Fallon Paiute-Shoshone Tribe on December 15, 2021 in the U.S. District Court for the District of Nevada, which seeks to revoke the BLM's approval of the development of our Dixie Meadows geothermal power plant in Nevada on the basis that the BLM failed to adequately consider in its final environmental review the project's impact on the tribe's interests in performing traditional religious practices and the habitat of a species of toad native to the area. We evaluate litigation claims and legal proceedings to assess the likelihood of unfavorable outcomes and to estimate, if possible, the amount of potential losses. Based on these evaluations and estimates, when required by applicable accounting rules, we establish reserves and disclose the relevant litigation claims or legal proceedings, as appropriate. These evaluations and estimates are based on the information available to management at the time and involve a significant amount of judgment. Actual outcomes or losses may differ materially from current evaluations and estimates. The settlement or resolution of such claims or proceedings may have a material adverse effect on us. We use appropriate means to contest litigation threatened or filed against us, but the litigation environment poses a significant business risk.

We are also involved in the ordinary course of business in regulatory investigations and other administrative proceedings, and we are exposed to the risk that we may become the subject of additional regulatory investigations or administrative proceedings. For example, we are providing information to the SEC and Department of Justice ("DOJ") related to their investigation into certain claims made in a report published by a short seller regarding the Company's compliance with anti-corruption laws and formed a Special Committee of independent directors, which worked with outside legal counsel to investigate the claims made.

#### **Risks Related to Economic and Financial Conditions**

***We may be unable to obtain the financing we need to pursue our growth strategy and any future financing we receive may be less favorable to us than our current financing arrangements, either of which may adversely affect our ability to expand our operations.***

Some of our geothermal power plants have been financed using leveraged financing structures, consisting of non-recourse or limited recourse debt obligations. Each of our projects under development or construction and those projects and businesses we may seek to acquire, or construct will require substantial capital investment. Our continued access to capital on acceptable or favorable terms to us is necessary for the success of our growth strategy, particularly in enhancing our portfolio through M&A activities. Our attempts to obtain future financings may not be successful or on favorable terms.

In recent years, we have also increased our corporate recourse debt at the holding company level due to our ability to obtain improved economic terms. This additional indebtedness may make it more difficult for us to refinance or borrow additional funds in the future, limiting our ability to pursue our growth strategy.

Market conditions and other factors may not permit future project and acquisition financings on terms similar to those our subsidiaries have previously received. Our ability to arrange for financing on a substantially non-recourse or limited recourse basis, and the costs of such financing, are dependent on numerous factors, including general economic conditions, conditions in the global capital and credit markets, investor confidence, the continued success of current power plants, the credit quality of the power plants being financed, the political situation in the country where the power plant is located, and the continued existence of tax and securities laws which are conducive to raising capital. If we are not able to obtain financing for our power plants on a substantially non-recourse or limited recourse basis, we may have to finance them using recourse capital such as direct equity investments or the incurrence of additional debt by us.

Also, in the absence of favorable financing options, we may decide not to build new plants or acquire facilities from third parties. Any of these alternatives could have a material adverse effect on our growth prospects.

We may also need additional financing to implement our strategic plan. For example, our cash flow from operations and existing liquidity facilities may not be adequate to finance any acquisitions we may want to pursue or new technologies we may want to develop or acquire. Financing for acquisitions or technology development activities may not be available on the non-recourse or limited recourse basis we have historically used for our business, or on other terms we find acceptable.

***Our foreign power plants and foreign manufacturing operations expose us to risks related to fluctuations in currency rates, which may reduce our profits from such power plants and operations.***

Risks attributable to fluctuations in currency exchange rates can arise when any of our foreign subsidiaries incur operating or other expenses in one type of currency but receive revenues in another. In such cases, an adverse change in exchange rates can reduce such subsidiary's ability to meet its debt service obligations, reduce the amount of cash and income we receive from such foreign subsidiary or increase such subsidiary's overall expenses. In addition, the imposition by foreign governments of restrictions on the transfer of foreign currency abroad, or restrictions on the conversion of local currency into foreign currency, would have an adverse effect on the operations of our foreign power plants and foreign manufacturing operations, and may limit or diminish the amount of cash and income that we receive from such foreign power plants and operations.

***Our power plants have generally been financed through a combination of our corporate funds and limited or non-recourse project finance debt and lease financing. If our project subsidiaries default on their obligations under such limited or non-recourse debt or lease financing, we may be required to make certain payments to the relevant debt holders, and if the collateral supporting such leveraged financing structures is foreclosed upon, we may lose certain of our power plants.***

Our power plants have generally been financed using a combination of our corporate funds and limited or non-recourse project finance debt or lease financing. Limited recourse project finance debt refers to our additional agreement, as part of the financing of a power plant, to provide limited financial support for the power plant subsidiary in the form of limited guarantees, indemnities, capital contributions and agreements to pay certain debt service deficiencies. Non-recourse project finance debt or lease financing refers to financing arrangements that are repaid solely from the power plant's revenues and are secured by the power plant's physical assets, major contracts, cash accounts and, in many cases, our ownership interest in the project subsidiary. If our project subsidiaries default on their obligations under the relevant debt documents, creditors of a limited recourse project financing will have direct recourse to us, to the extent of our limited recourse obligations, which may require us to use distributions received by us from other power plants, as well as other sources of cash available to us, in order to satisfy such obligations. In addition, if our project subsidiaries default on their obligations under the relevant debt documents (or a default under such debt documents arises as a result of a cross-default to the debt documents of some of our other power plants) and the creditors foreclose on the relevant collateral, we may lose our ownership interest in the relevant project subsidiary or our project subsidiary owning the power plant would only retain an interest in the physical assets, if any, remaining after all debts and obligations were paid in full.

***Possible fluctuations in the cost of construction, raw materials, commodities and drilling may materially and adversely affect our business, financial condition, future results, and cash flow.***

Our manufacturing operations are dependent on the supply of various raw materials, including primarily steel and aluminum, commodities, vessels and industrial equipment components that we use. We currently obtain all such raw materials, commodities and equipment at prevailing market prices. We are not dependent on any one supplier and do not have any long-term agreements with any of our suppliers. Global events such as the ongoing COVID-19 outbreak that began in 2020 has resulted in the extended shutdown of certain businesses in the certain regions and resulted in delays in the supply and cost increase of raw materials and components that we purchased for our equipment manufacturing and cost increase of marine and transportation. Our development activity is also impacted by the supply delay and cost increase of storage batteries and Solar PV panels. Further cost increases of such raw materials, commodities and equipment could adversely affect our profit margins.

***Our commodity derivative activity may limit potential gains, increase potential losses, result in earnings volatility and involve other risks.***

We enter, from time to time, into commodity derivative contracts to manage our price exposure to our energy storage segment revenue. While these transactions are intended to limit our exposure to the adverse effects of fluctuations of storage services prices, they may also limit our ability to benefit from favorable changes in market conditions, and may subject us to periodic earnings volatility in the instances where we do not seek hedge accounting for these transactions or if the correlation between the hedge and the actual performance of the asset will be lower. Also, in connection with such derivative transactions, we may be required to make cash payments to maintain margin accounts and to settle the contracts at their value upon termination.

Finally, this activity exposes us to potential risk of counterparties to our derivative contracts failing to perform under the contracts. As a result, the effectiveness of our risk management could have an impact on our business, results of operations and cash flows.

***We are exposed to swap counterparty credit risk that could materially and adversely affect our business, operating results, and financial condition.***

We rely on cross-currency swap contracts to effectively manage our currency risk related to our Senior Unsecured Bonds - Series 4 issued in July 2020. Failure of any of our counterparties to perform under derivatives contracts could disrupt our hedging operations if the counterparties do not fulfill their obligations under the agreements, particularly if we were entitled to a termination payment under the terms of the contract that we did not receive, if we had to make a termination payment upon default of the counterparty, or if we were unable to reposition the swap with a new counterparty.

***We may not be able to obtain sufficient insurance coverage to cover damages resulting from any damages to our assets and profitability including but not limited to natural disasters such as volcanic eruptions, lava flows, wind and earthquake, which could materially and adversely affect our business, operating results, and financial condition.***

We maintain physical damage and business interruption insurance however, our business interruption and property damage insurance coverage may not be sufficient to cover all losses sustained as a result of natural disasters such as flood, volcanic eruptions, lava flows, wind and earthquake or any other insurable risk. In addition, insurance coverage may not continue to be available in the future at rates that we believe are reasonable or in amounts of coverage or with scope of coverage adequate to insure against future natural disasters. Following the May 2018 eruption of the Kilauea volcano in Hawaii, the full amount of our insurance claim for damages to our Puna power plant was denied and we experienced increased costs and difficulties in obtaining sufficient insurance coverage for natural disasters. Before the eruption in 2018, we obtained natural disasters business interruption and property damage insurance coverage of up to approximately \$100 million compared to \$30 million, with portions of the risk self-insured, secured in 2021 and 2022.

If insurance premiums or deductibles were to increase in the future, if certain types of insurance coverage were to become unavailable or cost prohibitive, if we were to have to increase the percentage of our self-insured insurance coverage or if we were to experience losses in excess of, or outside the scope of, our insurance coverage, such additional costs could have a material adverse effect on our business, financial condition, results of operations and cash flows.

## **Risks Related to Force Majeure**

***The global spread of the COVID-19 pandemic may have an adverse impact and could adversely affect our financial results.***

The COVID-19 pandemic, including its variant strains, and efforts to control its spread have significantly curtailed the movement of people, goods and services worldwide. Governments around the world have mandated companies to limit or suspend non-essential operations and imposed operational and travel restrictions resulting in a decline in global economic activity and an increase in market volatility. These mandates have also restricted and continue to restrict individuals' daily activities. We have implemented significant measures both to comply with government requirements and to preserve the health and safety of our employees. These measures include working remotely where possible and operating separate shifts in our power plants, manufacturing facilities and other locations while trying to continue operations as close to full capacity in all locations. Since the end of the second quarter of 2021, the Company has experienced an easing of government restrictions in a number of countries, including Israel, but uncertainty around the impact of COVID-19 continues.

In 2021, we experienced impacts, which varied among our business segments, as described below:

- In our Electricity segment, our future growth in the electricity segment has been and may continue to adversely impacted by delays we are experiencing in receiving the required development and construction permits, as well as by the implications of global and local restrictions on our ability to procure raw material and ship our products. Also, the economics of some of projects may impacted by the rising inflation as the energy rate at some of our U.S. PPAs is not tied to CPI and has no escalation.



- In our Product segment, the economic downturn arising from the COVID-19 pandemic has adversely impacted customers' purchasing decisions, and travel restrictions, increasing raw materials and transportation costs, have adversely impacted our sales and marketing efforts. In 2021, COVID-19 outbreaks resulted in the extended shutdown of certain businesses in the certain regions, delays in the supply and increases in the cost of raw materials and components that we purchased for our equipment manufacturing, and increases in the cost of marine and transportation. The cost increases limited our ability to secure new purchase orders from potential customers and led to a reduction in our operating margins, which in turn negatively impacted our profitability. We may face similar challenges in future periods in the event of additional outbreaks or a prolonged shutdown.
- Our Energy Storage segment generates revenues mainly from participating in the energy and ancillary services markets, run by regional transmission operators and independent system operators in the various markets where our assets operate. Therefore, the revenues these assets generate are directly impacted by the prevailing market prices for energy and/or ancillary services, which have fluctuated, and may continue to fluctuate, as result of the COVID-19 pandemic. Additionally, we have experienced and are experiencing supply chain difficulties, as well as an increase in the cost raw materials and batteries, which may impact our ability to complete the projects on time and increase overall project costs.

In addition, we have experienced and continue to experience shortage in raw materials, delays in transportation and permitting and increase in costs of raw materials and delivery. These delays and cost increases impact our construction and development timeline of new projects in all business segments and may result in contractual penalties.

- Despite our efforts to provide insight into the performance of our business and the trends affecting it, as of the date of this filing, significant uncertainty exists concerning the magnitude of the impact and duration of the COVID-19 pandemic. We may continue to become subject to any of the following impacts:
- of the products we either sell to third parties or build for ourselves or to meet delivery requirements and commitments that may result in penalty payments;
- impact on our efforts to sign new contracts for our Product segment due to operational and travel restrictions and availability of our customers and their willingness to enter into new agreements;
- limitations on the ability of our customers to pay us on a timely basis;
- declarations of COVID-19 as force majeure by our customers and suppliers;
- a reduction in the demand for electricity and for our products;
- change in regulations, taxes and levies that may affect our operations and cost structure;
- risk of infection among employees that may impact the day-to-day operations;
- significant delays in obtaining the required permits that create penalties and may impact our ability to implement our growth plan;
- Increase in raw materials; and
- limited ability to oversee remote operations due to travel restrictions.

The full extent to which the COVID-19 pandemic ultimately impacts our business, operations, financial results and financial condition will depend on numerous evolving factors, which are currently uncertain and cannot be predicted, including:

- the duration and scope of the pandemic, including the impact of new variants of COVID-19;
- governmental, mandates, business and individuals' actions and preventative measures taken in response;
- The efficacy of mitigation efforts, or vaccines, anti-viral or other treatments, as well as the availability of such treatments to the global population;
- the effect on our customers and customers' demand for our services and products;
- the effect on our suppliers and disruptions to the global supply chain;
- our ability to sell and provide our services and products, including as a result of travel restrictions and people working from home;
- disruptions to our operations resulting from the illness of any of our employees or availability of our workforce;
- our ability to manufacture, oversee remote operations due to travel restrictions;
- restrictions or disruptions to transportation, including reduced availability of ground or air transport; and
- fluctuation in electricity demand and the ability of our customers to pay for our services and products.

In addition, the impact of COVID-19 on macroeconomic conditions may impact the proper functioning of financial and capital markets, foreign currency exchange rates, commodity and interest rates. Any of the events described above could amplify the other risks and uncertainties described in this report and could materially adversely affect our business, financial condition, results of operations and/or stock price.

***The existence of a prolonged force majeure event or a forced outage affecting a power plant, or the transmission systems could reduce our net income and materially and adversely affect our business, financial condition, future results and cash flow.***

The operation of our subsidiaries' geothermal power plants is subject to a variety of risks, including events such as fires, explosions, earthquakes, landslides, floods, severe storms, volcanic eruptions, lava flow or other similar events. If a power plant experiences an occurrence resulting in a force majeure event, although our subsidiary that owns that power plant would be excused from its obligations under the relevant PPA, the relevant power purchaser may not be required to make any capacity and/or energy payments with respect to the affected power plant for as long as the force majeure event continues and, pursuant to certain of our PPAs, will have the right to prematurely terminate the PPA. Additionally, to the extent that a forced outage has occurred, and if as a result the power plant fails to attain certain performance requirements under certain of our PPAs, the power purchaser may have the right to permanently reduce the contract capacity (and correspondingly, the amount of capacity payments due pursuant to such agreements in the future), seek refunds of certain past capacity payments, and/or prematurely terminate the PPA. As a consequence, we may not receive any net revenues from the affected power plant other than the proceeds from any business interruption insurance that applies to the force majeure event or forced outage after the relevant waiting period and may incur significant liabilities in respect of past amounts required to be refunded.

On May 3, 2018, the Kilauea volcano located in close proximity to our Puna 38 MW geothermal power plant in the Puna district of Hawaii's Big Island erupted following a significant increase in seismic activity in the area. The lava ultimately covered the wellheads of three geothermal wells, monitoring wells and the substation of the Puna complex and an adjacent warehouse that stored a drilling rig that was also consumed by the lava. We resumed operations and the Puna power plant is operating at approximately 25 MW. Further details on the status of the power plant is described under "Recent Development" below. The Company continues to assess the accounting implications of this event on its balance sheet and whether an impairment will be required.

In addition to our power plant in Puna, Hawaii, our power plant in Amatitlan, Guatemala is located in proximity to an active volcano. As a result of recent events impacting our Puna facility, we cannot be certain how investors will assess the risks to which our facilities are subject and whether this assessment will adversely impact perceptions of our business and our share price.

***Threats of terrorism may impact our operations in unpredictable ways and could adversely affect our business, financial condition, future results and cash flow.***

Our operations and facilities, in particular, our generation and transmission facilities, information technology systems and other infrastructure facilities, systems and physical assets that we acquire, construct or develop, as well as those of third parties on which we rely, may be targets of terrorist acts and threats, as well as events occurring in response to or in connection with them, that could cause environmental repercussions, result in full or partial disruption of our operations. These operations and facilities are also subject to natural disasters, public health crises, fire, power loss and telecommunication failures. Any of our assets or those of third-party vendors could be directly or indirectly affected by such events or activities. Any such terrorist acts, environmental repercussions or disruptions or natural disasters could result in a significant decrease in revenues or significant reconstruction or remediation costs, beyond what could be recovered through insurance policies, which could have a material adverse effect on the business, financial condition, results of operations and cash flows.

#### **Risks Related to Ownership of Our Common Stock**

***A substantial percentage of our common stock is held by stockholders whose interests may conflict with the interests of our other stockholders.***

As of December 31, 2021, ORIX holds 19.6% of our shares of common stock outstanding. Pursuant to the Governance Agreement between us and ORIX entered into in connection with this stock purchase transaction, ORIX has the right to designate three directors to our Board for as long as ORIX and its affiliates collectively hold at least 18% of the voting power of all of our outstanding voting securities, the right to representation on certain committees of our Board as well as preemptive rights pursuant to the Governance Agreement. In addition, the Governance Agreement provides ORIX preemptive rights in the event we issue common stock or other securities that entitle the holder to vote for the election of directors. ORIX may also exercise certain registration rights pursuant to the Registration Rights Agreement between us and ORIX.

As a result of these rights and ORIX's beneficial ownership of our common stock, ORIX could exert influence through its Board representation on our and our subsidiaries' business, operations and management, including our strategic plans, or, as a significant stockholder, on matters submitted to a vote of our stockholders, including mergers, consolidations and the sale of all or substantially all of our assets. This concentration of ownership of our common stock could delay or prevent proxy contests, mergers, tender offers, or other purchases of our common stock that might otherwise give our stockholders the opportunity to realize a premium over the then-prevailing market price for our shares. If ORIX exercises its registration rights to require us to register for sale the common stock held by ORIX or ORIX otherwise sells its common stock in the public markets, the price of our common stock may decline. This concentration of ownership may also adversely affect the liquidity of our common stock.

***The price of our common stock may fluctuate substantially, and your investment may decline in value.***

The market price of our common stock may be highly volatile and may fluctuate substantially due to many factors, including:

- actual or anticipated fluctuations in our results of operations including as a result of seasonal variations in our Electricity segment-based revenues or variations from year-to-year in our Product segment-based revenues;
- variance in our financial performance from the expectations of market analysts;

- conditions and trends in the end markets we serve, and changes in the estimation of the size and growth rate of these markets;
- our ability to integrate acquisitions;
- announcements of significant contracts by us or our competitors;
- changes in our pricing policies or the pricing policies of our competitors;
- restatements of historical financial results and changes in financial forecasts;
- loss of one or more of our significant customers;
- legislation;
- changes in market valuation or earnings of our competitors;
- the trading volume of our common stock;
- the trading of our common stock on multiple trading markets, which takes place in different currencies and at different times; and
- general economic conditions.

In addition, the stock market in general, and the NYSE and the market for energy companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of particular companies affected. These broad market and industry factors may materially harm the market price of our common stock, regardless of our operating performance. In the past, following periods of volatility in the market price of a company's securities, securities class-action litigation has often been instituted against that company. Such litigation, if instituted against us could result in substantial costs and a diversion of management's attention and resources, which could materially harm our business, financial condition, future results and cash flow. We are generally obliged under our bylaws, to the extent permitted under Delaware law, to indemnify our current and former officers who are named as defendants in these types of lawsuits. While a certain amount of insurance coverage is available for expenses or losses associated with these lawsuits, this coverage may not be sufficient for certain litigation. For information on our recently dismissed and ongoing securities class actions, see "Commitments and Contingencies" in Note 21 to the consolidated financial statements contained in Item 8 of this Annual Report.

#### **ITEM 1B. UNRESOLVED STAFF COMMENTS**

None.

#### **ITEM 2. PROPERTIES**

We currently lease corporate offices at 6140 Plumas street Reno, Nevada 89519. We also occupy an approximately 807,000 square foot office and manufacturing facility located in the Industrial Park of Yavne, Israel, which we lease from the Israel Land Administration. See Item 13 — "Certain Relationships and Related Transactions". In Turkey, we established and leased a facility to locally produce power plant components to our local customers.

We believe that our current offices and manufacturing facilities will be adequate for our operations as currently conducted.

Each of our power plants is located on property leased or owned by us or one of our subsidiaries or is a property that is subject to a concession agreement.

Information and descriptions of our plants and properties are included in Item 1 — "Business", of this Annual Report.

#### **ITEM 3. LEGAL PROCEEDINGS**

The information required with respect to this item can be found under "Commitments and Contingencies" in Note 21 of the consolidated financial statements contained in Item 8 of this Annual Report and is incorporated by reference herein.

#### **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

#### Market for Our Common Stock

Our common stock has traded on the NYSE under the symbol “ORA” since November 11, 2004. Prior to November 11, 2004, there was no public market for our common stock. Effective on February 10, 2015, our common stock also began trading on the TASE under the same symbol.

#### Record Holders

As of February 23, 2022, there were 15 record holders of our common stock, including Cede & Co., the nominee of the Depository Trust Company. The number of record holders may not be representative of the number of beneficial owners of our common stock, whose shares are held in street name by banks, brokers and other nominees.

#### Dividend Policy

We have adopted a dividend policy pursuant to which we currently expect to distribute at least 20% of our annual profits available for distribution by way of quarterly dividends. In determining whether there are profits available for distribution, our Board will take into account our business plan and current and expected obligations, and no distribution will be made that in the judgment of our Board would prevent us from meeting such business plan or obligations.

#### Stock Performance Graph

The following performance graph represents the cumulative total shareholder return for the period December 30, 2016 through December 31, 2021 for our common stock, compared to the Standard and Poor's Composite 500 Index, S&P Global Clean Energy and PBW - Invesco WilderHill Clean Energy ETF. The chart assumes \$100 was invested at the close of market on December 31, 2016 in our common stock and the stocks of the groups of companies shown below, and assumes the reinvestment of any dividends. The stock price performance on the following graph is not necessarily indicative of future stock price performance. On February 23, 2022, the closing price of our common stock as reported on the NYSE was \$62.92 per share.

Comparison of Cumulative Returns for the Period December 31, 2016 through December 31, 2021



	2016	2017	2018	2019	2020	2021
Ormat Technologies Inc.....	100.0	119.30	97.5	139.0	168.4	147.9
Standard & Poor's Composite 500 Index.....	100.0	119.4	112.0	144.4	167.8	212.9
S&P Global Clean Energy .....	100.0	118.2	104.8	148.3	353.2	267.1
PBW - Invesco WilderHill Clean Energy ETF .....	100.0	137.8	116.8	186.0	561.9	388.2

#### Equity Compensation Plan Information

For information on our equity compensation plan, refer to Item 12 — “Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters”.



## Issuer Purchases of Equity Securities

None.

## Sales of Unregistered Equity Securities

None.

## ITEM 6. [RESERVED]

## ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

*You should read the following discussion and analysis of our results of operations, financial condition and liquidity in conjunction with our consolidated financial statements and the related notes. Some of the information contained in this discussion and analysis or set forth elsewhere in this Annual Report including information with respect to our plans and strategies for our business, statements regarding the industry outlook, our expectations regarding the future performance of our business, and the other non-historical statements contained herein are forward-looking statements. See "Cautionary Note Regarding Forward-Looking Statements." You should also review Item 1A — "Risk Factors" for a discussion of important factors that could cause actual results to differ materially from the results described herein or implied by such forward-looking statements.*

### General

#### Overview of Fiscal Year 2021 Revenues

#### Recent Developments

The most significant recent developments for our company and business during 2021 and 2020 to date are described below.

- The Puna power plant resumed operations in November 2020 and during 2021 operated at a level of 25 MW. We continue with drilling and workovers into 2022 to increase generation. In 2019, we reached an agreement with HELCO and signed a new PPA that is currently subject to PUC approval. The new PPA extends the current term until 2052 and increases the current contract capacity by 8 MW to 46MW. In addition, the new PPA has a fixed price with no escalation, regardless of changes to fossil fuel pricing, which impacts the majority of our current pricing under the existing PPA. The existing PPA remains in effect with its current terms until the earlier of a) PPA's expiration date at the end of 2027 and b) the new PPA will be in effect.
- In October 2021, we completed a \$38.9 million tax equity partnership transaction for the Steamboat Hills geothermal power plant with additional future payments of approximately \$5.3 million, whereby the Company will continue to operate and maintain the power plant and will receive substantially all of the attributable cash flow generated by the power plant.
- In September 2021, we announced the signing of an agreement to establish a joint venture company, PT Toka Tindung Geothermal ("TTG") with PT Archi Indonesia Tbk, a pure-play gold mining companies in Indonesia. TTG is designed to explore the potential of geothermal energy prospects in the Bitung area of the North Sulawesi region, especially within the Toka Tindung gold mine concession area. Under the TTG shareholder agreement, subject to completion of certain conditions, Archi has the option to acquire 25% of the project while Ormat will hold the remaining shares.
- In August 2021, we announced that we had secured a contract to supply products for a 10 MW geothermal air-cooled Ormat energy Converter ("OEC") to Polaris Infrastructure Inc., a Toronto-based company engaged in the operation, acquisition and development of renewable energy projects in Latin America, for the San Jacinto facility in Telica, Leon, Republic of Nicaragua.
- In August 2021, we announced that we signed a Long-Term Resource Adequacy agreement with Pacific Gas and Electric Company (PG&E) for the 20MW/40MWh Pomona-2 facility that is currently under construction. The Pomona 2 project will be located adjacent to and will utilize existing infrastructure from the operating Pomona 1 facility. Under the 10-year agreement, the Pomona-2 facility will provide 10MW of Resource Adequacy to PG&E

and will also participate in the energy and ancillary services markets run by the California Independent System Operator ("CAISO"). Leveraging our core EPC capabilities, we will undertake the EPC of this project and expect the project to begin commercial operation in the third quarter of 2022.

- In July 2021, we completed the acquisition of TG Geothermal Portfolio, LLC (a subsidiary of Terra-Gen, LLC). Ormat paid \$171 million in cash (excluding working capital and assumed cash of approximately \$10.8 million) for 100% of the equity interests in entities holding the below described assets and assumed debt and associated finance obligation with a fair value of approximately \$258 million. The acquired entities own, among other things, two operating geothermal power plants in Nevada comprising the 56 MW Dixie Valley geothermal power plant, one of the largest geothermal power plants in Nevada, and the 11.5 MW Beowawe geothermal power plant, as well as the rights to Coyote Canyon, a greenfield development asset adjacent to Dixie Valley with high resource potential, and an underutilized transmission line, capable of handling between 300MW and 400MW of 230KV electricity, connecting Dixie Valley to California.
- In Kenya, a task force was appointed by the President to review and analyze PPAs entered into between various independent power producers and KPLC, including Ormat's long term PPA for the Olkaria complex. In September 2021 the task force recommended to the President that KPLC review its contracts and attempt renegotiation with Independent Power Producers to secure reductions in PPA tariffs within existing contractual arrangements. Ormat was approached by the task force following release of the report.
- In May 2021, we announced that we signed a 15-year PPA with the CPA, which is the fifth largest electricity provider in California and the single largest provider of 100% renewable energy to customers in the nation. Under terms of the agreement, effective January 1, 2022, CPA started to purchase 14 MW of clean, renewable energy from Ormat's Heber South Geothermal facility located in Imperial Valley, CA. The PPA replaces the original PPA with SCPPA, which had a shorter remaining duration and was subject to an early termination option. This is Ormat's first contract with CPA, creating the potential for additional agreements in the future as CPA pursues aggressive goals to provide renewable energy to southern California.
- In May 2021, we completed the expansion of our McGinness Hills Phase 3 geothermal power plant in Eastern Nevada. The expansion, completed in May, 2021, increases the power plant net capacity by 15 MW, bringing the entire McGinness Hills complex capacity to a total of 160 MW. The McGinness Hills Phase 3 power plant continues to sell its electricity under the current 25-year long term portfolio power purchase agreement with SCPPA.
- In April 2021, we announced the commercial operation of the 10 MW/40 MWh Vallecito Battery Energy Storage System ("Vallecito BESS"). The Vallecito BESS provides local resource adequacy to SCE under a 20-year energy storage resource adequacy agreement. In addition, the facility will provide ancillary services and energy optimization through participation in merchant markets run by the CAISO.
- In March 2021, our board of directors established a Special Committee of independent directors to investigate, among other things, certain claims made in a report published by a short seller regarding the Company's compliance with anti-corruption laws. The Special Committee is working with outside legal counsel to investigate the claims made. All members of the Special Committee are "independent" in accordance with our Corporate Governance Guidelines, the NYSE listing standards and SEC rules applicable to board of directors in general. We are also providing information as requested by the SEC and DOJ related to the claims.
- Since the beginning of 2021 we released five energy storage systems for construction with a total of 139MW/399MWh, which are located in New Jersey, California, Texas and Ohio. We are targeting commercial operation of 89MW/124MWh in 2022 and the rest in 2023.
- In February 2021, extreme weather conditions in Texas resulted in a significant increase in demand for electricity on the one hand and a decrease in electricity supply in the region on the other hand. On February 15, 2021, the Electricity Reliability Council of Texas ("ERCOT") issued an Energy Emergency Alert Level 3 ("EEA 3") prompting rotating outages in Texas. This ultimately led to a significant increase in the Responsive Reserve Service ("RRS") market prices, where the Company operates its Rabbit Hill battery energy storage facility which provides ancillary services and energy optimization to the wholesale markets managed by ERCOT. Due to the electricity supply shortage, ERCOT restricted battery charging in the Rabbit Hill facility from February 16, 2021 to February 19, 2021, resulting in a limited ability of the Rabbit Hill storage facility to provide RRS. As a result, the Company incurred losses of approximately \$9.1 million, net of associated revenues, from a hedge transaction in relation to its inability to provide RRS during that period. Starting February 19, 2021, the Rabbit Hill energy storage facility resumed operation at full capacity. In addition, the Company recorded a provision for approximately \$3.0 million

for receivables related to imbalance charges from the grid operator in respect of its demand response operation as it estimated it is probable it may be unable to collect such receivables. The provision for uncollectible receivables is included in "General and administrative expenses" in the condensed consolidated statements of operations and comprehensive income for the first quarter of 2021. The Company is currently in discussions with ERCOT with respect to some of the imbalance charges and revenue allocated to its Demand Response services and customers, the outcome of which may impact the final amount.

### ***COVID-19 Update***

The Company has implemented significant measures and continues to make efforts in order to meet government requirements and preserve the health and safety of its employees. The Company's preventative measures against COVID-19, including, most recently, the spread of variant strains, including working remotely when needed and adopting separate shifts in its power plants, manufacturing facilities and other locations while working to continue operations at close to full capacity in all locations. Since the end of the second quarter of 2021, the Company has experienced an easing of government restrictions in a number of countries, including Israel, but uncertainty around the impact of COVID-19 continues. With respect to its employees, the Company has not laid-off or furloughed any employees due to COVID-19 and has continued to pay full salaries. We will continue to monitor developments affecting both our workforce and our customers, and we have taken, and will continue to take, health and safety measures that we determine are necessary in order to mitigate the impacts. To date, as a result of these business continuity measures, the Company has not experienced material disruptions in our operations due to COVID-19, but has nevertheless experienced the following impacts on our segment operations:

- In our Electricity segment, almost all of our revenues in 2021 were generated under long term contracts and the majority of contracts have a fixed energy rate. As a result, despite logistical and other challenges, COVID-19 caused only limited impact on our Electricity segment. Nevertheless, growth in the Electricity segment was and continues to be adversely impacted by delays in receiving the required development and construction permits, as well as the implications of global and local restrictions on our ability to procure and transport raw materials and increases in the cost of raw materials and transportation.
- Our Product segment revenues are generated from sales of products and services pursuant to contracts, under which we have a right to payment for any product that was produced for the customer. Recognition of revenue under these contracts is impacted by delays in the progress of the third-party projects into which our products and services are incorporated. In 2021, COVID-19 outbreaks resulted in the extended shutdown of certain businesses in certain regions, delays in the supply and increases in the cost of raw materials and components that we purchased for our equipment manufacturing, and increases in the cost of marine transportation. The cost increases limited our ability to secure new purchase orders from potential customers and led to a reduction in our operating margins, which in turn negatively impacted our profitability. We had a product backlog of \$53.5 million as of February 16, 2022, which includes revenue recognition for the period between January 1, 2022 and February 16, 2022, compared to \$33.4 million as of February 25, 2021.
- Our Energy Storage segment generates revenues mainly from participating in the energy and ancillary services markets, run by regional transmission operators and independent system operators in the various markets where our assets operate. Therefore, the revenues these assets generate are directly impacted by the prevailing market prices for energy and/or ancillary services. Nevertheless, we have experienced and are experiencing supply chain difficulties, as well as an increase in the cost raw materials and batteries, which may impact our ability to complete the projects on time and increases overall project costs.
- In addition, we experience delays in the permitting for new projects in all segments that may result in contractual penalties and cause a delay in those projects.

### *Opportunities, Trends and Uncertainties*

Different trends, factors and uncertainties may impact our operations and financial condition, including many that we do not or cannot foresee. However, we believe that our results of operations and financial condition for the foreseeable future will be primarily affected by the following trends, factors and uncertainties that are from time to time also subject to market cycles, in addition to those covered under “COVID-19 Update”:

- There has been increased demand for energy generated from geothermal and other renewable resources in the United States as costs for electricity generated from renewable resources have become more competitive. Much of this is attributable to legislative and regulatory requirements and incentives, such as state RPS and federal tax credits such as PTCs or ITCs (which are discussed in more detail in the section entitled “Government Grants and Tax Benefits” below). We believe that future demand for energy generated from geothermal and other renewable resources in the United States will be driven primarily by further commitment to, and implementation of, state RPS and greenhouse gas reduction initiatives.
- The U.S. federal government has taken, and we expect it to continue to take, certain actions which are supportive of the industry for climate solutions. In December 2020, Congress extended the end date to December 2022 for qualifying facilities being eligible for the ITC for geothermal as well as solar projects. The new U.S. presidential administration has taken immediate steps at the federal level which we believe signify support for climate solutions, including, but not limited to, rejoining the Paris Climate Accords and re-establishing a social price on carbon used in cost/benefit analysis for policy making. We expect this new administration, combined with a closely divided Congress, will usher in additional regulations supportive of the markets in which we invest.
- We expect that a variety of local governmental initiatives will create new opportunities for the development of new projects with the potential to realize higher returns on our equity as well as to create additional markets for our products. These initiatives include the award of long-term contracts to independent power generators, the creation of competitive wholesale markets for selling and trading energy, capacity and related energy products and the adoption of programs designed to encourage “clean” renewable and sustainable energy sources.
- In the Electricity segment, we expect intense domestic competition from the solar, hybrid solar and energy storage and wind power generation industries to intensify. While we believe the expected demand for renewable energy will be large enough to accommodate increased competition, any such increase in competition, including increasing amounts of renewable energy under contract and reduction in energy storage costs are contributing to a reduction in electricity prices. However, despite increased competition from the solar and wind power generation industries, we believe that firm and flexible, base-load electricity, such as geothermal-based energy, will continue to be an important source of renewable energy in areas with commercially viable geothermal resources.
- In the Product segment, we see new opportunities for business in New Zealand, the U.S., Asia Pacific and Central and South America. We have experienced increased competition from binary power plant equipment suppliers including the major steam turbine manufacturers. While we believe that we have a distinct competitive advantage based on our technology, accumulated experience and current worldwide share of installed binary generation capacity, an increase in competition may impact our ability to secure new purchase orders from potential customers. The increased competition may also lead to further reductions in the prices that we are able to charge for our binary equipment.

## *Revenues*

### *Sources of Revenues*

We generate our revenues from the sale of electricity from our geothermal and recovered energy-based power plants; the design, manufacture and sale of equipment for electricity generation; the construction, installation and engineering of power plant equipment; and the sale of energy storage services and electricity from our operating energy storage facilities .

*Electricity Segment.* Revenues attributable to our Electricity segment are derived from the sale of electricity from our power plants pursuant to long-term PPAs. While approximately 93.5% of our Electricity revenues for the year ended December 31, 2021 were derived from PPAs with fixed price components, we have variable price PPAs in California and Hawaii, which provide for payments based on the local utilities' avoided cost. The avoided cost is the incremental cost that the power purchaser avoids by not having to generate such electrical energy itself or purchase it from others, as follows:

- The energy rates under the 12 MW Heber 2 power plant PPA in California change primarily based on fluctuations in natural gas prices. We used our right under the PPA and sent a termination notice to SCE. We are currently negotiating a new long-term PPA for the project following a request for bid we issued in 2021.
- The prices paid for electricity pursuant to the 25 MW PPA for the Puna Complex in Hawaii change primarily as a result of variations in the price of oil as well as other commodities. In 2019, we signed a new PPA related to Puna with fixed prices, increased capacity and extended the term until 2052. The PPA is subject to PUC approval.

Accordingly, our revenues from those power plants may fluctuate. Our Electricity segment revenues are also subject to seasonal variations, as more fully described in "Seasonality" below.

Our PPAs generally provide for energy payments alone, or energy and capacity payments. Generally, capacity payments are payments calculated based on the amount of time and capacity that our power plants are available to generate electricity. Some of our PPAs provide for bonus payments in the event that we are able to exceed certain capacity target levels and the potential forfeiture of payments if we fail to meet certain minimum capacity target levels. Energy payments, on the other hand, are payments calculated based on the amount of electrical energy delivered to the relevant power purchaser at a designated delivery point. Our more recent PPAs generally provide for energy payments alone with an obligation to compensate the off-taker for its incremental costs as a result of shortfalls in our supply.

*Product Segment.* Revenues attributable to our Product segment are based on the sale of equipment, engineering, procurement and construction contracts and the provision of various services to our customers. Product segment revenues fluctuate between periods, primarily based on our ability to receive customer orders, the status and timing of such orders, delivery of raw materials and the completion of manufacturing. Larger customer orders for our products are typically the result of our sales efforts, our participation in, and winning tenders or requests for proposals issued by potential customers in connection with projects they are developing and orders by returning customers. Such projects often take a significant amount of time to design and develop and are subject to various contingencies, such as the customer's ability to raise the necessary financing for a project. Consequently, we are generally unable to predict the timing of such orders for our products and may not be able to replace existing orders that we have completed with new ones. As a result, revenues from our Product segment fluctuate (sometimes extensively) from period to period.

*Energy Storage Segment.* Revenues attributable to our Energy Storage segment are generated by several grid-connected BESS facilities that we own and operate from selling energy, capacity and/or ancillary services in merchant markets like PJM Interconnect, ISO New England, ERCOT and CAISO. The revenues fluctuate over time since a large portion of such revenues are generated in the merchant markets, where price volatility is inherent.

We are pursuing the development of additional grid-connected BESS projects in multiple regions, with expected revenues coming from providing energy, capacity and/or ancillary services on a merchant basis, and/or through bilateral contracts with load serving entities, investor owned utilities, publicly owned utilities and community choice aggregators. We may pursue financial instruments, where appropriate, to hedge some of the merchant risk.

Our management assesses the performance of our operating segments differently. In the case of our Electricity segment, when making decisions about potential acquisitions or the development of new projects, management typically focuses on the internal rate of return of the relevant investment, technical and geological matters and other business considerations. Management evaluates our operating power plants based on revenues, expenses, and EBITDA, and our projects that are under development based on costs attributable to each such project. Management evaluates the performance of our Product segment based on the timely delivery of our products, performance quality of our products, revenues and costs actually incurred to



complete customer orders compared to the costs originally budgeted for such orders. We evaluate Energy Storage segment performance similar to the Electricity segment with respect to projects that we own and operate.

The following table sets forth a breakdown of our revenues for the years indicated:

	Revenues			% of Revenues for Period Indicated		
	Year Ended December 31,			Year Ended December 31,		
	2021	2020	2019	2021	2020	2019
Revenues:	(Dollars in thousands)					
Electricity.....	\$ 585,771	\$ 541,393	\$ 540,333	88.3%	76.8%	72.4%
Product.....	46,920	148,125	191,009	7.1	21.0	25.6
Energy Storage.....	30,393	15,824	14,702	4.6	2.2	2.0
Total revenues.....	<u>\$ 663,084</u>	<u>\$ 705,342</u>	<u>\$ 746,044</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>

### ***Geographic Breakdown of Results of Operations***

The following table sets forth the geographic breakdown of the revenues attributable to our Electricity, Product and Energy Storage segments for the years indicated:

	Revenues			% of Revenues for Period Indicated		
	Year Ended December 31,			Year Ended December 31,		
	2021	2020	2019	2021	2020	2019
Electricity Segment:	(Dollars in thousands)					
United States.....	\$ 404,303	\$ 341,399	\$ 333,797	69.0%	63.1%	61.8%
International.....	181,468	199,994	206,536	31.0	36.9	38.2
Total.....	<u>\$ 585,771</u>	<u>\$ 541,393</u>	<u>\$ 540,333</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>
Product Segment:						
United States.....	\$ 5,414	\$ 5,800	\$ 30,562	11.5%	3.9%	16.0%
International.....	41,506	142,325	160,447	88.5	96.1	84.0
Total.....	<u>\$ 46,920</u>	<u>\$ 148,125</u>	<u>\$ 191,009</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>
Energy Storage Segment:						
United States.....	\$ 30,393	\$ 15,824	\$ 13,597	100.0%	100.0%	92.5%
International.....	—	—	1,105	0.0	0.0	7.5
Total.....	<u>\$ 30,393</u>	<u>\$ 15,824</u>	<u>\$ 14,702</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>

In 2021, 2020 and 2019, 34%, 49% and 49% of our total revenues were derived from foreign locations, respectively, and our foreign operations had higher gross margins than our U.S. operations in each of those years. A substantial portion of international revenues came from Kenya and, to a lesser extent, from Honduras, Guadeloupe, Guatemala and other countries. Our operations in Kenya contributed disproportionately to gross profit and net income. The contribution to combined pre-tax income of our domestic and foreign operations within our Electricity segment and Product segment differ in a number of ways.

***Electricity Segment.*** Our Electricity segment domestic revenues were approximately 69%, 63% and 62% of our total Electricity segment for the years ended December 31, 2021, 2020 and 2019, respectively. However, domestic operations have higher costs of revenues and expenses than our foreign operations. Our foreign power plants are located in lower-cost regions, like Kenya, Guatemala, Honduras and Guadeloupe, which favorably impact payroll, and maintenance expenses among other items. Our power plants in foreign locations are also newer than most of our domestic power plants and therefore tend to have lower maintenance costs and higher availability factors than our domestic power plants. Consequently, in 2021 and 2020 the international operations of the segment accounted for 45% and 51% of our total gross profits, 68% and 70% of our net income (assuming the majority of corporate operating expenses and financing are recorded under domestic jurisdiction) and 42% and 45% of our EBITDA, respectively.

*Product Segment.* Our Product segment foreign revenues were 88%, 96% and 84% of our total Product segment revenues for the years ended December 31, 2021, 2020 and 2019, respectively.

*Energy Storage Segment.* Our Energy Storage segment domestic revenues were 100.0% of our total Energy storage segment revenues for years ended December 31, 2021, 2020 and 2019, respectively.

### ***Seasonality***

Electricity generation from some of our geothermal power plants is subject to seasonal variations; in the winter, our power plants produce more energy primarily attributable to the lower ambient temperature, which has a favorable impact on the energy component of our Electricity segment revenues and the prices under many of our contracts are fixed throughout the year with no time-of-use impact. The prices paid for electricity under the PPAs for one of the Heber 2 power plant in the Heber Complex, the Mammoth Complex and the North Brawley power plant in California, the Raft River power plant in Idaho, the Neal Hot Springs power plant in Oregon and the recently acquired Dixie Valley power plant in Nevada, are higher in the months of June through September. The higher payments payable under these PPAs in the summer months partially offset the negative impact on our revenues from lower generation in the summer attributable to a higher ambient temperature. As a result, we expect the revenues and gross profit in the winter months to be higher than the revenues and gross profit in the summer months and in general we expect the first and fourth quarters to generate higher revenues than the second and third quarters.

## **Breakdown of Cost of Revenues**

### ***Electricity Segment***

The principal cost of revenues attributable to our operating power plants are operation and maintenance expenses comprised of salaries and related employee benefits, equipment expenses, costs of parts and chemicals, costs related to third-party services, lease expenses, royalties, startup and auxiliary electricity purchases, property taxes, insurance, depreciation and amortization and, for some of our projects, purchases of make-up water for use in our cooling towers. In our California power plants, our principal cost of revenues also includes transmission charges and scheduling charges. In some of our Nevada power plants we also incur transmission and wheeling charges. Some of these expenses, such as parts, third-party services and major maintenance, are not incurred on a regular basis. This results in fluctuations in our expenses and our results of operations for individual power plants from quarter to quarter. Payments made to government agencies and private entities on account of site leases where power plants are located are included in cost of revenues. Royalty payments, included in cost of revenues, are made as compensation for the right to use certain geothermal resources and are paid as a percentage of the revenues derived from the associated geothermal rights. Royalties constituted approximately 4.3% and 3.8% of Electricity segment revenues for the years ended December 31, 2021 and 2020, respectively.

### ***Product Segment***

The principal cost of revenues attributable to our Product segment are materials, salaries and related employee benefits, expenses related to subcontracting activities, and transportation expenses. Sales commissions to sales representatives are included in selling and marketing expenses. Some of the principal expenses attributable to our Product segment, such as a portion of the costs related to labor, utilities and other support services are fixed, while others, such as materials, construction, transportation and sales commissions, are variable and may fluctuate significantly, depending on market conditions. As a result, the cost of revenues attributable to our Product segment, expressed as a percentage of total revenues, fluctuates. Another reason for such fluctuation is that in responding to bids for our products, we price our products and services in relation to existing competition and other prevailing market conditions, which may vary substantially from order to order.

### ***Energy Storage Segment***

The principal cost of revenues attributable to our Energy Storage segment are direct costs of BESS that we own. Direct costs include the labor associated with operations and maintenance of owned BESS.

## **Critical Accounting Estimates and Assumptions**

Our significant accounting policies are more fully described in Note 1 to our consolidated financial statements set forth in Item 8 of this Annual Report. However, certain of our accounting policies are particularly important to an understanding of our financial position and results of operations. In applying these critical accounting estimates and assumptions, our management uses its judgment to determine the appropriate assumptions to be used in making certain estimates. Such estimates are based on management's historical experience, the terms of existing contracts, management's observance of

trends in the geothermal industry, information provided by our customers and information available to management from other outside sources, as appropriate. Such estimates are subject to an inherent degree of uncertainty and, as a result, actual results could differ from our estimates. Our critical accounting policies include:

- *Revenues and Cost of Revenues.* Revenues generated from the construction of geothermal and recovered energy-based power plant equipment and other equipment on behalf of third parties (Product revenues) are recognized using the percentage of completion method, which requires estimates of future costs over the full term of product delivery. Such cost estimates are made by management based on prior operations and specific project characteristics and designs. If management's estimates of total estimated costs with respect to our Product segment are inaccurate, then the percentage of completion is inaccurate resulting in an over- or under-estimate of revenue and gross margin. As a result, we review and update our cost estimates on significant contracts on a quarterly basis, and at least on an annual basis for all others, or when circumstances change and warrant a modification to a previous estimate. Changes in job performance, job conditions, and estimated profitability, including those arising from the application of penalty provisions in relevant contracts and final contract settlements, may result in revisions to costs and revenues and are recognized in the period in which the revisions are determined. Provisions for estimated losses relating to contracts are made in the period in which such losses are determined. Revenues generated from engineering and operating services and sales of products and parts are recorded once the service is provided or product delivered as the customer obtains control of the asset, as applicable.
- *Property, Plant and Equipment.* We capitalize all costs associated with the acquisition, development and construction of power plant facilities. Major improvements are capitalized and repairs and maintenance (including major maintenance) costs are expensed. We estimate the useful life of our power plants to range between 25 and 30 years. Such estimates are made by management based on factors such as prior operations, the terms of the underlying PPAs, geothermal resources, the location of the assets and specific power plant characteristics and designs. Changes in such estimates could result in useful lives which are either longer or shorter than the depreciable lives of such assets. We periodically re-evaluate the estimated useful life of our power plants and revise the remaining depreciable life on a prospective basis.

We capitalize costs incurred in connection with the exploration and development of geothermal resources beginning when we acquire land rights to the potential geothermal resource. Prior to acquiring land rights, we make an initial assessment that an economically feasible geothermal reservoir is probable on that land using available data and external assessments vetted through our exploration department and occasionally outside service providers. Costs incurred prior to acquiring land rights are expensed. It normally takes two to three years from the time we start active exploration of a particular geothermal resource to the time we have an operating production well, assuming we conclude the resource is commercially viable.

In most cases, we obtain the right to conduct our geothermal development and operations on land owned by the BLM, various states or with private parties. Once we acquire land rights to the potential geothermal resource, we perform additional activities to assess the commercial viability of the resource. Such activities include, among others, conducting surveys and other analysis, obtaining drilling permits, creating access roads to drilling sites, and exploratory drilling which may include temperature gradient holes and/or slim holes. Such costs are capitalized and included in construction-in-process. Once our exploration activities are complete, we finalize our assessment as to the commercial viability of the geothermal resource and either proceed to the construction phase for a power plant or abandon the site. If we decide to abandon a site, all previously capitalized costs associated with the exploration project are written off.

Our assessment of economic viability of an exploration project involves significant management judgment and uncertainties as to whether a commercially viable resource exists at the time we acquire land rights and begin to capitalize such costs. As a result, it is possible that our initial assessment of a geothermal resource may be incorrect and we will have to write off costs associated with the project that were previously capitalized. Due to the uncertainties inherent in geothermal exploration, historical impairments may not be indicative of future impairments. Included in construction-in-process are costs related to projects in exploration and development of \$50.7 million and \$51.5 million at December 31, 2021 and 2020, respectively.

- *Impairment of Long-Lived Assets and Long-Lived Assets to be Disposed of.* We evaluate long-lived assets, such as property, plant and equipment and construction-in-process for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Factors which could trigger an impairment include, among others, significant underperformance relative to historical or projected future operating results, significant changes in our use of assets or our overall business strategy, negative industry or

economic trends, a determination that an exploration project will not support commercial operations, a determination that a suspended project is not likely to be completed, a significant increase in costs necessary to complete a project, legal factors relating to our business or when we conclude that it is more likely than not that an asset will be disposed of or sold.

We test our operating plants that are operated together as a complex for impairment at the complex level because the cash flows of such plants result from significant shared operating activities. For example, the operating power plants in a complex are managed under a combined operation management generally with one central control room that controls all of the power plants in a complex and one maintenance group that services all of the power plants in a complex. As a result, the cash flows from individual plants within a complex are not largely independent of the cash flows of other plants within the complex. We test for impairment of our operating plants which are not operated as a complex, as well as our projects under exploration, development or construction that are not part of an existing complex, at the plant or project level. To the extent an operating plant becomes part of a complex in the future, we will test for impairment at the complex level.

Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to the estimated future net undiscounted cash flows expected to be generated by the asset. The significant assumptions that we use in estimating our undiscounted future cash flows include (i) projected generating capacity of the power plant and rates to be received under the respective PPA and (ii) projected operating expenses of the relevant power plant. Estimates of future cash flows used to test recoverability of a long-lived asset under development also include cash flows associated with all future expenditures necessary to develop the asset. If future cash flows are actually less than those used in such estimates, we may incur impairment losses in the future that could be material to our financial condition and/or results of operations.

If our assets are considered to be impaired, the impairment to be recognized is the amount by which the carrying amount of the assets exceeds their fair value. Assets to be disposed of are reported at the lower of the carrying amount or fair value less costs to sell. We believe that for the year ended December 31, 2021, no impairment exists for any of our long-lived assets; however, estimates as to the recoverability of such assets may change based on revised circumstances. Estimates of the fair value of assets require estimating useful lives and selecting a discount rate that reflects the risk inherent in future cash flows.

- *Goodwill.* Goodwill represents the excess of the fair value of consideration transferred in the business combination transactions over the fair value of tangible and intangible assets acquired, net of the fair value of liabilities assumed and the fair value of any noncontrolling interest in the acquisitions. Goodwill is not amortized but rather subject to a periodic impairment testing on an annual basis, which the Company performs on December 31 of each year, or if an event occurs or circumstances change that would more likely than not reduce the fair value of the reporting unit below its carrying amount. Additionally, an entity is permitted to first assess qualitative factors to determine whether a quantitative goodwill impairment test is necessary. Further testing is only required if the entity determines, based on the qualitative assessment, that it is more likely than not that a reporting unit's fair value is less than its carrying amount. Otherwise, no further impairment testing is required. An entity has the option to bypass the qualitative assessment for any reporting unit in any period and proceed directly to the quantitative goodwill impairment test. This would not preclude the entity from performing the qualitative assessment in any subsequent period. The quantitative assessment compares the fair value of the reporting unit to its carrying value, including goodwill. Under ASU 2017-04, Intangibles – Goodwill and Other (Topic 350), which was adopted by the Company in 2018, an entity should recognize an impairment charge for the amount by which the carrying amount of the reporting unit exceeds its fair value. However, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit.
- *Obligations Associated with the Retirement of Long-Lived Assets.* We record the fair market value of legal liabilities related to the retirement of our assets in the period in which such liabilities are incurred. These liabilities include our obligation to plug wells upon termination of our operating activities, the dismantling of our power plants upon cessation of our operations, and the performance of certain remedial measures related to the land on which such operations were conducted. When a new liability for an asset retirement obligation is recorded, we capitalize the costs of such liability by increasing the carrying amount of the related long-lived asset. Such liability is accreted to its present value each period and the capitalized cost is depreciated over the useful life of the related asset. At retirement, we either settle the obligation for its recorded amount or report either a gain or a loss with respect thereto. Estimates of the costs associated with asset retirement obligations are based on factors such as prior operations, the location of the assets and specific power plant characteristics. We review and update our cost estimates periodically and adjust our asset retirement obligations in the period in which the revisions are determined. If actual results are not consistent with our assumptions used in estimating our asset retirement

obligations, we may incur additional losses that could be material to our financial condition or results of operations.

- *Accounting for Income Taxes.* Significant estimates are required to arrive at our consolidated income tax provision. This process requires us to estimate our actual current tax exposure and to make an assessment of temporary differences resulting from different treatments of items for tax and accounting purposes. Such differences result in deferred tax assets and liabilities which are included in our consolidated balance sheets. For those jurisdictions where the projected operating results indicate that realization of our net deferred tax assets is not more likely than not, a valuation allowance is recorded.

We evaluate our ability to utilize the deferred tax assets quarterly and assess the need for a valuation allowance. In assessing the need for a valuation allowance, we estimate future taxable income, including the impacts of the enacted tax law, the feasibility of ongoing tax planning strategies and the realizability of tax credits and tax loss carryforwards. Valuation allowances related to deferred tax assets can be affected by changes in tax laws, statutory tax rates, and future taxable income. We have recorded a partial valuation allowance related to our U.S. deferred tax assets. In the future, if there is sufficient evidence that we will be able to generate sufficient future taxable income in the United States, we may be required to reduce this valuation allowance, resulting in income tax benefits in our Consolidated Statement of Operations.

In the ordinary course of business, there can be inherent uncertainty in quantifying our income tax positions. We assess our income tax positions and record tax benefits for all years subject to examination based upon management's evaluation of the facts, circumstances and information available at the reporting date. For those tax positions where it is more likely than not that a tax benefit will be sustained, which is greater than 50% likelihood of being realized upon ultimate settlement with a taxing authority that has full knowledge of all relevant information, we recognize between 0 to 100% of the tax benefit. For those income tax positions where it is not more likely than not that a tax benefit will be sustained, we do not recognize any tax benefit in the consolidated financial statements. Resolution of uncertainties in a manner inconsistent with our expectations could have a material impact on our financial condition or results of operations.

### *New Accounting Pronouncements*

See Note 1 to our consolidated financial statements set forth in Item 8 of this Annual Report for information regarding new accounting pronouncements.



## Results of Operations

Our historical operating results in dollars and as a percentage of total revenues are presented below.

	Year Ended December 31,		
	2021	2020	2019
	(Dollars in thousands, except earnings per share data)		
<b>Revenues:</b>			
Electricity.....	\$ 585,771	\$ 541,393	\$ 540,333
Product.....	46,920	148,125	191,009
Energy storage .....	30,393	15,824	14,702
Total revenues .....	663,084	705,342	746,044
<b>Cost of revenues:</b>			
Electricity.....	337,019	300,059	312,835
Product.....	41,374	114,948	145,974
Energy storage .....	20,353	14,060	17,912
Total cost of revenues .....	398,746	429,067	476,721
<b>Gross profit (loss)</b>			
Electricity.....	248,752	241,334	227,498
Product.....	5,546	33,177	45,035
Energy storage .....	10,040	1,764	(3,210)
Total gross profit.....	264,338	276,275	269,323
<b>Operating expenses:</b>			
Research and development expenses .....	4,129	5,395	4,647
Selling and marketing expenses.....	15,199	17,384	15,047
General and administrative expenses.....	75,901	60,226	55,833
Business interruption insurance income .....	(248)	(20,743)	—
Operating income .....	169,357	214,013	193,796
<b>Other income (expense):</b>			
Interest income.....	2,124	1,717	1,515
Interest expense, net.....	(82,658)	(77,953)	(80,384)
Derivatives and foreign currency transaction gains (losses).....	(14,720)	3,802	624
Income attributable to sale of tax benefits .....	29,582	25,720	20,872
Other non-operating income (expense), net.....	(134)	1,418	880
Income from operations before income tax and equity in earnings (losses) of investees.....	103,551	168,717	137,303
Income tax provision .....	(24,850)	(67,003)	(45,613)
Equity in earnings (losses) of investees, net.....	(2,624)	92	1,853
Net Income.....	76,077	101,806	93,543
Net income attributable to noncontrolling interest .....	(13,985)	(16,350)	(5,448)
Net income attributable to the Company's stockholders .....	\$ 62,092	\$ 85,456	\$ 88,095
Earnings per share attributable to the Company's stockholders:			
Basic: .....	\$ 1.11	\$ 1.66	\$ 1.73
Diluted: .....	\$ 1.10	\$ 1.65	\$ 1.72
Weighted average number of shares used in computation of earnings per share attributable to the Company's stockholders:			
Basic.....	56,004	51,567	50,867
Diluted.....	56,402	51,937	51,227

**Results as a percentage of revenues**

	Year Ended December 31,		
	2021	2020	2019
<b>Revenues:</b>			
Electricity .....	88.3%	76.8%	72.4%
Product .....	7.1	21.0	25.6
Energy storage .....	4.6	2.2	2.0
Total revenues .....	100.0	100.0	100.0
<b>Cost of revenues:</b>			
Electricity .....	57.5	55.4	57.9
Product .....	88.2	77.6	76.4
Energy storage .....	67.0	88.9	121.8
Total cost of revenues .....	60.1	60.8	63.9
<b>Gross profit (loss)</b>			
Electricity .....	42.5	44.6	42.1
Product .....	11.8	22.4	23.6
Energy storage .....	33.0	11.1	(21.8)
Total gross profit .....	39.9	39.2	36.1
<b>Operating expenses:</b>			
Research and development expenses .....	0.6	0.8	0.6
Selling and marketing expenses .....	2.3	2.5	2.0
General and administrative expenses .....	11.4	8.5	7.5
Business interruption insurance income .....	0.0	(2.9)	0.0
Operating income .....	25.5	30.3	26.0
<b>Other income (expense):</b>			
Interest income .....	0.3	0.2	0.2
Interest expense, net .....	(12.5)	(11.1)	(10.8)
Derivatives and foreign currency transaction gains (losses) .....	(2.2)	0.5	0.1
Income attributable to sale of tax benefits .....	4.5	3.6	2.8
Other non-operating income (expense), net .....	0.0	0.2	0.1
Income from continuing operations before income tax and equity in earnings (losses) of investees .....	15.6	23.9	18.4
Income tax provision .....	(3.7)	(9.5)	(6.1)
Equity in earnings (losses) of investees, net .....	(0.4)	—	0.2
Net Income .....	11.5	14.4	12.5
Net income attributable to noncontrolling interest .....	(2.1)	(2.3)	(0.7)
Net income attributable to the Company's stockholders .....	9.4%	12.1%	11.8%

***Comparison of the Year Ended December 31, 2021 and the Year Ended December 31, 2020***

***Total Revenues***

	Year Ended December 31, 2021	Year Ended December 31, 2020	Increase	(Decrease)
			(Dollars in millions)	
Electricity segment revenues .....	\$ 585.8	\$ 541.4	\$ 44.4	8.2%
Product segment revenues .....	46.9	148.1	(101.2)	(68.3)
Energy Storage segment revenues .....	30.4	15.8	14.6	92.1
<b>Total Revenues .....</b>	<b>\$ 663.1</b>	<b>\$ 705.3</b>	<b>\$ (42.2)</b>	<b>(6.0)%</b>

For the year ended December 31, 2021, our total revenues decreased by (6.0)% (from \$705.3 million to \$663.1 million) over the previous year driven by lower revenues in the Product segment.

***Electricity Segment***

Revenues attributable to our Electricity segment for the year ended December 31, 2021 were \$585.8 million, compared to \$541.4 million for the year ended December 31, 2020, representing a 8.2% increase. The increase in our Electricity segment revenues was mainly due to (i) the consolidation of the Dixie Valley and Beowawe power plants following the Terra-Gen acquisition in July 2021, with revenues of \$23.2 million and \$3.0 million, respectively; (ii) the enhancement of the Steamboat Hills power plant in June 2020; (iii) the resumption of operations of the Puna power plant to 25MW in the third quarter of 2021; and (iv) the expansion of the McGinness Hills complex in May 2021, partially offset by a decrease in revenues from the Olkaria complex due to lower resource performance that caused a capacity reduction, from Bouillante power plant due to temporary limitations in our ability to utilize the resource.

During the years ended December 31, 2021 and 2020, our consolidated power plants generated 6,529,140 MWh and 6,043,993 MWh, respectively, an increase of 8.0%. The average prices during the years ended December 31, 2021 and 2020 were \$89.7 and \$89.6 per MWh, respectively.

For the year ended December 31, 2021, our Electricity segment generated 88.3% of our total revenues, compared to 76.8% in the previous year, while our Product segment generated 7.1% of our total revenues, compared to 21.0% in the previous year, and our Energy Storage segment generated 4.6% of our total revenues, compared to 2.2% in the previous year.

#### *Product Segment*

Revenues attributable to our Product segment for the year ended December 31, 2021 were \$46.9 million, compared to \$148.1 million for the year ended December 31, 2020, representing a 68.3% decrease. The decrease in our Product segment revenues was mainly due to a slowdown in product sales as a result of COVID-19, projects in Turkey, New Zealand and Chile, which started in 2019, and provided \$98.3 million in revenue recognized during the year ended December 31, 2020, compared to \$10.1 million in the year ended December 31, 2021, and projects in Turkey, which started in 2020, and provided \$23.6 million in revenue recognized during the year ended December 31, 2020, compared to zero in the year ended December 31, 2021, partially offset by projects which started in 2021 and provided \$18.2 million.

#### *Energy Storage Segment*

Revenues attributable to our Energy Storage segment for the year ended December 31, 2021 were \$30.4 million compared to \$15.8 million for the year ended December 31, 2020, representing a 92.1% increase. The increase was mainly due to an increase of \$7.6 million in revenues from the Rabbit Hill battery energy storage facility primarily as a result of the February power crisis in Texas, which resulted in a record high increase in demand for electricity on the one hand and a significant decrease in electricity supply in the region on the other hand. This led to a significant increase in the Responsive Reserve Service market price. In addition, we recorded \$9.4 million of revenues from the Pomona energy storage asset that we acquired in July 2020 in the year ended December 31, 2021, compared to \$4.8 million in the year ended December 31, 2020.

#### *Total Cost of Revenues*

	Year Ended December 31, 2021	Year Ended December 31, 2020	Increase	(Decrease)
	(Dollars in millions)			
Electricity segment cost of revenues .....	\$ 337.0	\$ 300.1	\$ 37.0	12.3%
Product segment cost of revenues .....	41.4	114.9	(73.6)	(64.0)
Energy Storage segment cost of revenues .....	20.4	14.1	6.3	44.8
<b>Total Cost of Revenues .....</b>	<b>\$ 398.8</b>	<b>\$ 429.1</b>	<b>\$ (30.3)</b>	<b>(7.1)%</b>

#### *Electricity Segment*

Total cost of revenues attributable to our Electricity segment for the year ended December 31, 2021 was \$337.0 million, compared to \$300.1 million for the year ended December 31, 2020, representing a 12.3% increase. This increase was primarily attributable to: (i) the consolidation of the Dixie Valley and Beowawe power plants which were acquired on July 13, 2021 as part of the TG Geothermal Portfolio, LLC, acquisition, with cost of revenues of \$13.6 million and \$2.3 million, respectively; (ii) cost of revenues related to the enhancement of the Steamboat Hills power plant in June 2020 and (iii) the resumption of operations of the Puna power plant to 25MW in the third quarter of 2021, which was offset by business interruption insurance recovery of \$15.5 million in the year ended December 31, 2021, compared to \$7.8 million in the year ended December 31, 2020, as further discussed in Note 1 to the consolidated financial statements. As a percentage of total Electricity revenues, the total cost of revenues attributable to our Electricity segment for the year ended December 31, 2021 was 57.5%, compared to 55.4% for the year ended December 31, 2020. This increase was primarily attributable to the decrease in gross profit relating to higher operational costs in some of our power plants. The cost of revenues attributable to our international power plants was 20% of our Electricity segment cost of revenues for the year ended December 31, 2021.

#### *Product Segment*

Total cost of revenues attributable to our Product segment for the year ended December 31, 2021 was \$41.4 million, compared to \$114.9 million for the year ended December 31, 2020, representing a 64.0% decrease from the prior period. This decrease was primarily attributable to the decrease in Product segment revenues, as discussed above. As a percentage of total

Product segment revenues, our total cost of revenues attributable to our Product segment for the year ended December 31, 2021 was 88.2%, compared to 77.6% for the year ended December 31, 2020.

### *Energy Storage Segment*

Cost of revenues attributable to our Energy Storage segment for the year ended December 31, 2021 were \$20.4 million as compared to \$14.1 million in the year ended December 31, 2020. Cost of revenues attributable to our Energy Storage segment for the year ended December 31, 2021 includes \$6.6 million from the acquisition of the Pomona energy storage asset that was acquired in July 2020, compared to \$3.1 million in the year ended December 31, 2020. The Energy Storage segment includes cost of revenues related to the delivery of energy storage, demand response and energy management services.

### *Research and Development Expenses*

Research and development expenses for the year ended December 31, 2021 were \$4.1 million, compared to \$5.4 million for the year ended December 31, 2020, represent a 23.5% decrease. The decrease is mainly attributable to the timing of new development projects that took place during the year ended December 31, 2021 compared to the corresponding period in 2020.

### *Selling and Marketing Expenses*

Selling and marketing expenses for the year ended December 31, 2021 were \$15.2 million, compared to \$17.4 million for the year ended December 31, 2020, representing 12.6% decrease. The decrease was mainly due to a decrease in sales commissions as a result of the decrease in Product segment revenues. Selling and marketing expenses constituted 2.3% of total revenues for the year ended December 31, 2021, compared to 2.5%, for the year ended December 31, 2020.

### *General and Administrative Expenses*

General and administrative expenses for the year ended December 31, 2021 were \$75.9 million, compared to \$60.2 million for the year ended December 31, 2020, representing 26.0% increase. The increase was primarily attributable to: (i) the provision for doubtful debts of \$3.0 million relating to imbalance charges from the grid operator in respect of our demand response operation that we may be unable to collect due to the February power crisis in Texas; (ii) \$5.6 million transaction costs including \$4.7 million related to the TG Geothermal Portfolio, LLC, acquisition, on July 13, 2021; (iii) legal costs associated with the investigation by the Special Committee, and (iv) a gain of \$1.3 million from the sale of concession in the year ended December 31, 2020. General and administrative expenses for the year ended December 31, 2021 constituted 11.4% of total revenues for such period, compared to 8.5%, for the year ended December 31, 2020.

### *Business Interruption Insurance Income*

Business interruption insurance income for the year ended December 31, 2021 was \$0.2 million compared to \$20.7 million for the year ended December 31, 2020, representing a 98.8% decrease. Business interruption insurance income for the years ended December 31, 2021 and 2020 is attributable to business interruption recovery relating to the Puna power plant.

### *Interest Expense, Net*

Interest expense, net, for the year ended December 31, 2021 was \$82.7 million, compared to \$78.0 million for the year ended December 31, 2020, representing a 6.0% increase from the prior period. This increase was primarily due to (i) \$125.0 million of proceeds from Bank Hapoalim Loan received in July 2021; (ii) \$50.0 million of proceeds from HSBC Bank Loan received in July 2021; (iii) \$259 million related to Finance Lease liability related to the TG Geothermal Portfolio, LLC, acquisition, in July, 2021; (iv) \$100.0 million of proceeds from Bank Discount Loan received in September 2021, and (v) a \$2.9 million increase in interest related to sale of tax benefits, partially offset by a \$4.2 million increase in interest capitalized to projects and lower interest expense as a result of principal payments of long term debt.

### *Derivatives and Foreign Currency Transaction Gains (Losses)*

Derivatives and foreign currency transaction losses for the year ended December 31, 2021 were \$14.7 million, compared to gains of \$3.8 million for the year ended December 31, 2020. Derivatives and foreign currency transaction losses for the year ended December 31, 2021 includes mainly \$14.5 million in losses relating to the hedge transaction associated with our Rabbit Hill battery energy storage facility, due to extreme weather conditions in the area of Georgetown, Texas in February

2021 as described above. Derivatives and foreign currency transaction gains for the year ended December 31, 2020 were attributable primarily to gains from foreign currency forward contracts which were not accounted for as hedge transactions.

### ***Income Attributable to Sale of Tax Benefits***

Income attributable to the sale of tax benefits for the year ended December 31, 2021 was \$29.6 million, compared to \$25.7 million for the year ended December 31, 2020. Tax equity is a form of financing used for renewable energy projects. This income primarily represents the value of PTCs and taxable income or loss generated by certain of our power plants allocated to investors under tax equity transactions. In 2021, we entered into the Steamboat Hills tax monetization transaction which contributed \$1.1 million of income during the year.

### ***Other Non-Operating Income (Expense), Net***

Other non-operating income, net for the year ended December 31, 2021 was \$0.1 million, compared to \$1.4 million for the year ended December 31, 2020. Other non-operating income for the year ended December 31, 2020 mainly includes income of \$0.6 million for property damage recovery related to the Puna power plant.

### ***Income from operations, before income taxes and equity in earnings of investees***

Income from operations, before income taxes and equity in earnings of investees for the year ended December 31, 2021 was \$103.6 million, compared to \$168.7 million, as described above for the year ended December 31, 2020, representing a 38.6% decrease. This decrease was mainly driven by: (i) the decrease in product segment gross margin as a result from the decrease in product segment revenues; (ii) the business interruption insurance income of \$20.7 million for the year ended December 31, 2020; and (iii) \$14.5 million in losses relating to the hedge transaction,

### ***Income Taxes***

Income tax provision for the year ended December 31, 2021, was \$24.9 million, a decrease of \$42.2 million compared to an income tax provision of \$67.0 million for the year ended December 31, 2020. Our effective tax rate for the year ended December 31, 2021 and 2020, was 24.0% and 39.7%, respectively. The effective rate differs from the federal statutory rate of 21% for the year ended December 31, 2021 due to the jurisdictional mix of earnings at differing tax rates from the federal statutory tax rate, movement in the valuation allowance; and generation of production tax credits. The decrease in the effective tax rate for the year ended December 31, 2021 as compared to the year ended December 31, 2020 is primarily driven by reduced GILTI income inclusion, benefit due to approved qualification as an "Innovation Promoting Enterprise" by the Israeli Innovation Authority, and additional releases in the Company's valuation allowance in the current year.

### ***Equity in Earnings (losses) of investees, net***

Equity in losses of investees, net in the year ended December 31, 2021, was \$2.6 million, compared to equity in earnings of investees, net of \$0.1 million in the year ended December 31, 2020. Equity in earnings (losses) of investees, net is mainly derived from our 12.75% share in the earnings or losses in Sarulla. Due to a combination of lower asset performance and a non-cash write-off of deferred tax assets, SOL, the project company, is currently evaluating the viability of a long term remediation plan to restore generation and change the project PPA's energy rates. We are following the remediation plans in Sarulla as well as the accounting impact and its implication on our financial statements on our investment in Sarulla.

### ***Net Income attributable to the Company's Stockholders***

Net income attributable to the Company's stockholders for the year ended December 31, 2021 was \$62.1 million, compared to \$85.5 million for the year ended December 31, 2020, which represents a decrease of \$23.4 million. This decrease was attributable to the decrease of \$25.7 million in net income which was affected by all the explanations above, partially offset by a decrease of \$2.4 million in net income attributable to noncontrolling interest, mainly due to lower business interruption recovery of the Puna power plant in Hawaii, in the year ended December 31, 2021, compared to the year ended December 31, 2020.

### ***Comparison of the year ended December 31, 2020 and the year ended December 31, 2019***

A discussion of changes in our results of operations in 2020 compared to 2019 has been omitted from this Form 10-K, but may be found in "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" of our Form 10-K for the fiscal year ended December 31, 2020, filed with the SEC on February 26, 2021, which is available



free of charge on the SECs website at [www.sec.gov](http://www.sec.gov) and at [www.Ormat.com](http://www.Ormat.com), by clicking “Investors” located at the top of the home page.

## Liquidity and Capital Resources

Our principal sources of liquidity have been derived from cash flows from operations, proceeds from third party debt such as borrowings under our credit facilities, private offerings and issuances of debt securities, equity offerings, project financing and tax monetization transactions, short term borrowing under our lines of credit, and proceeds from the sale of equity interests in one or more of our projects. We have utilized this cash to develop and construct power plants, fund our acquisitions, pay down existing outstanding indebtedness, and meet our other cash and liquidity needs.

Based on current conditions, we believe that we have sufficient financial resources to fund our activities and execute our business plans. However, the cost of obtaining financing for our project needs may increase significantly or such financing may be difficult to obtain.

As of December 31, 2021, we had access to: (i) \$239.3 million in cash and cash equivalents, of which \$39.2 million was held by our foreign subsidiaries; (ii) \$43.3 million of investment in debt securities; and (iii) \$450.6 million of unused corporate borrowing capacity under existing lines of credit with different commercial banks.

As of December 31, 2021, \$185.0 million in the aggregate was outstanding under credit agreements with several banks as detailed below under “Letters of Credits under the Credit Agreements”.

Our estimated capital needs for 2022 include approximately \$515.0 million for capital expenditures on new projects under development or construction including storage projects, exploration activity and maintenance capital expenditures for our existing projects. In addition, we expect \$386.3 million for long-term debt repayments.

Our capital expenditures primarily relate to the enhancement of our existing power plants and the construction of new power plants. We have budgeted approximately \$640.0 million in capital expenditures for construction of new projects and enhancements to our existing power plants, of which we had invested \$324.0 million as of December 31, 2021. We expect to invest approximately \$230.0 million in 2022 and the remaining approximately \$86.0 million on thereafter.

In addition, we estimate approximately \$285.0 million in additional capital expenditures in 2022 to be allocated as follows: (i) approximately \$145.0 million for the exploration, drilling and development of new projects and enhancements of existing power plants that are not yet released for full construction; (ii) approximately \$42.0 million for maintenance of capital expenditures to our operating power plants; (iii) approximately \$90.0 million for the construction and development of storage projects; and (iv) approximately \$8.0 million for enhancements to our production facilities.

We expect to finance these requirements with: (i) the sources of liquidity described above; (ii) positive cash flows from our operations; and (iii) future project financings and re-financings (including construction loans and tax equity). Management believes that, based on the current stage of implementation of our strategic plan, the sources of liquidity and capital resources described above will address our anticipated liquidity, capital expenditures, and other investment requirements.

## Letters of Credits under the Credit Agreements

Some of our customers require our project subsidiaries to post letters of credit in order to guarantee their respective performance under relevant contracts. We are also required to post letters of credit to secure our obligations under various leases and licenses and may, from time to time, decide to post letters of credit in lieu of cash deposits in reserve accounts under certain financing arrangements. In addition, our subsidiary, Ormat Systems, is required from time to time to post performance letters of credit in favor of our customers with respect to orders of products.

Credit Agreements	Issued Amount	Issued and Outstanding as of December 31, 2021	Termination Date
(Dollars in millions)			
Committed lines for credit and letters of credit.....	\$ 468.0	\$ 77.9	March 2022-Nov 2023
Committed lines for letters of credit.....	155.0	94.5	April 2022-August 2023
Non-committed lines.....	-	12.6	October 2022-December 2022
<b>Total .....</b>	<b>\$ 623.0</b>	<b>\$ 185.0</b>	

### ***Restrictive covenants***

Our obligations under the credit agreements, the loan agreements, and the trust instrument governing the bonds described above, are unsecured, but we are subject to a negative pledge in favor of the banks and the other lenders and certain other restrictive covenants. These include, among other things, a prohibition on: (i) creating any floating charge or any permanent pledge, charge or lien over our assets without obtaining the prior written approval of the lender; (ii) guaranteeing the liabilities of any third party without obtaining the prior written approval of the lender; and (iii) selling, assigning, transferring, conveying or disposing of all or substantially all of our assets, or a change of control in our ownership structure. Some of the credit agreements, the term loan agreements, and the trust instrument contain cross-default provisions with respect to other material indebtedness owed by us to any third party. In some cases, we have agreed to maintain certain financial ratios, which are measured quarterly, such as: (i) equity of at least \$750 million and in no event less than 25% of total assets; (ii) 12-month debt, net of cash, cash equivalents, and short-term bank deposits to Adjusted EBITDA ratio not to exceed 6.0; and (iii) dividend distributions not to exceed 50% of net income in any calendar year. As of December 31, 2021: (i) total equity was \$1,998.5 million and the actual equity to total assets ratio was 45.2%; and (ii) the 12-month debt, net of cash and cash equivalents to Adjusted EBITDA ratio was 4.02. During the year ended December 31, 2021, we distributed interim dividends in an aggregate amount of \$27.0 million. The failure to perform or observe any of the covenants set forth in such agreements, subject to various cure periods, would result in the occurrence of an event of default and would enable the lenders to accelerate all amounts due under each such agreement.

As described above, we are currently in compliance with our covenants with respect to the credit agreements, the loan agreements (except as described below) and the trust instrument, and believe that the restrictive covenants, financial ratios and other terms of any of our full-recourse bank credit agreements will not materially impact our business plan or operations.

As of December 31, 2021, as a result of the overdue debt outstanding of ENEE as further described under Note 1 to the consolidated financial statements, Platanares is restricted from making certain equity distributions. Additionally, as of December 31, 2021, we did not meet the covenants related to the DAC 1 Senior Secured Notes and Prudential Capital Group – Nevada non-recourse loan which resulted in certain equity distribution restrictions from the related subsidiaries.

### ***Credit Agreements***

#### ***Credit Agreement with MUFG Union Bank***

Ormat Nevada has a credit agreement with MUFG Union Bank under which it has an aggregate available credit of up to \$60.0 million as of December 31, 2021. The credit termination date is June 30, 2022.

The facility is limited to the issuance, extension, modification or amendment of letters of credit. Union Bank is currently the sole lender and issuing bank under the credit agreement, but is also designated as an administrative agent on behalf of banks that may, from time to time in the future, join the credit agreement as lenders. In connection with this transaction, the Company entered into a guarantee in favor of the administrative agent for the benefit of the banks, pursuant to which the Company agreed to guarantee Ormat Nevada's obligations under the credit agreement. Ormat Nevada's obligations under the credit agreement are otherwise unsecured. There are various restrictive covenants under the credit agreement, which include a requirement to comply with the following financial ratios, which are measured quarterly: (i) a 12-month debt to EBITDA ratio not to exceed 4.5; (ii) 12-month DSCR of not less than 1.35; and (iii) distribution leverage ratio not to exceed 2.0. As of December 31, 2021: (i) the actual 12-month debt to EBITDA ratio was 2.4; (ii) the 12-month DSCR was 4.8; and (iii) the distribution leverage ratio was 0.66. In addition, there are restrictions on dividend distributions in the event of a payment default or noncompliance with such ratios, and subject to specified carve-outs and exceptions, a negative pledge on the assets of Ormat Nevada in favor of Union Bank. As of December 31, 2021, letters of credit in the aggregate amount of \$59.1 million were issued and outstanding under this credit agreement.

#### ***Credit Agreement with HSBC Bank USA N.A.***

Ormat Nevada has a credit agreement with HSBC Bank USA, N.A for one year with annual renewals. The current expiration date of the facility under this credit agreement is October 31, 2022. On December 31, 2021, the aggregate amount available under the credit agreement was \$ million. This credit line is limited to the issuance, extension, modification or amendment of letters of credit. In addition, Ormat Nevada has an uncommitted discretionary demand line of credit in the aggregate amount of \$35.0 million available for letters of credit including up to \$20 million of credit. In connection with this transaction, the Company entered into a guarantee in favor of the administrative agent for the benefit of the banks, pursuant to which the Company agreed to guarantee Ormat Nevada's obligations under the credit agreement. Ormat Nevada's obligations under the credit agreement are otherwise unsecured.

There are various restrictive covenants under the credit agreement, including a requirement to comply with the following financial ratios, which are measured quarterly: (i) a 12-month debt to EBITDA ratio not to exceed 4.5; (ii) 12-month DSCR of not less than 1.35; and (iii) distribution leverage ratio not to exceed 2.0. As of December 31, 2021: (i) the actual 12-month debt to EBITDA ratio was 2.4; (ii) the 12-month DSCR was 4.8; and (iii) the distribution leverage ratio was 0.66. In addition, there are restrictions on dividend distributions in the event of a payment default or noncompliance with such ratios, and subject to specified carve-outs and exceptions, a negative pledge on the assets of Ormat Nevada in favor of HSBC.

As of December 31, 2021, letters of credit in the aggregate amount of \$35.0 million were issued and outstanding under the committed portion of this credit agreement and \$2.5 million under the uncommitted portion of the agreement.

### ***Future minimum payments***

Future minimum payments under long-term obligations as of December 31, 2021, are detailed under the caption Contractual Obligations and Commercial Commitments, below.

### ***Third-Party Debt***

Our third-party debt consists of (i) non-recourse and limited-recourse project finance debt or acquisition financing that we or our subsidiaries have obtained for the purpose of developing and constructing, refinancing or acquiring our various projects and (ii) full-recourse debt incurred by us or our subsidiaries for general corporate purposes.

Non-recourse debt or lease financing refers to debt or lease arrangements involving debt repayments or lease payments that are made solely from the power plant's revenues (rather than our revenues or revenues of any other power plant) and generally are secured by the power plant's physical assets, major contracts and agreements, cash accounts and, in many cases, our ownership interest in our affiliate that owns that power plant. These forms of financing are referred to as "project financing".

In the event of a foreclosure after a default, our affiliate that owns the power plant would only retain an interest in the power plant assets, if any, remaining after all debts and obligations have been paid in full. In addition, incurrence of debt by a power plant may reduce the liquidity of our equity interest in that power plant because the equity interest is typically subject both to a pledge in favor of the power plant's lenders securing the power plant's debt and to transfer and change of control restrictions set forth in the relevant financing agreements.

Limited recourse debt refers to project financing as described above with the addition of our agreement to undertake limited financial support for our affiliate that owns the power plant in the form of certain limited obligations and contingent liabilities. These obligations and contingent liabilities may take the form of guarantees of certain specified obligations, indemnities, capital infusions and agreements to pay certain debt service deficiencies. Creditors of a project financing of a particular power plant may have direct recourse to us to the extent of these limited recourse obligations.

***Non-Recourse and Limited-Recourse Third-Party Debt***

Loan	Line of Credit	Amount Outstanding as of December 31, 2021	Interest Rate	Maturity Date	Related Projects	Location
(Dollars in millions)						
OFC 2 Senior Secured Notes – Series A	\$ 151.7	\$ 79.6	4.69%	2032	McGinness Hills phase 1 and Tuscarora	United States
OFC 2 Senior Secured Notes – Series B	140.0	93.8	4.61%	2032	McGinness Hills phase 2	United States
Olkaria III Financing Agreement with DFC – Tranche 1	85.0	42.5	6.34%	2030	Olkaria III Complex	Kenya
Olkaria III Financing Agreement with DFC – Tranche 2	180.0	90.0	6.29%	2030	Olkaria III Complex	Kenya
Olkaria III Financing Agreement with DFC – Tranche 3	45.0	24.2	6.12%	2030	Olkaria III Complex	Kenya
Amatitlan Financing <sup>(1)</sup>	42.0	19.3	LIBOR+4.35%	2027	Amatitlan	Guatemala
Don A. Campbell Senior Secured Notes	92.5	67.9	4.03%	2033	Don A. Campbell Complex	United States
Prudential Capital Group Idaho Loan <sup>(2)</sup>	20.0	16.8	5.8%	2023	Neal Hot Springs and Raft River	United States
U.S. Department of Energy loan <sup>(3)</sup>	96.8	39.0	2.61%	2035	Neal Hot Springs	United States
Prudential Capital Group Nevada Loan	30.7	25.1	6.75%	2037	San Emidio	United States
Platanares Loan with DFC	114.7	88.1	7.02%	2032	Platanares	Honduras
Viridity - Plumstriker	23.5	14.7	LIBOR+3.5%	2026	Plumsted Striker	United States
Geothermie Bouillante <sup>(4)</sup>	8.9	5.9	1.52%	2026	Geothermie Bouillante	Guadeloupe
Geothermie Bouillante <sup>(4)</sup>	8.9	7.7	1.93%	2026	Geothermie Bouillante	Guadeloupe
<b>Total</b>	<b>\$ 1,039.7</b>	<b>\$ 614.6</b>				

<sup>(1)</sup> LIBOR Rate cannot be lower than 1.25%. Margin of 4.35% as long as the Company's guaranty of the loan is outstanding (current situation) or 4.75% otherwise. As of December 31, 2021, interest rate is 5.6%.

<sup>(2)</sup> Secured by equity interest.

<sup>(3)</sup> Secured by the assets.

<sup>(4)</sup> Loan in Euros and issued amount is EUR 8.0 million

***Full-Recourse Third-Party Debt***

Loan	Amount Issued	Amount Outstanding as of December 31, 2021	Interest Rate	Maturity Date
(Dollars in millions)				
Hapoalim Loan.....	\$ 125.0	\$ 116.1	3.45%	June 2028
HSBC Loan.....	50.0	50.0	3.45%	July 2028
Discount Loan.....	100.0	100.0	2.90%	September 2029
Senior Unsecured Bonds Series 3 .....	218.0	218.0	4.45%	September 2022
Senior Unsecured Bonds Series 4 <sup>(1)</sup> .....	289.8	321.5	3.35%	June 2031
Senior Unsecured Loan 1 .....	100.0	95.8	4.80%	March 2029
Senior Unsecured Loan 2 .....	50.0	47.9	4.60%	March 2029
Senior Unsecured Loan 3 .....	50.0	47.9	5.44%	March 2029
DEG Loan 2 .....	50.0	32.5	6.28%	June 2028
DEG Loan 3 .....	41.5	28.4	6.04%	June 2028
<b>Total .....</b>	<b>\$ 1,074.3</b>	<b>\$ 1,058.1</b>		

<sup>(1)</sup> Bonds issued in total aggregate principal amount of NIS 1.0 billion.

## Financing Liability

Loan	Amount Outstanding as of December 31, 2021 (Dollar in millions)	Annual Interest Rate	Maturity Date <sup>(1)</sup>
Financing Liability - Dixie Valley .....	\$ 252.9	2.55 %	March 2033

<sup>(1)</sup> final maturity date of the financing liability is assuming execution of the buy-out option in September 2024.

For additional description of our long term debt, see Note 12, Long-term Debt, Credit Agreements and Financial Liability to our consolidated financial statements, set forth in Item 8 of this Annual Report.

## Liquidity Impact of Uncertain Tax Positions

As discussed in Note 17 - Income Taxes, to our consolidated financial statements set forth in Item 8 of this Annual Report, we have a liability associated with unrecognized tax benefits and related interest and penalties in the amount of approximately \$5.7 million as of December 31, 2021. This liability is included in long-term liabilities in our consolidated balance sheet, because we generally do not anticipate that settlement of the liability will require payment of cash within the next 12 months. We are not able to reasonably estimate when we will make any cash payments required to settle this liability.

## Dividends

We have adopted a dividend policy pursuant to which we currently expect to distribute at least 20% of our annual profits available for distribution by way of quarterly dividends. In determining whether there are profits available for distribution, our Board will take into account our business plan and current and expected obligations, and no distribution will be made that in the judgment of our Board would prevent us from meeting such business plan or obligations.

The following are the dividends declared by us during the past two years, as of December 31, 2021:

Date Declared	Dividend Amount per Share	Record Date	Payment Date
November 6, 2019 .....	\$ 0.11	November 20, 2019	December 4, 2019
February 25, 2020 .....	\$ 0.11	March 12, 2020	March 26, 2020
May 8, 2020 .....	\$ 0.11	May 21, 2020	June 2, 2020
August 4, 2020 .....	\$ 0.11	August 18, 2020	September 1, 2020
November 4, 2020 .....	\$ 0.11	November 18, 2020	December 2, 2020
February 24, 2021 .....	\$ 0.12	March 11, 2021	March 29, 2021
May 5, 2021 .....	\$ 0.12	May 18, 2021	June 1, 2021
August 4, 2021 .....	\$ 0.12	August 18, 2021	September 1, 2021
November 3, 2021 .....	\$ 0.12	November 17, 2021	December 3, 2021

## Historical Cash Flows

The following table sets forth the components of our cash flows for the relevant periods indicated:

	Year Ended December 31,		
	2021	2020	2019
	(Dollars in thousands)		
Net cash provided by operating activities.....	\$ 258,822	\$ 265,005	\$ 236,493
Net cash used in investing activities.....	(638,193)	(385,969)	(254,538)
Net cash provided by (used in) financing activities.....	186,385	503,478	(5,765)
Translation adjustments on cash and cash equivalents .....	(348)	1,154	(575)
Net change in cash and cash equivalents and restricted cash and cash equivalents .....	<u>\$ (193,334)</u>	<u>\$ 383,668</u>	<u>\$ (24,385)</u>



*For the Year Ended December 31, 2021*

Net cash provided by operating activities for the year ended December 31, 2021 was \$258.8 million, compared to \$265.0 million for the year ended December 31, 2020. The net decrease of \$6.2 million resulted primarily from (i) a decrease in costs and estimated earnings in excess of billing on uncompleted contracts, net of \$12.9 million in the year ended December 31, 2021, compared to \$22.2 million in the year ended December 31, 2020, as a result of timing of billing to our customers; (ii) a decrease in accounts payable and accrued expenses of \$21.9 million in the year ended December 31, 2021, compared to \$5.4 million in the year ended December 31, 2020, mainly due to timing of payments to our supplier; (iii) an increase in prepaid expenses and other of \$19.1 million in the year ended December 31, 2021, compared to \$2.7 million in the year ended December 31, 2020, mainly due to tax prepayments of OSL. The decrease was partially offset by a decrease of \$26.7 million in receivables in the year ended December 31, 2021 compared to \$3.5 million in the year ended December 31, 2020 because of timing of collections from our customers.

Net cash used in investing activities for the year ended December 31, 2021 was \$638.2 million, compared to \$386.0 million for the year ended December 31, 2020. The principal factors that affected the increase in our net cash used in investing activities during the year ended December 31, 2021 were: (i) capital expenditures of \$419.3 million, compared to \$320.7 million during the year ended December 31, 2020, primarily for our facilities under construction that support our growth plan; (ii) cash paid for the purchase transaction of Terra-Gen for a total consideration of \$171.0 million, net compared to \$43.4 million related to the purchase of the Pomona energy storage asset in California; (iii) purchases of marketable securities of \$60.1 million in 2021 compared to none in 2020; and (iv) an investment in an unconsolidated company of \$6.4 million in 2021 compared to \$21.0 million in 2020, partially offset by maturity of marketable securities of \$16.3 million.

Net cash provided by financing activities for the year ended December 31, 2021 was \$186.4 million, compared to \$503.5 million provided by financing activities for the year ended December 31, 2020. The principal factors that affected the decrease in net cash provided by financing activities were: (i) \$275.0 million proceeds from long term loans from banks in 2021 compared to \$419.3 million during 2020 and (ii) \$339.5 million proceeds from issuance of common stock, net in 2020 compared to none in 2021, partially offset by: (i) the repayment of long-term debt in the amount of \$93.0 million in 2021 compared to \$135.4 million in 2020; (ii) repayments of commercial paper and revolving credit lines with banks of \$50.0 million and \$40.6 million, respectively, in 2020 compared to none in 2021; (iii) \$37.1 million of proceeds from the sale of limited liability company interest, net of transaction costs in 2021 compared to none in 2020.

*For the Year Ended December 31, 2020*

A discussion of changes in our cash flows in 2020 compared to 2019 has been omitted from this Form 10-K, but may be found in “Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations” of our Form 10-K for the fiscal year ended December 31, 2020, filed with the SEC on February 26, 2021, which is available free of charge on the SEC's website at [www.sec.gov](http://www.sec.gov) and at [www.Ormat.com](http://www.Ormat.com), by clicking “Investors” located at the top of the home page.

***Total EBITDA and Adjusted EBITDA***

We calculate EBITDA as net income before interest, taxes, depreciation and amortization. We calculate Adjusted EBITDA as net income before interest, taxes, depreciation and amortization, adjusted for (i) mark-to-market gains or losses from accounting for derivatives, (ii) stock-based compensation, (iii) merger and acquisition transaction costs, (iv) gain or loss from extinguishment of liabilities, (v) cost related to a settlement agreement, and (vi) other unusual or non-recurring items. We adjust for these factors as they may be non-cash, unusual in nature and/or are not factors used by management for evaluating operating performance. We believe that presentation of these measures will enhance an investor's ability to evaluate its financial and operating performance. EBITDA and Adjusted EBITDA are not measurements of financial performance or liquidity under accounting principles generally accepted in the United States, or U.S. GAAP, and should not be considered as an alternative to cash flow from operating activities or as a measure of liquidity or an alternative to net earnings as indicators of our operating performance or any other measures of performance derived in accordance with U.S. GAAP. Our Board of Directors and senior management use EBITDA and Adjusted EBITDA to evaluate our financial performance. However, other companies in our industry may calculate EBITDA and Adjusted EBITDA differently than we do.

This information should not be considered in isolation from, or as a substitute for, or superior to, measures of financial performance prepared in accordance with GAAP or other non-GAAP financial measures.

Net income for the year ended December 31, 2021 was \$76.1 million, compared to \$101.8 million for the year ended December 31, 2020 and \$93.5 million for the year ended December 31, 2019.

Adjusted EBITDA for the year ended December 31, 2021 was \$401.4 million, compared to \$420.2 million for the year ended December 31, 2020 and \$384.3 million for the year ended December 31, 2019.

The following table reconciles net income to EBITDA and adjusted EBITDA for the years ended December 31, 2021, 2020 and 2019:

	Year Ended December 31,		
	2021	2020	2019
	(Dollars in thousands)		
Net income .....	\$ 76,077	\$ 101,806	\$ 93,543
Adjusted for:			
Interest expense, net (including amortization of deferred financing costs) .....	80,534	76,236	78,869
Income tax provision (benefit) .....	24,850	67,003	45,613
Adjustment to investment in an unconsolidated company: our proportionate share in interest expense, tax and depreciation and amortization in Sarulla complex .....	14,680	11,549	13,089
Depreciation and amortization .....	177,930	151,371	143,242
<b>EBITDA</b> .....	<b>374,071</b>	<b>407,965</b>	<b>374,356</b>
Mark-to-market on derivative instruments .....	741	(1,192)	(1,402)
Stock-based compensation .....	9,168	9,830	9,358
Reversal of a contingent liability .....	(418)	—	—
Allowance for bad debts related to February power crisis in Texas .....	2,980	—	—
Hedge losses resulting from February power crisis in Texas .....	9,133	—	—
Loss from extinguishment of liability .....	—	—	468
Merger and acquisition transaction costs .....	5,635	2,279	1,483
Legal settlement expenses .....	—	1,277	—
Tender-related deposits write-off .....	134	—	—
<b>Adjusted EBITDA</b> .....	<b>\$ 401,444</b>	<b>\$ 420,159</b>	<b>\$ 384,263</b>

- Adjusted EBITDA for the fiscal year 2021 decreased 4.5% compared to fiscal 2020, due primarily to a \$27.6 million reduction in gross profit of the Product segment, offset partially by improved performance of the Electricity and Energy Storage segments.

EBITDA and Adjusted EBITDA include our proportionate share (12.75%) of Sarulla's EBITDA and Adjusted EBITDA, respectively.

On May 2014, the Sarulla consortium ("SOL") closed \$1,170 million in financing. As of December 31, 2021, the credit facility has an outstanding balance of \$939.9 million. Our proportionate share in the SOL credit facility is \$119.8 million. Additionally, in March and September 2021, Sarulla failed to meet its debt service coverage ratio under the credit facility agreement due to lower performance of the power plants. The Sarulla power plant complex has been experiencing a reduction in generation primarily due to wellfield issues at one of its power plants, as well as equipment failures which resulted in a decrease in profitability. To address these issues, the project management developed a Long-Term Recovery Plan ("LTRP") that includes drilling of additional wells and various equipment modifications. The LTRP is expected to be implemented starting in 2022, pending approval by the lenders. Additional initiatives are also undergoing in an effort to strengthen the Sarulla project's financial position, including potential tariff changes. We are following the remediation plans in Sarulla as well as the potential accounting impact on our consolidated financial statements in respect with our equity investment in Sarulla. As of December 31, 2021, the carrying value of our equity investment in SOL is \$69.0 million.

## Exposure to Market Risks

We, like other power plant operators, are exposed to electricity price volatility risk. Our exposure to such market risk is currently limited because the majority of our long-term PPAs have fixed or escalating rate provisions that limit our exposure to changes in electricity prices. Our energy storage projects sell primarily on a "merchant" basis and are exposed to changes in the electricity market prices.

The energy payments under the PPAs of the Heber 2 power plant in the Heber Complex are determined by reference to the relevant power purchaser's SRAC. A decline in the price of natural gas will result in a decrease in the incremental cost that the power purchaser avoids by not generating its electrical energy needs from natural gas, or by reducing the price of purchasing its electrical energy needs from natural gas power plants, which in turn will reduce the energy payments that we may charge under the relevant PPA for these power plants. The Puna Complex is currently benefiting from energy prices which are higher than the floor under the 25 MW PPA for the Puna Complex.

As of December 31, 2021, 98.0% of our consolidated long-term debt was fixed rate debt and therefore was not subject to interest rate volatility risk and 2.0% of our long-term debt was floating rate debt, exposing us to interest rate risk in connection therewith. As of December 31, 2021, \$34.0 million of our long-term debt remained subject to interest rate risk.

Our cash equivalents are subject to interest rate risk. We currently maintain our surplus cash in short-term, interest-bearing bank deposits, money market funds, corporate bonds and debt securities available for sale (with a minimum investment grade rating of A+ by Standard & Poor's Ratings Services).

We are also exposed to foreign currency exchange risk, in particular the fluctuation of the U.S. dollar versus the NIS in Israel and the Euro. Risks attributable to fluctuations in currency exchange rates can arise when we or any of our foreign subsidiaries borrow funds or incur operating or other expenses in one type of currency but receive revenues in another. In such cases, an adverse change in exchange rates can reduce such subsidiary's ability to meet its debt service obligations, reduce the amount of cash and income we receive from such foreign subsidiary, or increase such subsidiary's overall expenses. In Kenya, the tax asset is recorded in KES similar to the tax liability, however any change in the exchange rate in the KES versus the USD has an impact on our financial results. Risks attributable to fluctuations in foreign currency exchange rates can also arise when the currency denomination of a particular contract is not the U.S. dollar. Substantially all of our PPAs in the international markets are either U.S. dollar-denominated or linked to the U.S. dollar except for our operations on Guadeloupe, where we own and operate the Bouillante power plant which sells its power under a Euro-denominated PPA with Électricité de France S.A. Our construction contracts from time to time contemplate costs which are incurred in local currencies. The way we often mitigate such risk is to receive part of the proceeds from the contract in the currency in which the expenses are incurred. Currently, we have forward and cross-currency swap contracts in place to reduce our NIS/USD currency exposure and expect to continue to use currency exchange and other derivative instruments to the extent we deem such instruments to be the appropriate tool for managing such exposure.

On July 1, 2020, we concluded an auction tender and accepted subscriptions for senior unsecured bonds comprised of NIS 1.0 billion aggregate principal amount (the "Senior Unsecured Bonds - Series 4"). The Senior Unsecured Bonds - Series 4 were issued in New Israeli Shekels and converted to approximately \$290 million using a cross-currency swap transaction shortly after the completion of such issuance. We performed a sensitivity analysis on the fair values of our long-term debt obligations, and foreign currency exchange forward contracts. The foreign currency exchange forward contracts listed below principally relate to trading activities. The sensitivity analysis involved increasing and decreasing forward rates at December 31, 2021 and 2020 by a hypothetical 10% and calculating the resulting change in the fair values.

At this time, the development of our strategic plan has not exposed us to any additional market risk. However, as the implementation of the plan progresses, we may be exposed to additional or different market risks.

The results of the sensitivity analysis calculations as of December 31, 2021 and 2020 are presented below:

Risk	Assuming a 10% Increase in Rates		Assuming a 10% Decrease in Rates		Change in the Fair Value of				
	As of December 31,		As of December 31,						
	2021	2020	2021	2020					
(In thousands)									
Foreign									
Currency.....	\$	(2,719)	\$	(1,996)	\$	3,324	\$	2,439	Foreign Currency Forward Contracts
Interest Rate....	\$	(1,131)	\$	—	\$	1,148	\$	—	Hapoalim Loan
Interest Rate....	\$	(557)	\$	—	\$	566	\$	—	HSBC Loan
Interest Rate....	\$	(1,119)	\$	—	\$	1,131	\$	—	Discount Loan
Interest Rate....	\$	(3,394)	\$	—	\$	3,465	\$	—	Financing Liability
Interest Rate....	\$	(3,069)	\$	(3,025)	\$	3,146	\$	3,090	OFC 2 Senior Secured Notes
Interest Rate....	\$	(2,946)	\$	(3,193)	\$	3,025	\$	3,273	DFC Loan
Interest Rate....	\$	(226)	\$	(311)	\$	231	\$	318	Amatitlan Loan
Interest Rate....	\$	(3,833)	\$	(4,278)	\$	3,880	\$	4,313	Senior Unsecured Bonds
Interest Rate....	\$	(494)	\$	(586)	\$	505	\$	599	DEG 2 Loan
Interest Rate....	\$	(1,286)	\$	(1,266)	\$	1,324	\$	1,299	DAC 1 Senior Secured Notes
Interest Rate....	\$	(3,135)	\$	(3,194)	\$	3,214	\$	3,270	Migdal Loan and the Additional Migdal Loan and the Second Addendum Migdal Loan
Interest Rate....	\$	(920)	\$	(941)	\$	965	\$	983	San Emidio Loan
Interest Rate....	\$	(539)	\$	(444)	\$	550	\$	450	DOE Loan
Interest Rate....	\$	(88)	\$	(151)	\$	89	\$	153	Idaho Holdings Loan
Interest Rate....	\$	(2,035)	\$	(2,146)	\$	2,100	\$	2,209	Platanares DFC Loan
Interest Rate....	\$	(389)	\$	(452)	\$	397	\$	461	DEG 3 Loan
Interest Rate....	\$	(121)	\$	(179)	\$	123	\$	181	Plumstriker Loan
Interest Rate....	\$	—	\$	—	\$	—	\$	—	Commercial Paper
Interest Rate....	\$	(81)	\$	(107)	\$	82	\$	108	Other long-term loans

In July 2019, the United Kingdom's Financial Conduct Authority (the "FCA"), which regulates LIBOR (London Interbank Offered Rate), announced that it intends to phase out LIBOR. LIBOR is still in use and being published until its phaseout in June 2023 in order to allow a transition period mainly for contracts that already exist using LIBOR. Additionally, the FCA has stated that no new contracts using U.S. dollar LIBOR should be entered into after December 31, 2021. The U.S. Federal Reserve, in conjunction with the Alternative Reference Rates Committee, a steering committee comprised of large U.S. financial institutions, is considering replacing U.S. dollar LIBOR with a new index calculated by short-term repurchase agreements, backed by Treasury securities ("SOFR"). SOFR is observed and backward-looking, which stands in contrast with LIBOR under the current methodology, which is an estimated forward-looking rate and relies, to some degree, on the expert judgment of submitting panel members. Given that SOFR is a secured rate backed by government securities, it would not take into account bank credit risk (as is the case with LIBOR). Therefore, the SOFR rate, if adopted, would likely be lower than LIBOR rates and is less likely to correlate with the funding costs of financial institutions.

We have evaluated the impact of the transition from LIBOR, and currently believe that the transition will not have a material impact on our consolidated financial statements.

### Effect of Inflation

While we expect that the long term inflation rate will not be a significant, we recently experienced an increase in raw material costs, which put pressure on our operating margins in the Product segment and increased our cost to build our own power plants. To address the possibility of rising inflation, some of our contracts include certain provisions that mitigate inflation risk.

In connection with the Electricity segment, none of our U.S. PPAs, including the SCPPA Portfolio PPA, are directly linked to the CPI. Inflation may directly impact an expense we incur for the operation of our projects, thereby increasing our overall operating costs and reducing our profit and gross margin. The negative impact of inflation would be partially offset

by price adjustments built into some of our PPAs that could be triggered upon such occurrences. The energy payments pursuant to our PPAs for some of our power plants such as the Brady power plant, the Steamboat 2 and 3 power plants and the McGinness Complex, increase every year through the end of the relevant terms of such agreements, although such increases are not directly linked to the CPI or any other inflationary index. Lease payments are generally fixed, while royalty payments are generally calculated as a percentage of revenues and therefore are not significantly impacted by inflation. In our Product segment, inflation may directly impact fixed and variable costs incurred in the construction of our power plants, thereby increasing our operating costs in the Product segment. We are more likely to be able to offset all or part of this inflationary impact through our project pricing. With respect to power plants that we build for our own electricity production, inflationary pricing may impact our operating costs which may be partially offset in the pricing of the new long-term PPAs that we negotiate.

## Contractual Obligations and Commercial Commitments

The following tables set forth our material contractual obligations as of December 31, 2021 (in thousands):

	Remaining Total	Payments Due by Period					
		2022	2023	2024	2025	2026	Thereafter
Long-term debt and financing liabilities – principal .....	\$ 1,925,530	\$ 386,289	\$ 189,103	\$ 253,044	\$ 167,193	\$ 168,468	\$ 761,433
Interest on long-term debt and financing liabilities <sup>(1)</sup> .....	363,163	78,827	61,489	53,795	44,373	37,185	87,496
Finance lease obligations.....	10,249	3,326	1,549	854	693	514	3,313
Operating lease obligations .....	29,604	3,079	2,329	2,043	1,656	1,519	18,978
Benefits upon retirement <sup>(2)</sup> .....	15,606	4,526	92	263	951	664	9,110
Asset retirement obligation .....	84,891	—	—	—	—	—	84,891
Purchase commitments <sup>(3)</sup> .....	249,167	249,167	—	—	—	—	—
	<u>\$ 2,678,210</u>	<u>\$ 725,214</u>	<u>\$ 254,562</u>	<u>\$ 309,999</u>	<u>\$ 214,866</u>	<u>\$ 208,350</u>	<u>\$ 965,221</u>

- (1) See interest rates and maturity dates under Liquidity and Capital Resources section above.
- (2) The above amounts were determined based on employees' current salary rates and the number of years' service that will have been accumulated at their expected retirement date. These amounts do not include amounts that might be paid to employees that will cease working with us before reaching their expected retirement age.
- (3) We purchase raw materials for inventories, construction-in-process and services from a variety of vendors. During the normal course of business, in order to manage manufacturing lead times and help assure adequate supply, we enter into agreements with contract manufacturers and suppliers that either allow them to procure goods and services based upon specifications defined by us, or that establish parameters defining our requirements. At December 31, 2021, total obligations related to such supplier agreements were approximately \$249.2 million (approximately \$152.8 million of which relate to construction-in-process). All such obligations are payable in 2022.

The table above does not reflect unrecognized tax benefits of \$5.7 million, the timing of which is uncertain. Refer to Note 17 to our consolidated financial statements set forth in Item 8 of this Annual Report for additional discussion of unrecognized tax benefits. The above table also does not reflect a liability associated with the sale of tax benefits of \$135.0 million, the timing of which is uncertain and other long-term liabilities of \$5.0 million that are deemed immaterial. Refer to Note 13 to our consolidated financial statements as set forth in Item 8 of this Annual Report for additional discussion of our liability associated with the sale of tax benefits.

## Concentration of Credit Risk

Our credit risk is currently concentrated with the following major customers: Sierra Pacific Power Company and Nevada Power Company (subsidiaries of NV Energy), SCPPA and KPLC. If any of these electric utilities fail to make payments under its PPAs with us, such failure would have a material adverse impact on our financial condition. Also, by implementing our multi-year strategic plan we may be exposed, by expanding our customer base, to different credit profile customers than our current customers.



The Company's revenues from its primary customers as a percentage of total revenues are as follows:

	Year Ended December 31,		
	2021	2020	2019
Southern California Public Power Authority ("SCPPA") .....	23.7%	20.6%	17.9%
Sierra Pacific Power Company and Nevada Power Company .....	18.6	17.5	16.8
Kenya Power and Lighting Co. Ltd. ("KPLC").....	15.5	16.4	16.3

We have historically been able to collect on substantially all of our receivable balances. As of December 31, 2021, the amount overdue from KPLC in Kenya was \$25.5 million of which \$22.9 million was paid in January and February of 2022. These amounts represent an average of 63 days overdue. The Company believes it will be able to collect all past due amounts in Kenya. This belief is supported by the fact that in addition to KPLC's obligations under its power purchase agreement, the Company holds a support letter from the Government of Kenya that covers certain cases of KPLC non-payment (such as where caused by government actions/political events).

In Honduras, as of December 31, 2021, the total amount overdue from ENEE was \$20.7 million of which \$2.9 million was collected in February 2022. In addition, due to continuing restrictive measures related to the COVID-19 pandemic in Honduras, the Company may experience additional delays in collection. The Company believes it will be able to collect all past due amounts in Honduras.

### Government Grants and Tax Benefits

The U.S. federal government encourages production of electricity from geothermal resources or solar energy through certain tax subsidies:

- PTC - the PTC rules provide an income tax credit for each kWh of electricity produced from certain renewable energy sources, including geothermal, and sold to an unrelated person during a taxable year. The PTC was first introduced in 1992 and has since been revised a number of times. The PTC, which in 2021 was 2.5 cents per kWh, is adjusted annually for inflation and may be claimed for 10 years on the net electricity output sold to third parties after the project is first placed in service. The tax extender package signed into law in December 2020 provides that any qualifying project that starts construction by December 31, 2021 would be eligible for PTC. The qualifying project must ordinarily be placed in service within four years after the end of the year in which construction started or show continued construction to qualify for PTC. The PTC is not available for power produced from geothermal resources for projects that started construction on or after January 1, 2022.
- The ITC rules have been amended a number of times. A qualified new geothermal power plant in the United States that starts construction by the end of 2021 would be eligible to claim an ITC of 30% of the project eligible cost. New solar projects that were under construction by December 31, 2019 will qualify for a 30% ITC. The credit will phase down to 26% for solar PV projects starting construction by the end of 2022 and to 22% for solar PV projects starting construction in 2023. Projects that were under construction before these deadlines must be placed in service by December 31, 2025 to qualify for the ITC at these rates. Solar projects placed in service after December 31, 2025 will only qualify for a 10% ITC. Under current tax rules, any unused tax credit has a one-year carry back and a twenty-year carry forward.

We are also permitted to depreciate most of the cost of a new geothermal power plant. In cases where we claim the one-time 30% (or 10%) ITC, our tax basis in the plant that is eligible for depreciation is reduced by one-half of the ITC amount. In cases where we claim the PTC, there is no reduction in the tax basis for depreciation. Projects that were placed in service in 2016 and 2017 were eligible for "bonus" depreciation of 50% of the cost of that equipment in the year the power plant was placed in service. Following the Tax Act, projects that were or will be placed in service after September 27, 2017, could qualify for a 100% bonus depreciation with respect to its qualifying assets. After applying any depreciation bonus that is available, we can depreciate the remainder of our tax basis in the plant, if any, mostly over five years on an accelerated basis, meaning that more of the cost may be deducted in the first few years than during the remainder of the depreciation period. We will continue to analyze this new provision under the Act and determine if an election is appropriate as it relates to our business needs.

Ormat Systems received “Benefited Enterprise” status under Israel’s Law for Encouragement of Capital Investments, 1959 (the Investment Law), with respect to two of its investment programs through 2011. In January 2011, new legislation amending the Investment Law was enacted. Under the new legislation, a uniform rate of corporate tax will apply to all qualified income of certain industrial companies, as opposed to the previous law’s incentives that are limited to income from a “Benefited Enterprise” during their benefits period. As a result, we now pay a uniform corporate tax rate of 16% with respect to that qualified income. In January 2021, Ormat Systems received an approval from the Israeli Innovation Authority that it owns an "Innovation Promoting Enterprise" and therefore is eligible for a reduced corporate tax rate of 12% on its "Preferred Technological Income" for the tax years 2019 and 2020 (effective tax rate of approximately 13% for 2019 and 2020). The tax benefit of lower effective tax rate is reflected in the 2021 net income.

#### **ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

Information responding to Item 7A is included in Item 7 — “Management’s Discussion and Analysis of Financial Condition and Results of Operations” of this Annual Report.

#### **ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA**

##### **Index to Consolidated Financial Statements of Ormat Technologies, Inc. and Subsidiaries**

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## **REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Stockholders of Ormat Technologies, Inc.

### ***Opinions on the Financial Statements and Internal Control over Financial Reporting***

We have audited the accompanying consolidated balance sheets of Ormat Technologies, Inc. and its subsidiaries (the "Company") as of December 31, 2021 and 2020, and the related consolidated statements of operations and comprehensive income (loss), of equity and of cash flows for each of the three years in the period ended December 31, 2021, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2021, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

### ***Basis for Opinions***

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements 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. 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 audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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

A company'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 generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) 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.

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.

### ***Critical Audit Matters***

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

#### ***Realizability of Deferred Tax Assets***

As described in Note 17 to the consolidated financial statements, the Company's deferred tax asset balance as of December 31, 2021 is \$143 million. As disclosed by management, significant estimates are required to calculate the consolidated income tax provision and tax balances. Management calculates temporary differences resulting from differing treatments of items for tax and accounting purposes, which can result in the creation of deferred tax assets or liabilities. For those jurisdictions where the realization of net deferred tax assets is not more likely than not, a valuation allowance is recorded. In assessing the need for a valuation allowance, management estimates future taxable income by jurisdiction while also considering the feasibility of ongoing tax planning strategies and the realization of tax credits and net operating loss carryforwards. Significant estimates are required in estimating future taxable income by jurisdiction, leading to significant judgment from management.

The principal consideration for our determination that performing procedures relating to the realizability of deferred tax assets is a critical audit matter is that there was significant judgment by management in estimating future taxable income by jurisdiction. This in turn led to significant auditor judgment and effort in performing procedures to evaluate management's estimates of future taxable income.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the income tax process, including controls over estimating future taxable income by jurisdiction in order to assess the realizability of deferred tax assets. These procedures also included, among others, testing management's process for assessing the realizability of deferred tax assets, testing the completeness and accuracy of underlying data used in management's assessment and evaluating the reasonableness of management's assumptions related to estimating future taxable income. Evaluating management's assumptions related to estimating future taxable income involved evaluating whether the assumptions used by management were reasonable considering (i) the current and past performance of the Company; (ii) the consistency with external market and industry data; and (iii) the consistency of the assumptions with evidence obtained in other areas of the audit.

/s/ Kesselman & Kesselman  
Certified Public Accountants (Isr.)  
A member firm of PricewaterhouseCoopers International Limited

Tel Aviv, Israel  
February 25, 2022

We have served as the Company's auditor since 2018.

**ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**  
**CONSOLIDATED BALANCE SHEETS**

	December 31,	
	2021	2020
	(Dollars in thousands)	
ASSETS		
Current assets:		
Cash and cash equivalents .....	\$ 239,278	\$ 448,252
Marketable securities at fair value .....	43,343	—
Restricted cash and cash equivalents (primarily related to VIEs).....	104,166	88,526
Receivables:		
Trade less allowance for credit losses of \$90 and \$597, respectively (primarily related to VIEs).....	122,944	149,170
Other .....	18,144	17,987
Inventories .....	28,445	35,321
Costs and estimated earnings in excess of billings on uncompleted contracts .....	9,692	24,544
Prepaid expenses and other.....	35,920	15,354
Total current assets .....	601,932	779,154
Investment in unconsolidated companies.....	105,886	98,217
Deposits and other .....	78,915	66,989
Deferred income taxes.....	143,450	119,299
Property, plant and equipment, net (\$2,159,696 and \$1,978,220 related to VIEs, respectively).....	2,294,973	2,099,046
Construction-in-process (\$366,924 and \$198,812 related to VIEs, respectively).....	721,483	479,315
Operating leases right of use (\$7,825 and \$4,712 related to VIEs, respectively) .....	19,357	16,347
Finance leases right of use (\$192 and \$7,001 related to VIEs, respectively) .....	6,414	11,633
Intangible assets, net.....	363,314	194,421
Goodwill .....	89,954	24,566
Total assets .....	\$ 4,425,678	\$ 3,888,987
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable and accrued expenses .....	\$ 143,186	\$ 152,763
Billings in excess of costs and estimated earnings on uncompleted contracts .....	9,248	11,179
Current portion of long-term debt:		
Limited and non-recourse (primarily related to VIEs): .....	61,695	60,846
Full recourse .....	313,846	17,768
Financing liability .....	10,835	—
Operating lease liabilities.....	2,564	2,922
Finance lease liabilities.....	2,782	3,169
Total current liabilities.....	544,156	248,647
Long-term debt, net of current portion:		
Limited and non-recourse (primarily related to VIEs and less deferred financing costs of \$11,304 and \$13,887, respectively) .....	539,664	600,123
Full recourse (less deferred financing costs of \$3,659 and \$3,436, respectively) .....	740,335	777,090
Financing liability .....	242,029	—
Operating lease liabilities.....	16,462	12,897
Finance lease liabilities .....	4,361	9,104
Liability associated with sale of tax benefits .....	134,953	111,476
Deferred income taxes.....	84,662	87,972
Liability for unrecognized tax benefits .....	5,730	1,970
Liabilities for severance pay.....	15,694	18,749
Asset retirement obligation .....	84,891	63,457
Other long-term liabilities .....	4,951	6,235
Total liabilities .....	\$ 2,417,888	\$ 1,937,720
Commitments and contingencies (Note 21)		
Redeemable noncontrolling interest.....	9,329	9,830
Equity:		
The Company's stockholders' equity:		
Common stock, par value \$0.001 per share; 200,000,000 shares authorized; 56,056,450 and 55,983,259 issued and outstanding as of December 31, 2020 and December 31, 2019, respectively.....	56	56
Additional paid-in capital.....	1,271,925	1,262,446
Retained earnings .....	585,209	550,103
Accumulated other comprehensive loss.....	(2,191)	(6,620)
Total stockholders' equity attributable to Company's stockholders.....	1,854,999	1,805,985
Noncontrolling interest.....	143,462	135,452
Total equity.....	1,998,461	1,941,437
Total liabilities, redeemable noncontrolling interest and equity .....	\$ 4,425,678	\$ 3,888,987

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



**ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME (LOSS)**

	Year Ended December 31,		
	2021	2020	2019
	(Dollars in thousands, except earnings per share data)		
Revenues:			
Electricity .....	\$ 585,771	\$ 541,393	\$ 540,333
Product .....	46,920	148,125	191,009
Energy storage.....	30,393	15,824	14,702
Total revenues .....	<u>663,084</u>	<u>705,342</u>	<u>746,044</u>
Cost of revenues:			
Electricity .....	337,019	300,059	312,835
Product .....	41,374	114,948	145,974
Energy storage.....	20,353	14,060	17,912
Total cost of revenues .....	<u>398,746</u>	<u>429,067</u>	<u>476,721</u>
Gross profit .....	<u>264,338</u>	<u>276,275</u>	<u>269,323</u>
Operating expenses:			
Research and development expenses.....	4,129	5,395	4,647
Selling and marketing expenses .....	15,199	17,384	15,047
General and administrative expenses .....	75,901	60,226	55,833
Business interruption insurance income .....	(248)	(20,743)	—
Operating income .....	<u>169,357</u>	<u>214,013</u>	<u>193,796</u>
Other income (expense):			
Interest income.....	2,124	1,717	1,515
Interest expense, net.....	(82,658)	(77,953)	(80,384)
Derivatives and foreign currency transaction gains (losses).....	(14,720)	3,802	624
Income attributable to sale of tax benefits.....	29,582	25,720	20,872
Other non-operating income (expense), net .....	<u>(134)</u>	<u>1,418</u>	<u>880</u>
Income from operations before income tax and equity in earnings (losses) of investees.....	103,551	168,717	137,303
Income tax provision.....	(24,850)	(67,003)	(45,613)
Equity in earnings (losses) of investees, net.....	<u>(2,624)</u>	<u>92</u>	<u>1,853</u>
Net income .....	76,077	101,806	93,543
Net income attributable to noncontrolling interest .....	(13,985)	(16,350)	(5,448)
Net income attributable to the Company's stockholders.....	<u>\$ 62,092</u>	<u>\$ 85,456</u>	<u>\$ 88,095</u>
Comprehensive income:			
Net income .....	76,077	101,806	93,543
Other comprehensive income (loss), net of related taxes:			
Change in foreign currency translation adjustments.....	(3,236)	3,813	(1,810)
Change in unrealized gains or losses in respect of the Company's share in derivatives instruments of unconsolidated investment that qualifies as a cash flow hedge .....	3,892	(3,975)	(3,417)
Change in unrealized gains or losses in respect of a cross currency swap derivative instrument that qualifies as a cash flow hedge (net of related tax of \$817 and \$1,095, respectively).....	2,379	3,366	—
Change in unrealized gains or losses on marketable securities available-for-sale (net of related tax of \$0) .....	(40)	—	—
Other changes in comprehensive income .....	<u>228</u>	<u>274</u>	<u>44</u>
Comprehensive income .....	79,300	105,284	88,360
Comprehensive income attributable to noncontrolling interest .....	(12,779)	(17,794)	(5,120)
Comprehensive income attributable to the Company's stockholders..	<u>\$ 66,521</u>	<u>\$ 87,490</u>	<u>\$ 83,240</u>
Earnings per share attributable to the Company's stockholders:			
Basic: .....	\$ 1.11	\$ 1.66	\$ 1.73
Diluted: .....	<u>\$ 1.10</u>	<u>\$ 1.65</u>	<u>\$ 1.72</u>
Weighted average number of shares used in computation of earnings per share attributable to the Company's stockholders:			
Basic.....	<u>56,004</u>	<u>51,567</u>	<u>50,867</u>
Diluted.....	<u>56,402</u>	<u>51,937</u>	<u>51,227</u>

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

# ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES

## CONSOLIDATED STATEMENTS OF EQUITY

	The Company's Stockholders' Equity						
	Common Stock		Additional Paid-in Capital	Retained Earnings (Accumulated Deficit)	Accumulated Other Comprehensive Income (Loss)	Noncontrolling Interest	Total Equity
	Shares	Amount					
	50,700	\$ 51	\$ 901,363	\$ 422,164	\$ (3,799 )	\$ 1,319,779	\$ 1,445,038
Balance at January 1, 2019							
Stock-based compensation	—	—	9,358	—	—	9,358	9,358
Exercise of options by employees and directors (*)	—	—	—	—	—	—	—
Cash paid to noncontrolling interest	332	—	2,429	—	—	2,429	2,429
Cash dividend declared, \$0.44 per share	—	—	—	—	—	—	(8,329 )
Increase in noncontrolling interest related to the Tungsten transaction	—	—	—	(22,386 )	—	(22,386 )	(22,386 )
Purchase of U.S. Geothermal	—	—	—	—	—	—	—
Net income	—	—	—	—	—	—	2,072
Other comprehensive income (loss), net of related taxes:	—	—	—	88,095	—	88,095	4,316
Foreign currency translation adjustments	—	—	—	—	(1,482 )	(1,482 )	(328 )
Change in respect of derivative instruments designated for cash flow hedge (net of related tax of \$24)	—	—	—	—	75	75	—
Change in unrealized gains or losses in respect of the Company's share in derivative instruments of unconsolidated investment (net of related tax of \$0)	—	—	—	—	(3,417 )	(3,417 )	—
Amortization of unrealized gains in respect of derivative instruments designated for cash flow hedge (net of related tax of \$18)	—	—	—	—	(31 )	(31 )	—
Balance at December 31, 2019	51,032	51	913,150	487,873	(8,654 )	1,392,420	1,515,410
Cumulative effect of changes in accounting principles	—	—	—	(755 )	—	(755 )	(755 )
Adjusted balance as of the beginning of the year	51,032	51	913,150	487,118	(8,654 )	1,391,665	1,514,655
Stock-based compensation	—	—	9,830	—	—	9,830	9,830
Exercise of options by employees and directors (*)	178	—	—	—	—	—	—
Common stock issuance	4,773	5	339,466	—	—	339,471	339,471
Cash paid to noncontrolling interest	—	—	—	—	—	—	(6,756 )
Cash dividend declared, \$0.44 per share	—	—	—	(22,471 )	—	(22,471 )	(22,471 )
Increase in noncontrolling interest	—	—	—	—	—	—	2,754
Net income	—	—	—	85,456	—	85,456	15,020
Other comprehensive income (loss), net of related taxes:	—	—	—	—	—	—	—
Foreign currency translation adjustments	—	—	—	—	2,369	2,369	3,813
Change in unrealized gains or losses in respect of the Company's share in derivative instruments of unconsolidated investment	—	—	—	—	(3,975 )	(3,975 )	—
Change in unrealized gains or losses in respect of a cross currency swap derivative instrument that qualifies as a cash flow hedge (net of related tax of \$1,095)	—	—	—	—	3,366	3,366	—
Other	—	—	—	—	274	274	3,366
Balance at December 31, 2020	55,983	56	1,262,446	550,103	(6,620 )	1,805,985	1,941,437
Stock-based compensation	—	—	9,168	—	—	9,168	9,168
Exercise of stock-based awards by employees and directors (*)	73	—	—	—	—	—	—
Stock issuance costs reimbursement	—	—	311	—	—	311	311
Cash paid to noncontrolling interest	—	—	—	—	—	—	(5,507 )
Cash dividend declared, \$0.48 per share	—	—	—	(26,986 )	—	(26,986 )	(5,507 )
Increase in noncontrolling interest in Steamboat Hills	—	—	—	—	—	—	(26,986 )
Net income	—	—	—	62,092	—	62,092	1,357
Other comprehensive income (loss), net of related taxes:	—	—	—	—	—	—	13,366
Foreign currency translation adjustments	—	—	—	—	(2,030 )	(2,030 )	75,458
Change in unrealized gains or losses in respect of the Company's share in derivative instruments of unconsolidated investment that qualifies as a cash flow hedge (net of related tax of \$0)	—	—	—	—	3,892	3,892	(3,236 )
Change in unrealized gains or losses in respect of a cross currency swap derivative instrument that qualifies as a cash flow hedge (net of related tax of \$817)	—	—	—	—	—	—	—
Change in unrealized gains or losses on marketable securities available-for-sale (net of related tax of \$0)	—	—	—	—	2,379	2,379	—
Other	—	—	—	—	(40 )	(40 )	—
Balance at December 31, 2021	56,056	56	1,271,925	585,209	(2,191 )	1,854,999	(40 )
						228	228
							143,462
							1,998,461

(\*) Resulted in an amount lower than \$1 thousand.

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

**ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

	Year Ended December 31,		
	2021	2020	2019
	(Dollars in thousands)		
<b>Cash flows from operating activities:</b>			
Net income .....	\$ 76,077	\$ 101,806	\$ 93,543
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization.....	182,972	156,612	148,761
Accretion of asset retirement obligation.....	3,977	3,232	2,709
Stock-based compensation .....	9,168	9,830	9,358
Amortization of deferred lease income .....	—	—	(2,685)
Income attributable to sale of tax benefits, net of interest expense.....	(12,201)	(12,090)	(10,084)
Equity in losses (earnings) of investees, net.....	2,624	(92)	(1,853)
Mark-to-market of derivative instruments.....	741	(1,192)	(1,402)
Loss (gain) on severance pay fund asset .....	(1,335)	(893)	(1,016)
Deferred income tax provision .....	(3,115)	5,102	27,896
Liability for unrecognized tax benefits.....	3,760	(12,673)	2,874
Deferred lease revenues.....	—	—	(574)
Other .....	526	338	914
Changes in operating assets and liabilities, net of businesses acquired:			
Receivables .....	26,738	3,520	(15,133)
Costs and estimated earnings in excess of billings on uncompleted contracts.....	14,852	13,821	3,765
Inventories.....	4,127	178	5,500
Prepaid expenses and other .....	(19,105)	(2,687)	3,452
Change in operating lease right of use asset .....	3,010	3,825	8,167
Deposits and other.....	(4,154)	(893)	(22,525)
Accounts payable and accrued expenses .....	(21,936)	(5,373)	8,738
Billings in excess of costs and estimated earnings on uncompleted contracts .....	(1,931)	8,424	(15,647)
Liabilities for severance pay .....	(3,055)	(2)	757
Change in operating lease liabilities .....	(2,816)	(3,765)	(8,405)
Other liabilities, net.....	(102)	(2,023)	(617)
Net cash provided by operating activities .....	<u>258,822</u>	<u>265,005</u>	<u>236,493</u>
<b>Cash flows from investing activities:</b>			
Purchase of marketable securities .....	(60,070)	—	—
Maturities of marketable securities .....	16,272	—	—
Capital expenditures.....	(419,272)	(320,738)	(279,986)
Cash received from insurance recoveries.....	—	4,700	35,435
Investment in unconsolidated companies.....	(6,401)	(20,960)	(10,674)
Cash paid for acquisition of a business, net of cash acquired.....	(171,000)	(43,397)	—
Decrease (increase) in severance pay fund asset, net of payments made to retired employees .....	3,189	845	687
Other investing activities.....	(911)	(6,419)	—
Net cash used in investing activities.....	<u>(638,193)</u>	<u>(385,969)</u>	<u>(254,538)</u>
<b>Cash flows from financing activities:</b>			
Proceeds from long-term loans, net of transaction costs .....	275,000	419,262	132,847
Proceeds from exercise of options by employees .....	—	—	2,429
Proceeds from issuance of common stock, net of stock issuance costs.....	311	339,471	—
Proceeds from the sale of limited liability company interest, net of transaction costs.....	37,141	—	58,289
Repayments of commercial paper and prepayments of long-term debt.....	—	(50,000)	(21,073)
Proceeds from issuance of commercial paper.....	—	—	50,000
Proceeds from revolving credit lines with banks .....	—	1,249,400	1,450,850
Repayment of revolving credit lines with banks.....	—	(1,289,950)	(1,569,300)
Cash received from noncontrolling interest .....	5,390	7,577	3,346
Repayments of long-term debt and financing liability.....	(93,046)	(135,384)	(72,708)
Cash paid to noncontrolling interest .....	(6,903)	(9,739)	(9,730)
Payments under finance lease obligations.....	(3,181)	(2,890)	(3,164)
Deferred debt issuance costs.....	(1,341)	(1,798)	(5,165)
Cash dividends paid .....	(26,986)	(22,471)	(22,386)
Net cash provided by (used in) financing activities .....	<u>186,385</u>	<u>503,478</u>	<u>(5,765)</u>
Effect of exchange rate changes .....	<u>(348)</u>	<u>1,154</u>	<u>(575)</u>
Net change in cash and cash equivalents and restricted cash and cash equivalents.....	<u>(193,334)</u>	<u>383,668</u>	<u>(24,385)</u>
Cash and cash equivalents and restricted cash and cash equivalents at beginning of period.....	<u>536,778</u>	<u>153,110</u>	<u>177,495</u>
Cash and cash equivalents and restricted cash and cash equivalents at end of period.....	<u>\$ 343,444</u>	<u>\$ 536,778</u>	<u>\$ 153,110</u>
<b>Supplemental disclosure of cash flow information:</b>			
Cash paid during the year for:			
Interest, net of interest capitalized.....	\$ 66,627	\$ 60,830	\$ 61,628
Income taxes, net .....	\$ 34,357	\$ 64,795	\$ 1,649
<b>Supplemental non-cash investing and financing activities:</b>			
Increase (decrease) in accounts payable related to purchases of property, plant and equipment .....	\$ 7,976	\$ 3,148	\$ 9,423
Right of use assets obtained in exchange for new lease liabilities.....	\$ 6,175	\$ 3,642	\$ 11,626
Increase in asset retirement cost and asset retirement obligation.....	\$ 12,153	\$ 8,963	\$ 8,334

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

**ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**NOTE 1 — BUSINESS AND SIGNIFICANT ACCOUNTING POLICIES**

***Business***

The Company is primarily engaged in the geothermal and recovered energy business and primarily designs, develops, builds, sells, owns and operates clean, environmentally friendly geothermal and recovered energy-based power plants, usually using equipment that it designs and manufactures. The Company owns and operates geothermal and recovered energy-based power plants in various countries, including the United States, Kenya, Guatemala, Guadeloupe and Honduras. The Company's equipment manufacturing operations are primarily located in Israel. Additionally, the Company owns and operates independent storage facilities in the United States providing energy storage and related services.

Most of the Company's domestic power plant facilities are Qualifying Facilities under the PURPA. The Power Purchase Agreements ("PPAs") for certain of such facilities are dependent upon their maintaining Qualifying Facility status.

***Rounding***

Dollar amounts, except per share data, in the notes to these financial statements are rounded to the closest \$1,000, unless otherwise indicated.

***Basis of presentation***

The consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") and include the accounts of the Company and of all majority-owned subsidiaries in which the Company exercises control over operating and financial policies, and variable interest entities in which the Company has an interest and is the primary beneficiary. Intercompany accounts and transactions have been eliminated in consolidation.

Investments in less-than-majority-owned entities or other entities in which the Company exercises significant influence over operating and financial policies are accounted for using the equity method of accounting or consolidated if they are a variable interest entity in which the Company has an interest and is the primary beneficiary. Under the equity method, original investments are recorded at cost and adjusted by the Company's share of undistributed earnings or losses of such companies. The Company's earnings or losses in investments accounted for under the equity method have been reflected as "equity in earnings (losses) of investees, net" on the Company's consolidated statements of operations and comprehensive income (loss).

***Use of estimates in preparation of financial statements***

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the dates of such financial statements and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates. The most significant estimates with regard to the Company's consolidated financial statements relate to the useful lives of property, plant and equipment, impairment of goodwill and long-lived assets, including intangible assets, revenue recognition of product sales using the percentage of completion method, asset retirement obligations, and the provision for income taxes.

***Cash and cash equivalents***

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

***Restricted cash, cash equivalents, and marketable securities***

Under the terms of certain long-term debt agreements, the Company is required to maintain certain debt service reserves, including principal and interest, cash collateral and operating fund accounts, including for future wells drilling, that have been classified as restricted cash and cash equivalents. Funds that will be used to satisfy obligations due during the next 12 months are classified as current restricted cash and cash equivalents, with the remainder classified as non-current restricted

**ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

cash and cash equivalents. Such amounts are invested primarily in money market accounts and commercial paper with a minimum investment grade of "A".

***Reconciliation of cash and cash equivalents and restricted cash and cash equivalents***

The following table provides a reconciliation of cash and cash equivalents and restricted cash and cash equivalents reported on the balance sheets that sum to the total of the same amounts shown on the statement of cash flows:

	<b>December 31,</b>		
	<b>2021</b>	<b>2020</b>	<b>2019</b>
	<b>(Dollars in thousands)</b>		
Cash and cash equivalents.....	\$ 239,278	\$ 448,252	\$ 71,173
Restricted cash and cash equivalents.....	104,166	88,526	81,937
Total cash and cash equivalents and restricted cash and cash equivalents .....	<u>\$ 343,444</u>	<u>\$ 536,778</u>	<u>\$ 153,110</u>

***Marketable securities***

The Company's investments in marketable securities consist of debt securities with maturity of up to one year and a high credit rating. The investments in marketable securities are classified as available-for-sale ("AFS") and thus measured at fair value based on quoted market prices. Unrealized gains and losses from AFS debt securities are excluded from earnings and reported net of the related tax effect in "Accumulated other comprehensive income (loss)". Realized gains and losses from sale of marketable securities, as determined on a specific identification basis, as well as interest income earned, are included in earnings. The Company considers available evidence in evaluating potential impairments of its investments, including credit market conditions, credit ratings of the security as well as the extent to which fair value is less than amortized cost. The Company estimates the lifetime expected credit losses for all AFS debt securities in an unrealized loss position under its allowance for credit losses model. The Company assesses the security's credit indicators, including credit ratings when estimating a security's probability of default. If the assessment indicates that an expected credit loss exists, the Company determines the portion of the unrealized loss attributable to credit deterioration and records an allowance for the expected credit loss in earnings. Unrealized gains and losses attributable to non-credit factors are recorded in "Accumulated other comprehensive income (loss)", net of tax. Marketable debt securities with original maturities of three months or less that are readily convertible into a known amount of cash in the amount of approximately \$3.7 million are presented under "Cash and cash equivalents" in the consolidated balance sheets.

***Concentration of credit risk***

Financial instruments which potentially subject the Company to concentration of credit risk consist principally of temporary cash investments, marketable securities, accounts receivable and the cross-currency swap transaction.

The Company places its temporary cash investments with high credit quality financial institutions located in the U.S. and in foreign countries. At December 31, 2021 and 2020, the Company had deposits totaling \$31.0 million and \$18.9 million, respectively, in ten United States financial institutions that were federally insured up to \$250,000 per account. At December 31, 2021 and 2020, the Company's deposits in foreign countries of approximately \$64.3 million and \$72.4 million, respectively, were not insured.

At December 31, 2021 and 2020, accounts receivable related to operations in foreign countries amounted to approximately \$77.5 million and \$111.3 million, respectively. At December 31, 2021 and 2020, accounts receivable from the Company's major customers (see Note 18) amounted to approximately 58% and 65%, respectively, of the Company's accounts receivable.

The Company has historically been able to collect substantially all of its receivable balances. As of December 31, 2021, the amount overdue from KPLC in Kenya was \$25.5 million of which \$22.9 million was paid in January and February of 2022. These amounts represent an average of 63 days overdue. The Company believes it will be able to collect all past due amounts in Kenya. This belief is supported by the fact that in addition to KPLC's obligations under its power purchase agreement, the Company holds a support letter from the Government of Kenya that covers certain cases of KPLC non-payment (such as where caused by government actions/political events).



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In Honduras, as of December 31, 2021, the total amount overdue from ENEE was \$20.7 million of which \$2.9 million was collected in February 2022. In addition, due to continuing restrictive measures related to the COVID-19 pandemic in Honduras, the Company may experience additional delays in collection. The Company believes it will be able to collect all past due amounts in Honduras.

The Company may experience delays in collection in other locations due to the restrictive measures related to the COVID-19 pandemic which were imposed globally to different extents.

See Note 3 - Marketable Securities and under the caption "Marketable Securities" above for additional information regarding investment in marketable securities. The Company considers the counterparty credit risk related to the cross-currency swap, as further described in note 12 to the consolidated financial statements, when assessing the hedge effectiveness, noting such risk to be low as of December 31, 2021.

***Inventories***

Inventories consist primarily of raw material parts and sub-assemblies for power units and are stated at the lower of cost or net realizable value, using the weighted-average cost method. Inventories are reduced by a provision for slow-moving and obsolete inventories. This provision was not material at December 31, 2021 and 2020.

***Deposits and other***

Deposits and other consist primarily of performance bonds for construction and storage projects, long-term insurance contract funds and receivables, certain deferred costs and derivative instrument receivables.

***Property, plant and equipment, net***

Property, plant and equipment are stated at cost. All costs associated with the acquisition, development and construction of power plants operated by the Company are capitalized. Major improvements are capitalized and repairs and maintenance (including major maintenance) costs are expensed. Power plants operated by the Company, which include geothermal wells and exploration and resource development costs, are depreciated using the straight-line method over their estimated useful lives, which range from 15 to 30 years. The other assets are depreciated using the straight-line method over the following estimated useful lives of the assets:

	<b>Years</b>
Buildings .....	25
Leasehold improvements.....	15 - 30
Machinery and equipment — manufacturing and drilling.....	10
Machinery and equipment — computers.....	3 - 5
Energy storage equipment .....	15
Office equipment — furniture and fixtures .....	5 - 15
Office equipment — other.....	5 - 10
Vehicles.....	5 - 7

The cost and accumulated depreciation of items sold or retired are removed from the accounts. Any resulting gain or loss is recognized currently and recorded in the accompanying statements of operations.

The Company capitalizes interest costs as part of constructing power plant facilities. Such capitalized interest is recorded as part of the asset to which it relates and is amortized over the asset's estimated useful life. Capitalized interest costs amounted to \$14.6 million, \$10.4 million, and \$3.3 million for the years ended December 31, 2021, 2020 and 2019, respectively.

***Exploration and development costs***

The Company capitalizes costs incurred in connection with the exploration and development of geothermal resources once it acquires land rights to the potential geothermal resource. Prior to acquiring land rights, the Company makes an initial assessment that an economically feasible geothermal reservoir is probable on that land. The Company determines the economic feasibility of potential geothermal resources internally, with all available data and external assessments vetted

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through the exploration department and occasionally using outside service providers. Costs associated with the initial assessment are expensed and included in cost of electricity revenues in the consolidated statements of operations and comprehensive income (loss). Such costs were immaterial during the years ended December 31, 2021, 2020 and 2019. It normally takes two to three years from the time active exploration of a particular geothermal resource begins to the time a production well is in operation, assuming the resource is commercially viable. However, in certain sites the process may take longer due to permitting delays, transmission constraints or any other commercial milestones that are required to be reached in order to pursue the development process.

In most cases, the Company obtains the right to conduct the geothermal development and operations on land owned by the Bureau of Land Management ("BLM"), various states or with private parties. The up-front bonus payments and other related costs, such as legal fees, are capitalized and included in construction-in-process. The annual land lease payments made during the exploration, development and construction phase are accounted under lease accounting as further described under the caption Leases below and reflected as expenses under "Electricity cost of revenues" in the consolidated statements of operations and comprehensive income (loss). Upon commencement of power generation on the leased land, the Company begins to pay the lessor's long-term royalty payments based on the utilization of the geothermal resources as defined in the respective agreements. Such payments are expensed when the related revenues are earned and included in "Electricity cost of revenues" in the consolidated statements of operations and comprehensive income (loss).

Following the acquisition of land rights to the potential geothermal resource, the Company conducts further studies and surveys, including water and soil analyses, among others, and augments its database with the results of these studies. The Company then initiates a suite of geophysical surveys to assess the resource and determine drilling locations. If the results of these activities support the initial assessment of the feasibility of the geothermal resource, the Company then proceeds to exploratory drilling and other related activities which may include drilling of temperature gradient holes, drilling of slim holes, building access roads to drilling locations, drilling full size production and/or injection wells and flow tests. If the slim hole supports a conclusion that the geothermal resource will support a commercially viable power plant, it may be converted to a full-size commercial well, used either for extraction or re-injection of geothermal fluids, or be used as an observation well to monitor and define the geothermal resource. Costs associated with these activities and other directly attributable costs, including interest once physical exploration activities begin and permitting costs are capitalized and included in "Construction-in-process". If the Company concludes that a geothermal resource will not support commercial operations, capitalized costs are expensed in the period such determination is made.

When deciding whether to continue holding lease rights and/or to pursue exploration activity, the Company diligently prioritizes prospective investments, taking into account resource and probability assessments in order to make informed decisions about whether a particular project will support commercial operation. There was no material write-off of unsuccessful activities for the years ended December 31, 2021, 2020 and 2019.

All exploration and development costs that are being capitalized will be depreciated over their estimated useful lives when the related geothermal power plant is substantially complete and ready for use. A geothermal power plant is substantially complete and ready for use when electricity generation commences.

***Asset retirement obligation***

The Company records the fair value of a legal liability for an asset retirement obligation in the period in which it is incurred. The Company's legal liabilities include plugging wells and post-closure costs of power producing and storage sites. When a new liability for asset retirement obligations is recorded, the Company capitalizes the costs of the liability by increasing the carrying amount of the related long-lived asset. The liability is accreted to its present value each period, and the capitalized cost is depreciated over the useful life of the related asset. The Company periodically reassesses the assumptions used to estimate the expected cash flows required to settle the asset retirement obligation, including changes in estimated probabilities, amounts, and timing of the settlement of the asset retirement obligation, as well as changes in the legal requirements of an obligation and revises the previously recorded asset retirement obligation accordingly. At retirement, the obligation is settled for its recorded amount at a gain or loss.

***Deferred financing costs***

Deferred financing costs are presented as a direct deduction from the carrying value of the associated debt liability or under "Deposits and other" if associated with lines of credit. Such deferred costs are amortized over the term of the related obligation using the effective interest method or ratably, as applicable. Amortization of deferred financing costs is presented

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as interest expense in the consolidated statements of operations and comprehensive income (loss). Amortization expense for the years ended December 31, 2021, 2020 and 2019 amounted to \$3.2 million, \$3.5 million, and \$5.4 million, respectively. During the years ended December 31, 2021, 2020 and 2019, no amounts were written-off as a result of extinguishment of liabilities.

***Goodwill***

Goodwill represents the excess of the fair value of consideration transferred in the business combination transactions over the fair value of tangible and intangible assets acquired, net of the fair value of liabilities assumed and the fair value of any noncontrolling interest in the acquisitions. Goodwill is not amortized but rather subject to a periodic impairment testing on an annual basis, which the Company performs on December 31 of each year, or if an event occurs or circumstances change that would more likely than not reduce the fair value of the reporting unit below its carrying amount. Additionally, an entity is permitted to first assess qualitative factors to determine whether a quantitative goodwill impairment test is necessary. Further testing is only required if the entity determines, based on the qualitative assessment, that it is more likely than not that a reporting unit's fair value is less than its carrying amount. Otherwise, no further impairment testing is required. An entity has the option to bypass the qualitative assessment for any reporting unit in any period and proceed directly to the quantitative goodwill impairment test. This would not preclude the entity from performing the qualitative assessment in any subsequent period. The quantitative assessment compares the fair value of the reporting unit to its carrying value, including goodwill. Under ASU 2017-04, Intangibles – Goodwill and Other (Topic 350), which was adopted by the Company in 2018, an entity should recognize an impairment charge for the amount by which the carrying amount of the reporting unit exceeds its fair value. However, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. For further information relating to goodwill see Note 10 - Intangible Assets and Goodwill to the consolidated financial statements.

***Intangible assets***

Intangible assets consist of allocated acquisition costs of PPAs, which are amortized using the straight-line method over the 6 to 19-year terms of the agreements (see Note 10) as well as acquisition costs allocation related to the Company's Energy Storage segment activities that are amortized over a period of between approximately 6 and 19 years. Intangible assets are tested for recoverability whenever events or changes in circumstances indicate that their carrying amount may not be recoverable. In case there are no such events or change in circumstances, there is no need to perform the impairment testing. The recoverability is tested by comparing the net carrying value of the intangible assets to the undiscounted net cash flows to be generated from the use and eventual disposition of these assets. If the carrying amount of a long-lived asset (or asset group) is not recoverable, the fair value of the asset (asset group) is measured and if the carrying amount exceeds the fair value, an impairment loss is recognized.

***Impairment of long-lived assets and long-lived assets to be disposed of***

The Company evaluates long-lived assets, such as property, plant and equipment and construction-in-process for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Factors which could trigger an impairment include, among others, significant underperformance relative to historical or projected future operating results, significant changes in the Company's use of assets or its overall business strategy, negative industry or economic trends, a determination that an exploration project will not support commercial operations, a determination that a suspended project is not likely to be completed, a significant increase in costs necessary to complete a project, legal factors relating to its business or when it concludes that it is more likely than not that an asset will be disposed of or sold.

The Company tests its operating plants that are operated together as a complex for impairment at the complex level because the cash flows of such plants result from significant shared operating activities. For example, the operating power plants in a complex are managed under a combined operation management generally with one central control room that controls all of the power plants in a complex and one maintenance group that services all of the power plants in a complex. As a result, the cash flows from individual plants within a complex are not largely independent of the cash flows of other plants within the complex. The Company tests for impairment of its operating plants which are not operated as a complex as well as its projects under exploration, development or construction that are not part of an existing complex at the plant or project level. To the extent an operating plant becomes part of a complex, the Company will test for impairment at the complex level.

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Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to the estimated future net undiscounted cash flows expected to be generated by the asset. The significant assumptions that the Company uses in estimating its undiscounted future cash flows include: (i) projected generating capacity of the complex or power plant and rates to be received under the respective PPAs and expected market rates thereafter and (ii) projected operating expenses of the relevant complex or power plant. Estimates of future cash flows used to test recoverability of a long-lived asset under development also include cash flows associated with all future expenditures necessary to develop the asset.

If the assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds their fair value. Assets to be disposed of are reported at the lower of the carrying amount or fair value less costs to sell. Management believes that no impairment exists for long-lived assets; however, estimates as to the recoverability of such assets may change based on revised circumstances. If actual cash flows differ significantly from the Company's current estimates, a material impairment charge may be required in the future.

***Derivative instruments***

Derivative instruments (including certain derivative instruments embedded in other contracts) are measured at their fair value and recorded as either assets or liabilities unless exempted from derivative treatment as a normal purchase and sale. Changes in the fair value of derivatives not designated as hedging instruments are recognized in earnings. Changes in the fair value of derivatives designated as cash flow hedging instruments are initially recorded in "Other comprehensive income (loss)" and a corresponding amount is reclassified out of "Accumulated other comprehensive income (loss)" into earnings to offset the impact of the underlying hedge transaction when it affects earnings under the same line item in the consolidated statements of operations and comprehensive income.

The Company maintains a risk management strategy that may incorporate the use of swap contracts, put options, forward exchange contracts, interest rate swaps, and cross-currency swaps to minimize significant fluctuation in cash flows and/or earnings that are caused by oil and natural gas prices, exchange rate or interest rate volatility.

***Foreign currency translation***

The U.S. dollar is the functional currency for all of the Company's consolidated operations and those of its equity affiliates except for the Guadeloupe power plant and the Company's operations in New Zealand. For those entities, all gains and losses from currency translations are included within the line item "Derivatives and foreign currency transaction gains (losses)" within the consolidated statements of operations and comprehensive income (loss). The Euro and New Zealand Dollar are the functional currencies of the Company's operations in Guadeloupe and New Zealand, respectively, and thus the impact from currency translation adjustments in those locations is included as currency translation adjustments in "Accumulated other comprehensive income" in the consolidated statements of equity and in comprehensive income. The accumulated currency translation adjustments amounted to a debit of \$1.2 million and a credit of \$0.9 million as of December 31, 2021 and 2020, respectively.

***Comprehensive income (loss)***

Comprehensive income (loss) includes net income or loss plus other comprehensive income (loss), which for the Company consists primarily of changes in unrealized gains or losses in respect of the Company's share in derivatives instruments of an unconsolidated investment that qualifies as a cash flow hedge, changes in foreign currency translation adjustments, changes in respect of derivative instruments designated as a cash flow hedge and changes in unrealized gains or losses on marketable securities available-for-sale. The changes in foreign currency translation adjustments during the years ended December 31, 2021, 2020 and 2019 were immaterial. The changes in the Company's share in derivative instruments of unconsolidated investment, gains or losses in respect of derivative instruments designated as a cash flow hedge and changes in unrealized gains or losses on marketable securities are disclosed under Note 6 – Investment in unconsolidated companies, Note 8 - Fair value of financial instruments and Note 3 - Marketable securities, respectively, to the consolidated financial statements.

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***Power purchase agreements***

Substantially all of the Company's Electricity revenues are recognized pursuant to PPAs in the United States and in various foreign countries, including Kenya, Guatemala, Guadeloupe and Honduras. These PPAs generally provide for the payment of energy payments or both energy and capacity payments through their respective terms which expire in varying periods from 2022 to 2047. Generally, capacity payments are calculated based on the amount of time that the power plants are available to generate electricity. The energy payments are calculated based on the amount of electrical energy delivered at a designated delivery point. The price terms are customary in the industry and include, among others, a fixed price, SRAC (the incremental cost that the power purchaser avoids by not having to generate such electrical energy itself or purchase it from others), and a fixed price with an escalation clause that includes the value for environmental attributes, known as renewable energy credits. Certain of the PPAs provide for bonus payments in the event that the Company is able to exceed certain target levels and potential payments by the Company if it fails to meet minimum target levels. The Company has PPAs that give the power purchaser or its designee a right of first refusal or a right of first offer to acquire the geothermal power plants at fair market value as negotiated between the parties. One of the Company's subsidiaries in Guatemala sells power at an agreed upon price subject to terms of a "take or pay" PPA.

Pursuant to the terms of certain of the PPAs, the Company may be required to make payments to the relevant power purchaser under certain conditions, such as shortfall in delivery of renewable energy and energy credits, and not meeting certain performance threshold requirements, as defined in the relevant PPA. The amount of payment required is dependent upon the level of shortfall in delivery or performance requirements and is recorded in the period the shortfall occurs. In addition, if the Company does not meet certain minimum performance requirements, the capacity of the power plant may be permanently reduced.

***Revenues and cost of revenues***

Upon adoption of ASU 2014-09, Revenue from Contracts with Customers (Topic 606) on January 1, 2018, revenues from contracts with customers are recognized in connection with the transfer of goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. Specifically, the Company is required to apply each of the following steps: (1) identify the contract(s) with the customer; (2) identify the performance obligations in the contracts; (3) determine the transaction price; (4) allocate the transaction price to the performance obligations in the contract; and (5) recognize revenue when (or as) the entity satisfies a performance obligation.

Revenues are primarily related to: (i) sale of electricity from geothermal and recovered energy-based power plants owned and operated by the Company; (ii) geothermal and recovered energy-based power plant equipment engineering, sale, construction and installation, and operating services and (iii) Energy storage services as well as services relating to the engineering, procurement, construction, operation and maintenance of energy storage units.

Electricity segment revenues: Revenues related to the sale of electricity from geothermal and recovered energy-based power plants and capacity payments are recorded based upon output delivered and capacity provided at rates specified under relevant contract terms. The Company assesses whether PPAs entered into, modified, or acquired in business combinations contain a lease element requiring lease accounting. Revenue from such PPAs are accounted for in electricity revenues. In the Electricity segment, revenues for all but five power plants are accounted as operating leases, and therefore equipment related to geothermal and recovered energy generation power plants as described in Note 9 is considered held for leasing. For power plants in the scope of ASC 606, the Company identified electricity as a separate performance obligation. Performance obligations identified were evaluated and determined to be satisfied over time and qualified for the invoicing practical expedient since the invoiced amounts reasonably represents the value to customers of performance obligations fulfilled to date. The transaction price is determined based on the price per actual mega-watt output or available capacity as agreed to in the respective PPA. Customers are generally billed on a monthly basis and payment is typically due within 30 to 60 days after the issuance of the invoice.

Product segment revenues: Revenues from engineering, operating services, and parts and product sales are recorded upon providing the service or delivery of the products and parts and when collectability is reasonably assured. Revenues from the supply and/or construction of geothermal and recovered energy-based power plant equipment and other equipment to third parties are recognized over time since control is transferred continuously to the Company's customers. The majority of the Company's contracts include a single performance obligation which is essentially the promise to transfer the individual goods or services that are not separately identifiable from other promises in the contracts and therefore deemed as not distinct. Performance obligations are satisfied over-time if the customer receives the benefits as we perform work, if the customer



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controls the asset as it is being constructed, or if the product being produced for the customer has no alternative use and the Company has a contractual right to payment. In the Company's Product segment, revenues are spread over a period of one to two years and are recognized over time based on the cost incurred to date in ratio to total estimated costs which represents the input method that best depicts the transfer of control over the performance obligation to the customer. Costs include direct material, labor, and indirect costs. Provisions for estimated losses on uncompleted contracts are made in the period in which such losses are determined.

In contracts for which the Company determines that control is not transferred continuously to the customer, the Company recognizes revenues at the point in time when the customer obtains control of the asset. Revenues for such contracts are recorded upon delivery and acceptance by the customer. This generally is the case for the sale of spare parts, generators or similar products.

Accounting for product contracts that are satisfied over time includes use of several estimates such as variable consideration related to bonuses and penalties and total estimated cost for completing the contract. The estimated amount of variable consideration will be included in the transaction price only to the extent that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. These estimates are based on historical experience, anticipated performance and the Company's best judgment at the time.

The nature of the Company's product contracts give rise to several modifications or change requests by its customers. Substantially all of the modifications are treated as cumulative catch-ups to revenues since the additional goods are not distinct from those already provided. The Company includes the additional revenues related to the modifications in its transaction price when both parties to the contract approved the modification. As a significant change in one or more of these estimates could affect the profitability of the Company's contracts, the Company reviews and updates its contract-related estimates regularly. If at any time the estimate of contract profitability indicates an anticipated loss on the contract, the Company recognizes the total loss in the period in which it is identified.

Energy Storage segment revenues: Battery energy storage systems as a service, demand-response and energy management related services revenues are recorded based on energy management of load curtailment capacity delivered or service provided at rates specified under the relevant contract terms. The Company determined that such revenues are in the scope of ASC 606 and identified energy management services as a separate performance obligation. Performance obligations are satisfied once the Company provides verification to the electric power grid operator or utility of its ability to meet the committed capacity, the power curtailment requirements or the ancillary services and thus entitled to cash proceeds. Such verification may be provided by the Company bi-weekly, monthly or under any other frequency as set by the related program and are typically followed by a payment shortly after. Performance obligations identified were evaluated and determined to be satisfied over time and qualified for the invoicing practical expedient since the amounts included in the verification document reasonably represent the value of performance obligations fulfilled to date. The transaction price is determined based on mechanisms specified in the contract with the customer.

Contract assets related to the Company's Product segment reflect revenues recognized and performance obligations satisfied in advance of customer billing. Contract liabilities related to the Company's Product segment reflect customer billing in advance of the satisfaction of performance under the contract. The Company receives payments from customers based on the terms established in the contracts. Total contract assets and contract liabilities as of December 31, 2021 and 2020 are as follows:

	December 31, 2021	December 31, 2020
	(Dollars in thousands)	
Contract assets (*).....	\$ 9,692	\$ 24,544
Contract liabilities (*).....	\$ (9,248)	\$ (11,179)

(\*) Contract assets and contract liabilities are presented as "Costs and estimated earnings in excess of billings on uncompleted contracts" and "Billings in excess of costs and estimated earnings on uncompleted contracts", respectively, on the consolidated balance sheets. The contract liabilities balance at the beginning of the year was partially recognized as product revenues during the year ended December 31, 2021 as a result of performance obligations that were partially satisfied.

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The following table presents the significant changes in the contract assets and contract liabilities for the years ended December 31, 2021 and 2020:

	Years Ended December 31,			
	2021		2020	
	Contract assets	Contract liabilities	Contract assets	Contract liabilities
	(Dollars in thousands)			
Recognition of contract liabilities as revenue as a result of performance obligations satisfied.....	\$ —	\$ 3,566	\$ —	\$ 5,336
Cash received in advance for which revenues have not yet recognized, net of expenditures made.....	—	(2,146)	—	(11,177)
Reduction of contract assets as a result of rights to consideration becoming unconditional .....	(43,518)	—	(145,548)	—
Contract assets recognized, net of recognized receivables .....	29,177	—	129,144	—
Net change in contract assets and contract liabilities .....	<u>\$ (14,341)</u>	<u>\$ 1,420</u>	<u>\$ (16,404)</u>	<u>\$ (5,841)</u>

The timing of revenue recognition, billings and cash collections results in accounts receivable, contract assets and contract liabilities on the consolidated balance sheet. In the Company's Products segment, amounts are billed as work progresses in accordance with agreed-upon contractual terms, or upon achievement of contractual milestones. Generally, billing occurs subsequent to the recognition of revenue, resulting in contract assets. However, the Company sometimes receives advances or deposits from its customers before revenue can be recognized, resulting in contract liabilities. These assets and liabilities are reported on the consolidated balance sheet on a contract-by-contract basis at the end of each reporting period. The timing of billing its customers and receiving advance payments vary from contract to contract. The majority of payments are received no later than the completion of the project and satisfaction of the Company's performance obligation.

On December 31, 2021, the Company had approximately \$53.0 million of remaining performance obligations not yet satisfied or partly satisfied related to its Product segment. The Company expects to recognize approximately 100% of this amount as Product revenues during the next 24 months.

The following schedule reconciles revenues accounted under lease accounting, and ASC 606, Revenues from Contracts with Customers, to total consolidated revenues for the three years ended December 31, 2021, 2020 and 2019:

	Year Ended December 31,		
	2021	2020	2019
	(Dollars in thousands)		
Electricity revenues accounted under lease accounting.....	\$ 502,355	\$ 473,260	\$ 479,059
Electricity, Product and Energy Storage revenues accounted under ASC 606 .....	160,729	232,082	266,985
Total consolidated revenues.....	<u>\$ 663,084</u>	<u>\$ 705,342</u>	<u>\$ 746,044</u>

Disaggregated revenues from contracts with customers for the years ended December 31, 2021, 2020 and 2019 are disclosed under Note 18 - Business Segments, to the consolidated financial statements.

***Allowance for credit losses***

The Company performs an analysis of potential credit losses related to its financial instruments that are within the scope of ASU 2018-19, Codification Improvements to Topic 325, Financial Instruments – Credit Losses, primarily cash and cash equivalents, restricted cash and cash equivalents, investment in marketable securities, receivables (excluding those accounted under lease accounting) and costs and estimated earnings in excess of billings on uncompleted contracts, based on class of financing receivables which share the same or similar risk characteristics such as customer type and geographic location, among others. The Company estimates the expected credit losses for each class of financing receivables by applying the related corporate default rate which corresponds to the credit rating of the specific customer or class of financing receivables. For trade receivables, the Company applied this methodology using aging schedules reflecting how long the

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receivables have been outstanding. The Company has also considered the existence of credit enhancement arrangements that may mitigate the credit risk of its financial receivables in estimating the applicable corporate default rate. While significant uncertainty still exists concerning the magnitude of the impact and duration of the COVID-19 pandemic on the global economy, the Company considered the current and expected future economic and market conditions surrounding the COVID-19 pandemic and determined that the estimate of credit losses was not significantly impacted.

The following table describes the changes in the allowance for expected credit losses for the years ended December 31, 2021 and 2020 (all related to trade receivables):

	<b>Years Ended December 31,</b>	
	<b>2021</b>	<b>2020</b>
	<b>(Dollars in thousands)</b>	
Beginning balance of the allowance for expected credit losses.....	\$ 597	\$ 755
Change in the provision for expected credit losses for the period.....	(507)	(158)
Ending balance of the allowance for expected credit losses.....	<u>\$ 90</u>	<u>\$ 597</u>

***Leases***

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842). This standard introduced a number of changes and simplified previous guidance, primarily the recognition of lease assets and lease liabilities by lessees for those leases classified as operating leases. The standard retained the distinction between finance leases and operating leases and the classification criteria between the two types remains substantially similar. Also, lessor accounting remained largely unchanged from previous guidance. Additionally, the standard defined a lease as a contract, or part of a contract, that conveys the right to control the use of an identified asset for a period of time in exchange for consideration. Control over the use of the identified asset means that the customer has both (a) the right to obtain substantially all of the economic benefits from the use of the asset and (b) the right to direct the use of the asset. The Company adopted this new standard as of January 1, 2019 using the modified retrospective approach and accordingly recognized a cumulative-effect adjustment to the opening balance of retained earnings, which was an immaterial amount, with no restatement of comparative information.

The Company is a lessee in operating lease transactions primarily consisting of land leases for its exploration and development activities. Additionally, the Company is a lessee in finance lease transactions primarily consisting of fleet vehicles and office rentals. As further described under Note 2 - Business Acquisitions to the consolidated financial statements, one of the Company's power plant asset is subject to a sale and leaseback transaction that is accounted as a "failed" sale and leaseback under accounting guidance. Additionally, as further described above under Revenues and cost of revenues, the Company acts as a lessor in PPAs that are accounted under ASC 842, Leases.

In accordance with the lease standard, for agreements in which the Company is the lessee, the Company applies a unified accounting model by which it recognizes a right-of-use asset ("ROU") and a lease liability at the commencement date of the lease contract for all the leases in which the Company has a right to control identified assets for a specified period of time. The classification of the lease as a finance lease or an operating lease determines the subsequent accounting for the lease arrangement.

Upon the adoption of the new standard the Company, both as a lessee and as a lessor, chose to apply the following permitted practical expedients:

1. Not reassess whether any existing contracts are or contain a lease;
2. Not reassess the classification of leases that commenced before the effective date (for example, all existing leases that were classified as operating leases in accordance with Topic 840 continued to be classified as operating leases, and all existing leases that were classified as capital leases in accordance with Topic 840 continued to be classified as finance leases);
3. Exclude initial direct costs from measurement of the ROU asset at the date of initial application;
4. Applying the practical expedient (for a lessor) to not separate non-lease components accounted for under Topic 606 from lease components and, instead, to account for each separate lease component and the non-lease components associated with that lease as a single component. If the non-lease components are the predominant components, the Company will account for the combined component as a single performance obligation entirely

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in accordance with Topic 606. Otherwise, the combined component will be accounted as an operating lease entirely in accordance with the new standard.

5. Applying the practical expedient (for a lessee) regarding the recognition and measurement of short-term leases, for leases for a period of up to 12 months from the commencement date. Instead, the Company continued to recognize the lease payments for those leases in profit or loss on a straight-line basis over the lease term.
6. Applying the practical expedient (for a lessee) to not assess whether existing or expired land easements that were not previously accounted for as leases under Topic 840 are or contain a lease under Topic 842.

Since the Company elected to apply the practical expedients above, it applied the lease standard to all contracts entered into before January 1, 2019 and identified as leases in accordance with Topic 840.

The significant accounting policies regarding leases that were applied as from January 1, 2019 following the application of the new standard are as follows:

**1. Determining whether an arrangement contains a lease**

On the inception date of the lease, the Company determines whether the arrangement is a lease or contains a lease, while examining if it conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

**2. The Company as a lessee**

**a. Lease classification:**

At the commencement date, a lease is a finance lease if it meets any one of the criteria below; otherwise the lease is an operating lease:

- The lease transfers ownership of the underlying asset to the lessee by the end of the lease term.
- The lease grants the lessee an option to purchase the underlying asset that the lessee is reasonably certain to exercise.
- The lease term is for the major part of the remaining economic life of the underlying asset.
- The present value of the sum of the lease payments and any residual value guaranteed by the lessee that is not already reflected in the lease payments equals or exceeds substantially all of the fair value of the underlying asset.
- The underlying asset is of such a specialized nature that it is expected to have no alternative use to the lessor at the end of lease term.

**b. Leased assets and lease liabilities - initial recognition**

Upon initial recognition, the Company recognizes a liability at the present value of the lease payments to be made over the lease term, and concurrently recognizes a ROU asset at the same amount of the liability, adjusted for any prepaid or accrued lease payments, plus initial direct costs incurred in respect of the lease. Since the interest rate implicit in the lease is not readily determinable, the incremental borrowing rate of the Company is used. The subsequent measurement depends on whether the lease is classified as a finance lease or an operating lease.

**c. The lease term**

The lease term is the non-cancellable period of the lease plus periods covered by an extension or termination option if it is reasonably certain that the Company will exercise the option.

**d. Subsequent measurement of operating leases**

After lease commencement, the Company measures the lease liability at the present value of the remaining lease payments using the discount rate determined at lease commencement (as long as the discount rate has not been updated as a result of a reassessment event). The Company subsequently measures the ROU asset at the present value of the remaining lease payments, adjusted for the remaining balance of any lease incentives received, any cumulative prepaid or accrued rent

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if the lease payments are uneven throughout the lease term and any unamortized initial direct costs. Further, the Company recognizes lease expense on a straight-line basis over the lease term.

**e. Subsequent measurement of finance leases**

After lease commencement, the Company measures the lease liability by increasing the carrying amount to reflect interest on the lease liability and reducing the carrying amount to reflect lease payments made during the period. The Company determines the interest on the lease liability in each period during the lease term as the amount that produces a constant periodic discount rate on the remaining balance of the liability, taking into consideration the reassessment requirements.

After lease commencement, the Company measures the ROU assets at cost less any accumulated amortization and any accumulated impairment losses, taking into consideration the reassessment requirements. The Company amortizes the ROU asset on a straight-line basis, unless another systematic basis better represents the pattern in which the Company expects to consume the ROU asset's future economic benefits. The ROU asset is amortized over the shorter of the lease term or the useful life of the ROU asset as follows:

	(in years)
Vehicles .....	4 - 5
Building .....	15

The total periodic expense (the sum of interest and amortization expense) of a finance lease is typically higher in the early periods and lower in the later periods.

**f. Variable lease payments:**

*Variable lease payments that depend on an index or a rate*

On the commencement date, the lease payments may include variability and depend on an index or a rate (such as the Consumer Price Index or a market interest rate). The Company does not remeasure the lease liability for changes in future lease payments arising from changes in an index or rate unless the lease liability is remeasured for another reason. Therefore, after initial recognition, such variable lease payments are recognized in profit or loss as they are incurred.

*Other variable lease payments:*

Variable payments that depend on performance or use of the underlying asset are not included in the lease payments. Such variable payments are recognized in profit or loss in the period in which the event or condition that triggers the payment occurs.

**7. The Company as a lessor**

At lease commencement, the Company as a lessor classifies leases as either finance or operating leases. Finance leases are further classified as a sales-type lease or as a direct financing lease, however, the Company has no such leases as a lessor.

Under an operating lease, the Company recognizes the lease payment as income over the lease term, generally as earned or on a straight-line basis.

***Termination fee***

Fees to terminate PPAs are recognized in the period incurred as selling and marketing expenses. No termination fees were incurred during 2021, 2020 and 2019.



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***Warranty on products sold***

The Company generally provides a one to two year warranty against defects in workmanship and materials related to the sale of products for electricity generation. The Company considers the warranty to be an assurance type warranty since the warranty provides the customer the assurance that the product complies with agreed-upon specifications. Estimated future warranty obligations are included in operating expenses in the period in which the related revenue is recognized. Such charges are immaterial for the years ended December 31, 2021, 2020 and 2019.

***Research and development***

Research and development costs incurred by the Company for the development of technologies related to its existing and new geothermal and recovered energy power plants as well as storage facilities are expensed as incurred.

***Stock-based compensation***

The Company accounts for stock-based compensation using the fair value method whereby compensation cost is measured at the grant date, based on the calculated fair value of the award, and is recognized as an expense over the requisite employee service period (generally the vesting period of the grant). The Company uses the Complex Lattice, Three-based Option Pricing model to calculate the fair value of the stock-based compensation awards.

***Tax monetization Transactions***

The Company has four tax monetization transactions, Opal Geo, Tungsten, McGinness Hills 3 and Steamboat Hills, which was entered into during the fourth quarter of 2021, as further described under Note 13 – Tax monetization transactions to the consolidated financial statements. The purpose of these transactions is to form tax partnerships, whereby investors provide cash in exchange for equity interests that provide the holder a right to the majority of tax benefits associated with a renewable energy project. The Company accounts for a portion of the proceeds from the transaction as debt under ASC 470. Given that a portion of these transactions is structured as a purchase of an equity interest the Company also classifies a portion as noncontrolling interest consistent with guidance in ASC 810. The portion recorded to noncontrolling interest is initially measured at the fair value of the discounted tax attributes and cash distributions which represents the partner's residual economic interest. The residual proceeds are recognized as the initial carrying value of the debt which is classified as a "Liability associated with the sale of tax benefits". The Company applies the effective interest rate method to the liability associated with the tax monetization transaction component as described by ASC 835 and CON 7. The tax benefits and cash distributions realized by the partner each period are treated as the debt servicing amounts, with the tax benefit amounts giving rise to income attributable to the sale of tax benefits. The deferred transaction costs are capitalized and amortized using the effective interest method.

***Income taxes***

Income taxes are accounted for using the asset and liability approach, which requires the recognition of taxes payable or refundable for the current year and deferred tax assets and liabilities for the future tax consequences of events that have been recognized in the Company's financial statements or tax returns. The measurement of current and deferred tax assets and liabilities are based on provisions of the enacted tax law. The Company accounts for investment tax credits and production tax credits as a reduction to income taxes in the year in which the credit arises. The measurement of deferred tax assets is reduced, if necessary, by the amount of any tax benefits that, based on available evidence, are more likely than not expected to be realized. A partial valuation allowance has been established to offset the Company's U.S. deferred tax assets. Tax benefits from uncertain tax positions are recognized only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. Interest and penalties assessed by taxing authorities on an underpayment of income taxes are included as a component of income tax provision in the consolidated statements of operations and comprehensive income.

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***Earnings per share***

Basic earnings per share attributable to the Company's stockholders ("earnings per share") is computed by dividing net income or loss attributable to the Company's stockholders by the weighted average number of shares of common stock outstanding for the period. The Company does not have any equity instruments that are dilutive, except for stock-based awards.

The table below shows the reconciliation of the number of shares used in the computation of basic and diluted earnings per share:

	<b>Year Ended December 31,</b>		
	<b>2021</b>	<b>2020</b>	<b>2019</b>
	<b>(In thousands)</b>		
Weighted average number of shares used in computation of basic earnings per share .....	56,004	51,567	50,867
Add:			
Additional shares from the assumed exercise of employee stock options .....	398	370	360
Weighted average number of shares used in computation of diluted earnings per share .....	<u>56,402</u>	<u>51,937</u>	<u>51,227</u>

The number of stock-based awards that could potentially dilute future earnings per share and were not included in the computation of diluted earnings per share because to do so would have been anti-dilutive was 142.4 thousand, 369.7 thousand, and 360.5 thousand, respectively, for the years ended December 31, 2021, 2020 and 2019.

***Redeemable noncontrolling interest***

Redeemable noncontrolling interest is currently redeemable and relates to a certain noncontrolling shareholder in a subsidiary having an option to sell its equity interest to the Company. The carrying value of the redeemable noncontrolling interest balance as of December 31, 2021 and 2020 approximates the redemption price of such interests. Changes in the carrying amount of the Company's Redeemable noncontrolling interest were as follows:

	<b>2021</b>	<b>2020</b>
	<b>(Dollars in thousands)</b>	
Redeemable noncontrolling interest as of January 1, .....	\$ 9,830	\$ 9,250
Redeemable noncontrolling interest in results of operation of a consolidated subsidiary .....	619	1,330
Cash paid to noncontrolling interest .....	(268)	(1,779)
Currency translation adjustments .....	(852)	1,029
Redeemable noncontrolling interest as of December 31, .....	<u>\$ 9,329</u>	<u>\$ 9,830</u>

***Cash dividends***

During the years ended December 31, 2021, 2020 and 2019, the Company's Board of Directors (the "Board") declared, approved, and authorized the payment of cash dividends in the aggregate amount of \$27.0 million (\$0.48 per share), \$22.5 million (\$0.44 per share), and \$22.4 million (\$0.44 per share), respectively. Such dividends were paid in the years declared.

***Stockholders' equity offering***

On November 18, 2020, the Company entered into an underwriting agreement with J.P. Morgan Securities LLC and BofA Securities, Inc., as representatives of the several underwriters listed therein (the "Underwriters"), in connection with a public offering, pursuant to which the Company agreed to issue and sell 4,150,000 shares of common stock, par value \$0.001 per share at a public offering price of \$74.00 per share. In addition, the Company granted the Underwriters a 30-day option to purchase an additional 622,500 shares of common stock at the public offering price of \$74.00 per share which was fully exercised by the Underwriters on November 30, 2020. The total net proceeds from the offering were approximately \$339.5 million, after deducting underwriting discounts, commissions and offering expenses.

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**COVID-19 consideration**

In March 2020, the World Health Organization declared the outbreak of the novel coronavirus ("COVID-19") a pandemic. Since that time and through the date of this report, the Company has implemented significant measures in order to meet government requirements and preserve the health and safety of its employees, including by working remotely when needed and adopting separate shifts from time to time in its power plants, manufacturing facilities and other locations while at the same time trying to continue operations at close to full capacity in all locations. Since the end of the second quarter of 2021, the Company has experienced an easing of government restrictions in a number of countries, including in Israel, but uncertainty around the impact of COVID-19 continues. With respect to its employees, the Company has not laid-off or furloughed any employees due to COVID-19 and has continued to pay full salaries. In addition, the Company focused efforts on adjusting its operations to mitigate the impact of COVID-19 including managing its global supply chain risks and enhancing its liquidity profile. As most of the Company's electricity revenues are generated under long term contracts, the majority of which are under a fixed energy rate, the impact of COVID-19 on electricity revenues was limited. Nevertheless, the Company experienced a higher rate of curtailments during 2020 from KPLC for its Olkaria complex and continued to experience curtailments during 2021.

In the Product segment, the Company experienced a significant decline in product backlog, which it believes resulted mainly due to the impact of COVID-19 and the unwillingness of potential customers to enter into new commitments at this time. Since the second quarter of 2021, the Company has started to see a limited recovery that has resulted in an increase in backlog.

In the Energy Storage segment, revenues are generated primarily from participating in the energy and ancillary services markets and therefore are directly impacted by the prevailing energy prices in those markets.

While the extent and duration of the economic downturn from the COVID-19 pandemic remains unclear, the Company has considered, among other things, whether the global operational disruptions indicate a change in circumstances that may trigger asset impairments and whether it needs to revisit accounting estimates and projections or its expectations about collectability of receivables. Additionally, the Company has considered the potential impacts on its fair value disclosures and on its internal control over financial reporting and while significant uncertainty still exists concerning the magnitude of the impact and duration of the COVID-19 pandemic on the global economy, the Company has determined that there was no triggering event for an impairment with respect to any of its assets nor has there been an adverse change in the probability related to the collectability of its receivables. The Company continues to assess the potential impact of the global economic situation on its consolidated financial statements.

***Puna Power Plant***

On May 3, 2018, the Kilauea volcano located in close proximity to the Company's 38 MW Puna geothermal power plant in the Puna district of Hawaii's Big Island erupted following a significant increase in seismic activity in the area. Before it stopped flowing, the lava covered the wellheads of three geothermal wells, monitoring wells and the substation of the Puna complex and an adjacent warehouse that stored a drilling rig that was also consumed by the lava. The insurance policy coverage for property and business interruption is provided by a consortium of insurers some of which denied the full amount of the Company's claim asserting that our insurance policy has coverage limitations. During 2021 and 2020, the Company recognized approximately \$15.8 million and \$28.6 million, respectively, of business interruption insurance income in the consolidated statements of operations and comprehensive income for those years which was included under Electricity "Cost of revenues" up to the amount covering the related costs and the remainder under "Operating expenses". The Company is still in discussions with insurers related to additional Business Interruption and property damage payments.

The Puna power plant resumed operations in November 2020 and during 2021 operated at a stable level of 25 MW. The Company continues reservoir study and improvement of existing wells to maximize long term performance of the power plant. In 2019, we reached an agreement with HELCO and signed a new PPA that is currently subject to PUC approval. The new PPA extends the current term until 2052 and increases the current contract capacity by 8 MW to 46MW. In addition, the new PPA has a fixed price with no escalation, regardless of changes to fossil fuel pricing, which impacts the majority of our current pricing under the existing PPA. The existing PPA remains in effect with its current terms until the earlier of a) PPA's expiration date at the end of 2027 and b) the new PPA will be in effect.

The Company continues to assess the accounting implications of these events on its assets and liabilities and whether any related assets may be impaired. As of December 31, 2021, the Company assessed that no impairment was required.

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***February power crisis in Texas***

In February 2021, extreme weather conditions in Texas resulted in a significant increase in demand for electricity on the one hand and a decrease in electricity supply in the region on the other hand. On February 15, 2021, the Electricity Reliability Council of Texas ("ERCOT") issued an Energy Emergency Alert Level 3 ("EEA 3") prompting rotating outages in Texas. This ultimately led to a significant increase in the Responsive Reserve Service ("RRS") market prices, where the Company operates its Rabbit Hill battery energy storage facility which provides ancillary services and energy optimization to the wholesale markets managed by ERCOT. Due to the electricity supply shortage, ERCOT restricted battery charging in the Rabbit Hill facility from February 16, 2021 to February 19, 2021, resulting in a limited ability of the Rabbit Hill storage facility to provide RRS. As a result, the Company incurred losses of approximately \$9.1 million, net of associated revenues, from a hedge transaction in relation to its inability to provide RRS during that period. Starting February 19, 2021, the Rabbit Hill energy storage facility resumed operation at full capacity.

In addition, the Company recorded a provision for approximately \$3.0 million for receivables related to imbalance charges from the grid operator in respect of its demand response operation as it estimated it is probable it may be unable to collect such receivables. The provision for uncollectible receivables is included in "General and administrative expenses" in the consolidated statements of operations and comprehensive income for the year ended December 31, 2021.

The Company has filed billing disputes with ERCOT related to some of the imbalance charges and revenue allocated to its Demand Response services and customers, the outcome of which may impact the final amount.

**New Accounting Pronouncements**

***New accounting pronouncements effective in the year ended December 31, 2021***

*Accounting for Income Taxes*

In December 2019, the FASB issued ASU 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes. ASU 2019-12 simplifies the accounting for income taxes by removing certain exceptions to the general principles in ASC 740. The standard is effective for annual periods beginning after December 15, 2020 and interim periods within those fiscal years. The Company adopted ASU 2019-12 on January 1, 2021. The adoption of this update did not have a material impact on the Company's consolidated financial statements.

***New accounting pronouncements effective in future periods***

*Revenue Contracts Acquired in a Business Combination*

In October 2021, the FASB issued ASU 2021-08, Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers ("ASU 2021-08"). ASU 2021-08 is intended to improve the accounting for acquired revenue contracts with customers in a business combination by addressing the following topics: (1) recognition of an acquired contract liability and (2) payment terms and their effect on subsequent revenue recognized by the acquirer. The amendments in ASU 2021-08 require that an entity that is the acquirer recognize and measure contract assets and contract liabilities acquired in a business combination in accordance with Topic 606 at the acquisition date as if it had originated the contracts. The amendments in ASU 2021-08 are effective for fiscal years beginning after December 15, 2022 including interim periods within those fiscal years. The amendments in this update should be applied prospectively to business combinations occurring on or after the effective date of the amendments. Early adoption is permitted. The Company does not anticipate the adoption of ASU 2021-08 to have a material impact on its consolidated financial statements.

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**NOTE 2 —BUSINESS ACQUISITIONS**

**Business combination - geothermal assets purchase transaction**

On July 13, 2021, the Company closed a transaction with TG Geothermal Portfolio, LLC (a subsidiary of Terra-Gen, LLC) (the "Seller") to acquire two contracted geothermal assets in Nevada with a total net generating capacity of 67.5 MW, a greenfield development asset adjacent to one of the plants, and an underutilized transmission line (the "Terra-Gen Transaction"). The Company paid approximately \$171.0 million in cash (excluding working capital adjustment of approximately \$10.8 million) for 100% of the equity interests in the entities holding those assets and assumed a financing obligation with a fair value at acquisition date of approximately \$258.4 million. The two contracted geothermal assets include the Dixie Valley and Beowawe geothermal power plants which sell power under existing power purchase agreements with Southern California Edison under a long term Power Purchase Agreement ("PPA") expiring in 2038 and with NV Power, Inc. under a PPA expiring in December 2025, respectively.

As a result of the acquisition, the Company expanded its overall generation capacity and expects to improve the profitability of the purchased assets through cost reduction and synergies. The Company accounted for the transaction in accordance with Accounting Standard Codification ("ASC") 805, Business Combinations. Following the transaction, the Company consolidates the Dixie Valley and Beowawe power plants as well as the other geothermal assets included in the transaction in accordance with ASC 810, Consolidation. In 2021, the Company incurred approximately \$4.7 million of acquisition-related costs included under "General and administrative expenses" in the consolidated statements of operations and comprehensive income for the year ended December 31, 2021. Accounting guidance provides that the allocation of the purchase price may be modified for up to one year from the date of the acquisition to the extent that additional information is obtained about the facts and circumstances that existed as of the acquisition date. The primary area of the purchase price allocation that is not yet finalized is related to certain tax matters and the related impact on goodwill.

The following table summarizes the purchase price allocation to the fair value of the assets acquired and liabilities assumed (in millions):

Cash and cash equivalents and restricted cash .....	\$	10.9
Trade receivables and others <sup>(1)</sup> .....		8.6
Deferred income taxes.....		23.6
Property, plant and equipment and construction-in-process.....		152.0
Intangible assets <sup>(2)</sup> .....		191.6
Goodwill <sup>(3)</sup> .....		65.4
Total assets acquired .....	\$	<u>452.1</u>
Accounts payable, accrued expenses and others .....	\$	6.6
Financing liability <sup>(4)</sup> .....		258.4
Asset retirement obligation .....		5.3
Total liabilities assumed.....	\$	<u>270.3</u>
Total assets acquired, and liabilities assumed, net .....	\$	<u><u>181.8</u></u>

<sup>(1)</sup> The gross amount of receivables due under the Dixie Valley and Beowawe PPAs is \$7.8 million. These receivables were fully collected during the third quarter of 2021.

<sup>(2)</sup> Intangible assets are related to the long-term electricity PPAs described above and are amortized over the term of those PPAs.

<sup>(3)</sup> Goodwill is primarily related to the expected synergies and potential cost savings in operations as a result of the purchase transaction. The goodwill is allocated to the Electricity segment and is deductible for tax purposes pending the exercise of the financial lease buy-out option as described below.

<sup>(4)</sup> Financing liability is related to a sale and leaseback transaction entered into by the Seller in September 2015 under which it sold and leased back the undivided interests in the Dixie Valley power plant asset through June 2038. The lease transaction was accounted for by the Seller as a finance lease due to the Seller's continued involvement and management of the power



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plant and the existence of an early buy-out option in September 2024, which continues to be applicable to the Company. As per the accounting guidance, the Company retained the Seller's accounting of a "failed" sale and leaseback transaction and accordingly accounted for the liability as a financing liability. This financing liability, as well as the related power plant asset, were measured at their acquisition-date fair value.

For the period starting from the acquisition date, July 13, 2021, to December 31, 2021, the acquired geothermal power plants contributed Electricity revenues of \$26.2 million and earnings of \$5.5 million, net of related tax and finance liability interest expense costs of \$4.9 million, which were included in the Company's consolidated statements of operations and comprehensive income for the year ended December 31, 2021.

The following unaudited pro forma summary presents condensed consolidated information of the Company as if the business combination had occurred on January 1, 2020. The pro forma results below include the impact of certain adjustments related to the depreciation of property, plant and equipment, amortization of intangible assets, transaction-related costs incurred as of the acquisition date, and interest expense on related borrowings, and in each case, the related income tax effects, as well as certain other post-acquisition adjustments. This pro forma presentation does not include any impact from transaction synergies.

<b>Pro forma for the Year Ended December 31,</b>			
	<b>2021</b>		<b>2020</b>
	<b>(Dollars in millions)</b>		
Electricity revenues.....	\$ 613.3	\$	596.6
Total revenues.....	\$ 690.6	\$	760.6
Net income attributable to the Company's stockholders .....	\$ 69.6	\$	84.3

**Energy storage assets portfolio purchase transaction**

On July 20, 2020, the Company completed the acquisition of 100% of the 20MW/80MWh Pomona Energy Storage ("Pomona") facility in California from Alta Gas Power Holdings (U.S.) Inc. for a total consideration of \$43.4 million. The Pomona facility has been in commercial operation since December 2016 under a 10-year energy storage resource agreement with Southern California Edison Company. The Pomona facility is the Company's first battery storage asset in California. The purchase increased the Company's operating portfolio and added to its other battery storage assets located in New Jersey, New England and Texas. The Company accounted for the transaction in accordance with ASC 805, Business Combinations and following the transaction close date, consolidated the results of Pomona in accordance with ASC 810, Consolidation in its consolidated financial statements.

The following table summarizes the purchase price allocation to the fair value of the assets acquired and liabilities assumed (in millions):

Trade and other receivables.....	\$ 1.0
Property, plant and equipment, net.....	20.1
Intangible assets <sup>(1)</sup> .....	20.4
Goodwill <sup>(2)</sup> .....	4.1
Total assets acquired .....	<u>\$ 45.6</u>
Liabilities assumed.....	<u>\$ (2.2)</u>
Total assets acquired and liabilities assumed, net .....	<u><u>\$ 43.4</u></u>

<sup>(1)</sup> Intangible assets of \$18.0 million are related to a long-term energy storage resource adequacy agreement with Southern California Edison and are depreciated over a period of approximately 6.5 years. The remaining \$2.4 million is related to certain other contract rights.

<sup>(2)</sup> Goodwill is primarily related to certain potential future economic benefits arising from assets acquired. Goodwill is allocated to the Energy Storage segment and is deductible for tax purposes.

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The amounts of revenues and earnings related to Pomona that are included in the Company's consolidated statements of operations and comprehensive income for the year ended December 31, 2021 are \$9.4 million and \$2.9 million respectively. The amounts of revenues and earnings related to Pomona that are included in the Company's consolidated statements of operations and comprehensive income for the year ended December 31, 2020 since the acquisition date are \$4.8 million and \$1.2 million respectively. Unaudited pro forma information is not included as the Company deemed the transaction to not qualify as a significant business combination.

**NOTE 3 — MARKETABLE SECURITIES**

Marketable securities are presented at fair value and include investments in debt securities classified as available for sale. All marketable securities have maturities of less than a year. Investment in marketable securities is comprised of the following:

<b>December 31, 2021</b>				
	<b>Amortized cost</b>	<b>Gross unrealized gains</b>	<b>Gross unrealized losses</b>	<b>Fair value</b>
	(Dollars in thousands)			
Debt security type:				
Corporate bonds.....	\$ 32,302	\$ —	\$ (36)	\$ 32,529
Commercial paper.....	8,891	—	—	8,891
Money market funds.....	3,686	—	—	3,686
Foreign issuers.....	1,920	—	(4)	1,923
Total debt securities available for sale .....	<u>\$ 46,799</u>	<u>\$ —</u>	<u>\$ (40)</u>	<u>\$ 47,029</u>

As of December 31, 2021, approximately \$3.7 million of debt securities were classified under "Cash and cash equivalents" in the consolidated balance sheets as such securities met all applicable classification criteria.

The following table summarizes the fair value and gross unrealized losses of debt securities with unrealized losses aggregated by security type and length of time that the fair value had been below amortized cost, on an individual security basis:

<b>December 31, 2021</b>				
	<b>Less than 12 months</b>		<b>Greater than 12 months</b>	
	<b>Fair value</b>	<b>Gross unrealized loss</b>	<b>Fair value</b>	<b>Gross unrealized loss</b>
	(Dollars in thousands)			
Debt security type:				
Corporate bonds.....	\$ 32,529	\$ (36)	\$ —	\$ —
Commercial paper.....	8,891	—	—	—
Money market funds.....	3,686	—	—	—
Foreign issuers.....	1,923	(4)	—	—
Total debt securities available for sale .....	<u>\$ 47,029</u>	<u>\$ (40)</u>	<u>\$ —</u>	<u>\$ —</u>

There were no sales of investments in debt securities during the year ended December 31, 2021 and 2020.

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**NOTE 4 — INVENTORIES**

Inventories consist of the following:

	<b>December 31,</b>	
	<b>2021</b>	<b>2020</b>
	<b>(Dollars in thousands)</b>	
Raw materials and purchased parts for assembly .....	\$ 11,539	\$ 14,835
Self-manufactured assembly parts and finished products.....	16,906	20,486
Total.....	<u>\$ 28,445</u>	<u>\$ 35,321</u>

**NOTE 5 — COST AND ESTIMATED EARNINGS ON UNCOMPLETED CONTRACTS**

Cost and estimated earnings on uncompleted contracts consist of the following:

	<b>December 31,</b>	
	<b>2021</b>	<b>2020</b>
	<b>(Dollars in thousands)</b>	
Costs and estimated earnings incurred on uncompleted contracts .....	\$ 103,486	\$ 227,591
Less billings to date.....	(103,042)	(214,226)
Total.....	<u>\$ 444</u>	<u>\$ 13,365</u>

These amounts are included in the consolidated balance sheets under the following captions:

	<b>December 31,</b>	
	<b>2021</b>	<b>2020</b>
	<b>(Dollars in thousands)</b>	
Costs and estimated earnings in excess of billings on uncompleted contracts .....	\$ 9,692	\$ 24,544
Billings in excess of costs and estimated earnings on uncompleted contracts .....	(9,248)	(11,179)
Total.....	<u>\$ 444</u>	<u>\$ 13,365</u>

The completion costs of the Company's construction contracts are subject to estimation. Due to uncertainties inherent in the estimation process, it is reasonably possible that estimated contract earnings will be further revised in the near term.

**NOTE 6 — INVESTMENT IN UNCONSOLIDATED COMPANIES**

Investment in unconsolidated companies consists of the following:

	<b>December 31,</b>	
	<b>2021</b>	<b>2020</b>
	<b>(Dollars in thousands)</b>	
Investment in Sarulla.....	\$ 68,968	\$ 67,451
Investment in Ijen.....	36,918	30,766
Total investment in unconsolidated companies .....	<u>\$ 105,886</u>	<u>\$ 98,217</u>

**ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

***The Sarulla Complex***

The Company holds a 12.75% equity interest in a consortium that developed the 330 MW Sarulla geothermal power plant project in Tapanuli Utara, North Sumatra, Indonesia. The Sarulla project is comprised of three separately constructed 110 MW units, the most recent of which, NIL 2, was completed in April 2018. The Sarulla project is owned and operated by the consortium members under the framework of a joint operating contract and energy sales contract that were both executed on April 4, 2013. Under the joint operating contract, PT Pertamina Geothermal Energy, the concession holder for the project, provided the consortium with the right to use the geothermal field, and under the energy sales contract, PT PLN, the state electric utility, is the off-taker at the Sarulla complex for a period of 30 years. The Company has a significant influence over the Sarulla project through representation on Sarulla's board of directors and thus accounts for its investment in the Sarulla geothermal project under the equity method prescribed by ASC 323 - Investments - Equity Method and Joint Ventures.

During the years ended December 31, 2021, 2020 and 2019, the Company made no additional cash equity investment in the Sarulla complex. As of December 31, 2021, the total cash investment in the Sarulla complex since its inception is \$62.0 million.

The Sarulla consortium entered into interest rate swap agreements with various international banks, effective as of June 4, 2014, and accounted for the interest rate swap as a cash flow hedge upon which changes in the fair value of the hedging instrument, relative to the effective portion, are recorded in other comprehensive income. The Company's share of such gains (losses) recorded in other comprehensive income (loss) are as follows:

	<b>Year Ended December 31,</b>	
	<b>2021</b>	<b>2020</b>
	<b>(Dollars in thousands)</b>	
Change, net of deferred tax, in unrealized gains (losses) in respect of the Company's share in derivative instruments of unconsolidated investment.....	\$ 3,892	\$ (3,975)

The related accumulated loss recorded by the Company under accumulated other comprehensive income (loss) as of December 31, 2021 and 2020 was \$6.4 million and \$10.3 million, respectively.

The Sarulla power plant complex has been experiencing a reduction in generation primarily due to wellfield issues at one of its power plants, as well as equipment failures which resulted in a decrease in profitability. To address these issues, the project management developed a Long-Term Recovery Plan ("LTRP") that includes drilling of additional wells and various equipment modifications. The LTRP is expected to be implemented starting in 2022, pending approval by the lenders. Additional initiatives are also undergoing in an effort to strengthen the Sarulla project's financial position, including potential tariff changes. Additionally, in March and September 2021, Sarulla failed to meet its debt service coverage ratio under the credit facility agreement due to lower performance of the power plants. The Company determined that as of December 31, 2021, the aforementioned events and circumstances are still temporary and expected to be remediated by the LTRP and additional initiatives once finalized and executed. As the Company determined that the current situation and circumstances related to its equity method investment in Sarulla are temporary, no impairment testing was required. However, failure to execute the LTRP and/or the other remedial initiatives, altogether or separately, may result in a triggering event that would potentially require an impairment testing.

***The Ijen Project***

On July 2, 2019, the Company agreed to acquire 49% in the Ijen geothermal project company from a subsidiary of Medco Power ("Medco"), which is a party to a Power Purchase Agreement and holds a geothermal license to develop the Ijen project in East Java in Indonesia for a total consideration of approximately \$2.7 million. As part of the transaction, the Company committed to make additional funding for the exploration and development of the project, subject to specific conditions and during 2021 and 2020, the Company made additional cash investments of such of approximately \$6.4 million and \$21.0 million, respectively, for a total of \$38.1 million. Medco retains 51% ownership in the project company and the Company and Medco are developing the project jointly. The Company accounted for its investment in the Ijen geothermal project company under the equity method prescribed by ASC 323 - Investments - Equity Method and Joint Ventures.

**ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**  
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**NOTE 7 — VARIABLE INTEREST ENTITIES**

The Company's overall methodology for evaluating transactions and relationships under the variable interest entity ("VIE") accounting and disclosure requirements includes the following two steps: (i) determining whether the entity meets the criteria to qualify as a VIE; and (ii) determining whether the Company is the primary beneficiary of the VIE.

In performing the first step, the significant factors and judgments that the Company considers in making the determination as to whether an entity is a VIE include:

- The design of the entity, including the nature of its risks and the purpose for which the entity was created, to determine the variability that the entity was designed to create and distribute to its interest holders;
- The nature of the Company's involvement with the entity;
- Whether control of the entity may be achieved through arrangements that do not involve voting equity;
- Whether there is sufficient equity investment at risk to finance the activities of the entity; and
- Whether parties other than the equity holders have the obligation to absorb expected losses or the right to receive residual returns.

If the Company identifies a VIE based on the above considerations, it then performs the second step and evaluates whether it is the primary beneficiary of the VIE by considering the following significant factors and judgments:

- Whether the Company has the power to direct the activities of the VIE that most significantly impact the entity's economic performance; and
- Whether the Company has the obligation to absorb losses of the entity that could potentially be significant to the VIE or the right to receive benefits from the entity that could potentially be significant to the VIE.

The Company's VIEs include certain of its wholly owned subsidiaries that own one or more power plants with long-term PPAs. In most cases, the PPAs require the utility to purchase substantially all of the plant's electrical output over a significant portion of its estimated useful life. Some of the VIEs have associated project financing debt that is non-recourse to the general creditors of the Company, is collateralized by substantially all of the assets of the VIE and those of its wholly owned subsidiaries (also VIEs) and is fully and unconditionally guaranteed by such subsidiaries. The Company has concluded that such entities are VIEs primarily because the entities do not have sufficient equity at risk and/or subordinated financial support is provided through the long-term PPAs. The Company has evaluated each of its VIEs to determine the primary beneficiary by considering the party that has the power to direct the most significant activities of the entity. Such activities include, among others, construction of the power plant, operations and maintenance, dispatch of electricity, financing and strategy. Except for power plants that it acquired, the Company is responsible for the construction of its power plants and generally provides operation and maintenance services. Primarily due to its involvement in these and other activities, the Company has concluded that it directs the most significant activities at each of its VIEs and, therefore, is considered the primary beneficiary. The Company performs an ongoing reassessment of the VIEs to determine the primary beneficiary for each. The Company has aggregated its consolidated VIEs into the following categories: (i) wholly owned subsidiaries with project debt; and (ii) wholly owned subsidiaries with PPAs.



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**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

The tables below detail the assets and liabilities (excluding intercompany balances which are eliminated in consolidation) for the Company's VIEs, combined by VIE classifications, that were included in the consolidated balance sheets as of December 31, 2021 and 2020:

	<b>December 31, 2021</b>	
	<b>Project Debt</b>	<b>PPAs</b>
	<b>(Dollars in thousands)</b>	
Assets:		
Restricted cash and cash equivalents .....	\$ 101,364	\$ —
Other current assets.....	122,944	31,781
Property, plant and equipment, net .....	1,300,941	858,755
Construction-in-process .....	96,764	270,160
Other long-term assets .....	326,686	55,441
Total assets.....	<u>\$ 1,948,699</u>	<u>\$ 1,216,137</u>

Liabilities:		
Accounts payable and accrued expenses .....	\$ 34,155	\$ 10,004
Long-term debt .....	672,804	2,444
Other long-term liabilities.....	419,085	49,919
Total liabilities .....	<u>\$ 1,126,044</u>	<u>\$ 62,367</u>

	<b>December 31, 2020</b>	
	<b>Project Debt</b>	<b>PPAs</b>
	<b>(Dollars in thousands)</b>	
Assets:		
Restricted cash and cash equivalents .....	\$ 86,581	\$ —
Other current assets.....	133,017	30,917
Property, plant and equipment, net .....	1,208,165	770,055
Construction-in-process .....	27,440	171,372
Other long-term assets .....	156,000	60,143
Total assets.....	<u>\$ 1,611,203</u>	<u>\$ 1,032,487</u>

Liabilities:		
Accounts payable and accrued expenses .....	\$ 21,958	\$ 15,362
Long-term debt .....	730,177	—
Other long-term liabilities.....	143,985	39,486
Total liabilities .....	<u>\$ 896,120</u>	<u>\$ 54,848</u>

**NOTE 8— FAIR VALUE OF FINANCIAL INSTRUMENTS**

The fair value measurement guidance clarifies that fair value represents the amount that would be received upon selling an asset or paid upon transferring a liability in an orderly transaction between market participants at the measurement date. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability. The guidance establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy under the fair value measurement guidance are described below:

*Level 1* — unadjusted observable inputs that reflect quoted prices for identical assets or liabilities in active markets;

*Level 2* — inputs other than quoted prices included in Level 1 that are observable for the asset or liability either directly or indirectly;

*Level 3* — unobservable inputs.

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The following table sets forth certain fair value information at December 31, 2021 and 2020 for financial assets and liabilities measured at fair value by level within the fair value hierarchy, as well as cost or amortized cost. As required by the fair value measurement guidance, assets and liabilities are classified in their entirety based on the lowest level of inputs that is significant to the fair value measurement.

		December 31, 2021			
		Fair Value			
	Carrying Value at December 31, 2021	Total	Level 1	Level 2	Level 3
		(Dollars in thousands)			
Assets:					
Current assets:					
Cash equivalents (including restricted cash accounts).....	\$ 31,675	\$ 31,675	\$ 31,675	\$ —	\$ —
Marketable securities (including cash equivalents).....	47,029	47,029	47,029	—	—
Derivatives:					
Cross currency swap <sup>(3)</sup> .....	1,461	1,461	—	1,461	—
Currency forward contracts <sup>(2)</sup> .....	813	813	—	813	—
Long-term assets:					
Cross currency swap <sup>(3)</sup> .....	37,883	37,883	—	37,883	—
Liabilities:					
Long-term liabilities:					
Contingent payables <sup>(1)</sup> .....	(2,425)	(2,425)	—	—	(2,425)
	\$ 116,436	\$ 116,436	\$ 78,704	\$ 40,157	\$ (2,425)

		December 31, 2020			
		Fair Value			
	Carrying Value at December 31, 2020	Total	Level 1	Level 2	Level 3
		(Dollars in thousands)			
Assets					
Current assets:					
Cash equivalents (including restricted cash accounts).....	\$ 28,653	\$ 28,653	\$ 28,653	\$ —	\$ —
Derivatives:					
Contingent receivable <sup>(1)</sup> .....	111	111	—	—	111
Currency forward contracts <sup>(2)</sup> .....	1,554	1,554	—	1,554	—
Long-term assets:					
Cross currency swap <sup>(3)</sup> .....	27,829	27,829	—	27,829	—
Liabilities:					
Current liabilities:					
Derivatives:					
Contingent payables <sup>(1)</sup> .....	(549)	(549)	—	—	(549)
Cross currency swap <sup>(3)</sup> .....	(2,283)	(2,283)	—	(2,283)	—
Long-term liabilities:					
Contingent payables <sup>(1)</sup> .....	(2,630)	(2,630)	—	—	(2,630)
	\$ 52,685	\$ 52,685	\$ 28,653	\$ 27,100	\$ (3,068)

**ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

(1) These amounts relate to contingent receivables and payables and warrants pertaining to the Guadeloupe power plant purchase transaction, valued primarily based on unobservable inputs and are included within "Prepaid expenses and other", "Accounts payable and accrued expenses" and "Other long-term liabilities" on December 31, 2021 and 2020 in the consolidated balance sheets with the corresponding gain or loss being recognized within "Derivatives and foreign currency transaction gains (losses)" in the consolidated statement of operations and comprehensive income.

(2) These amounts relate to currency forward contracts valued primarily based on observable inputs, including forward and spot prices for currencies, net of contracted rates and then multiplied by notional amounts, and are included within "Receivables, other" on December 31, 2021 and December 31, 2020, in the consolidated balance sheet with the corresponding gain or loss being recognized within "Derivatives and foreign currency transaction gains (losses)" in the consolidated statement of operations and comprehensive income.

(3) These amounts relate to cross currency swap contracts valued primarily based on the present value of the Cross Currency Swap future settlement prices for USD and NIS zero yield curves and the applicable exchange rate as of December 31, 2021. These amounts are included within "Prepaid expenses and other" and "Deposits and other" on December 31, 2021 and within "Accounts payable and accrued expenses" and "Deposits and other" on December 31, 2020 in the consolidated balance sheets. There are no cash collateral deposits on December 31, 2021.

The following table presents the amounts of gain (loss) recognized in the consolidated statements of operations and comprehensive income (loss):

Derivatives not designated as hedging instruments	Location of recognized gain (loss)	Amount of recognized gain (loss)		
		2021	2020	2019
(Dollars in thousands)				
Swap transaction on RRS prices <sup>(1)</sup> .....	Derivative and foreign currency transaction gains (losses)	\$(14,540)	\$ —	\$ —
Currency forward contracts <sup>(1)</sup> .....	Derivative and foreign currency transaction gains (losses)	1,368	5,175	2,556
		<u>\$(13,172)</u>	<u>\$ 5,175</u>	<u>\$ 2,556</u>
Derivatives designated as cash flow hedging instruments				
Cross currency swap <sup>(2)</sup> .....	Derivative and foreign currency transaction gains (losses)	\$ 10,501	\$ 21,187	\$ —

(1) The foregoing currency forward and price swap transactions were not designated as hedge transactions and were marked to market with the corresponding gains or losses recognized within "Derivatives and foreign currency transaction gains (losses)" in the consolidated statements of operations and comprehensive income. The price swap transaction was related to a hedging agreement with a third party that was effective January 1, 2021 under which the Company fixed the price per MWh on a portion of RRS provided by its Rabbit Hill storage facility, as described under Note 1 to the consolidated financial statements. The price swap transaction was terminated effective April 1, 2021.

(2) The foregoing cross currency swap transactions were designated as a cash flow hedge as further described under Note 1 to the consolidated financial statements. The changes in the cross currency swap fair value are initially recorded in "Other comprehensive income (loss)" and a corresponding amount is reclassified out of "Accumulated other comprehensive income (loss)" to "Derivatives and foreign currency transaction gains (losses)" to offset the remeasurement of the underlying hedged transaction which also impacts the same line item in the consolidated statements of operations and comprehensive income.

There were no transfers of assets or liabilities between Level 1, Level 2 and Level 3 during the year ended December 31, 2021.

**ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**  
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The following table presents the effect of derivative instruments designated as cash flow hedges on the consolidated statements of operations and comprehensive income (loss) for the years ended December 31, 2021 and 2020 :

	<b>Year Ended December 31,</b>	
	<b>2021</b>	<b>2020</b>
	<b>(Dollars in thousands)</b>	
<b>Cross currency swap cash flow hedge:</b>		
Balance in Other comprehensive income (loss) beginning of period .....	\$ 3,366	\$ —
Gain or (loss) recognized in Other comprehensive income (loss) <sup>(1)</sup> .....	12,880	24,533
Amount reclassified from Other comprehensive income (loss) into earnings .....	(10,501)	(21,187)
Balance in Other comprehensive income (loss) end of period .....	\$ 5,745	\$ 3,366

<sup>(1)</sup> The amount of gain or (loss) recognized in Other comprehensive income (loss) for the years ended December 31, 2021 and 2020 is net of tax of \$0.8 million and \$1.1 million, respectively.

The estimated net amount of existing gain (loss) that is reported in "Accumulated other comprehensive income (loss)" as of December 31, 2021 that is expected to be reclassified into earnings within the next 12 months is immaterial. The maximum length of time over which the Company is hedging its exposure to the variability in future cash flow is from the transaction commencement date through June 2031.

The fair value of the Company's long-term debt approximates its fair value, except for the following:

	<b>Fair Value</b>		<b>Carrying Amount</b>	
	<b>2021</b>	<b>2020</b>	<b>2021</b>	<b>2020</b>
	<b>(Dollars in millions)</b>		<b>(Dollars in millions)</b>	
HSBC Loan .....	\$ 50.4	\$ —	\$ 50.0	\$ —
Hapoalim Loan .....	117.8	—	116.1	—
Discount Loan .....	100.2	—	100.0	—
Financing Liability - Dixie Valley .....	248.4	—	252.9	—
Olkaria III Loan – DFC .....	166.5	192.5	156.7	174.7
Olkaria III plant 4 Loan - DEG 2 .....	34.1	40.4	32.5	37.5
Olkaria III plant 1 Loan - DEG 3 .....	30.1	35.8	28.4	32.8
Platanares Loan – DFC .....	98.2	112.1	88.1	96.3
Amatitlan Loan .....	19.8	23.5	19.3	22.8
OFC 2 LLC Senior Secured Notes ("OFC 2") .....	183.3	207.9	173.3	188.2
Don A. Campbell 1 Senior Secured Notes ("DAC 1") .....	69.8	78.5	67.9	73.1
USG Prudential – NV .....	28.9	31.8	26.3	27.6
USG Prudential – ID .....	17.3	18.3	17.3	18.4
USG DOE .....	39.9	45.1	35.5	38.2
Senior Unsecured Bonds .....	578.9	585.1	539.6	529.1
Senior Unsecured Loan .....	204.3	222.2	191.6	200.0
Plumstriker .....	14.8	18.1	14.7	18.1
Other long-term debt .....	13.3	17.4	13.6	17.6

The fair value of the long-term debt is determined by a valuation model, which is based on a conventional discounted cash flow methodology and utilizes assumptions of current borrowing rates.

As disclosed above under Note 1 to the consolidated financial statements, the outbreak of the COVID-19 pandemic has resulted in a global economic downturn and market volatility that may have an impact on the estimated fair value of the Company's long-term debt and financing liability. Additionally, other components of the Company's borrowing rates may increase as the global economic situation evolves which may have a direct impact on the fair value of the Company's long-term debt.

The carrying value of revolving lines of credit and deposits approximates fair value.

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The following table presents the fair value of financial instruments as of December 31, 2021:

	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Total</b>
	<b>(Dollars in millions)</b>			
HSBC Loan .....	\$ —	\$ —	\$ 50.4	\$ 50.4
Hapoalim Loan .....	—	—	117.8	117.8
Discount Loan .....	—	—	100.2	100.2
Financing Liability - Dixie Valley .....	—	—	248.4	248.4
Olkaria III – DFC .....	—	—	166.5	166.5
Olkaria III plant 4 - DEG 2 .....	—	—	34.1	34.1
Olkaria III plant 1 - DEG 3 .....	—	—	30.1	30.1
Platanares Loan – DFC .....	—	—	98.2	98.2
Amatitlan Loan .....	—	19.8	—	19.8
OFC 2 Senior Secured Notes .....	—	—	183.3	183.3
DAC 1 Senior Secured Notes .....	—	—	69.8	69.8
USG Prudential – NV .....	—	—	28.9	28.9
USG Prudential – ID .....	—	—	17.3	17.3
USG DOE .....	—	—	39.9	39.9
Senior Unsecured Bonds .....	—	—	578.9	578.9
Senior Unsecured Loan .....	—	—	204.3	204.3
Plumstriker .....	—	14.8	—	14.8
Other long-term debt .....	—	—	13.3	13.3
Deposits .....	17.1	—	—	17.1

The following table presents the fair value of financial instruments as of December 31, 2020:

	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Total</b>
	<b>(Dollars in millions)</b>			
Olkaria III Loan – DFC .....	\$ —	\$ —	\$ 192.5	\$ 192.5
Olkaria III plant 4 - DEG 2 .....	—	—	40.4	40.4
Olkaria III plant 1 - DEG 3 .....	—	—	35.8	35.8
Platanares Loan – DFC .....	—	—	112.1	112.1
Amatitlan Loan .....	—	23.5	—	23.5
Senior Secured Notes:				
OFC 2 Senior Secured Notes .....	—	—	207.9	207.9
DAC 1 Senior Secured Notes .....	—	—	78.5	78.5
USG Prudential – NV .....	—	—	31.8	31.8
USG Prudential – ID .....	—	—	18.3	18.3
USG DOE .....	—	—	45.1	45.1
Senior Unsecured Bonds .....	—	—	585.1	585.1
Senior Unsecured Loan .....	—	—	222.2	222.2
Plumstriker .....	—	18.1	—	18.1
Other long-term debt .....	—	—	17.4	17.4
Deposits .....	14.8	—	—	14.8



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**NOTE 9 — PROPERTY, PLANT AND EQUIPMENT AND CONSTRUCTION-IN-PROCESS**

*Property, plant and equipment*

Property, plant and equipment, net, consist of the following:

	<b>December 31,</b>	
	<b>2021</b>	<b>2020</b>
	<b>(Dollars in thousands)</b>	
Land owned by the Company where the geothermal resource is located.....	\$ 40,545	\$ 40,157
Leasehold improvements.....	9,105	8,477
Machinery and equipment.....	302,367	271,981
Land, buildings and office equipment.....	48,275	43,555
Vehicles.....	10,724	8,960
Energy storage equipment.....	79,805	63,562
Geothermal and recovered energy generation power plants, including geothermal wells and exploration and resource development costs: .....		
United States of America, net of cash grants.....	2,511,027	2,296,414
Foreign countries .....	800,000	732,537
Asset retirement cost .....	41,157	28,946
	<u>3,843,005</u>	<u>3,494,589</u>
Less accumulated depreciation.....	<u>(1,548,032)</u>	<u>(1,395,543)</u>
Property, plant and equipment, net.....	<u>\$ 2,294,973</u>	<u>\$ 2,099,046</u>

Depreciation expense for the years ended December 31, 2021, 2020 and 2019 amounted to \$153.0 million, \$133.5 million and \$126.7 million, respectively. Depreciation expense for the years ended December 31, 2021, 2020, and 2019 is net of the impact of the cash grant in the amount of \$7.4 million, \$7.3 million and \$7.3 million, respectively.

*U.S. Operations*

The net book value of the property, plant and equipment, including construction-in-process, located in the United States was approximately \$2,502.2 million and \$2,081.6 million as of December 31, 2021 and 2020, respectively. These amounts as of December 31, 2021 and 2020 are net of cash grants in the amount of \$151.9 million and \$155.0 million, respectively.

*Foreign Operations*

The net book value of property, plant and equipment, including construction-in-process, located outside of the United States was approximately \$514.3 million and \$496.8 million as of December 31, 2021 and 2020, respectively.

The Company, through its wholly owned subsidiary, OrPower 4, Inc. (“OrPower 4”), owns and operates geothermal power plants in Kenya. The net book value of assets associated with the power plants was \$297.4 million and \$289.3 million as of December 31, 2021 and 2020, respectively. The Company sells the electricity produced by the power plants to Kenya Power and Lighting Co. Ltd. (“KPLC”) under a 20-year PPA ending between 2033 and 2036.

The Company, through its wholly owned subsidiary, Orzunil I de Electricidad, Limitada (Orzunil), owns a 97% interest in a geothermal power plant in Guatemala. The net book value of the assets related to the power plant was \$17.2 million and \$10.1 million at December 31, 2021 and 2020, respectively. The Company sells the electricity produced by the power plants to INDE, a Guatemalan power company under a PPA ending in 2034.

The Company, through its wholly owned subsidiary, Ortitlan, Limitada (“Ortitlan”), owns a power plant in Guatemala. The net book value of the assets related to the power plant was \$39.8 million and \$42.0 million at December 31, 2021 and 2020, respectively.

**ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**  
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The Company, through its wholly owned subsidiary, GeoPlatanares, signed a BOT contract for the Platanares geothermal project in Honduras with ELCOSA, a privately owned Honduran energy company, for 15 years from the commercial operation date. Platanares sells the electricity produced by the power plants to ENEE, the national utility of Honduras under a 30-year PPA which expires in 2047. The net book value of the assets related to the power plant was \$75.4 million and \$97.2 million at December 31, 2021 and 2020, respectively.

The Company, through its subsidiary, Guadeloupe Bouillante ("GB"), owns a power plant in Guadeloupe. The net book value of the assets related to the power plant was \$39.4 million and \$32.0 million at December 31, 2021 and 2020, respectively. GB sells the electricity produced by the power plants to EDF, the French electric utility, under a 15-year PPA.

***Construction-in-process***

Construction-in-process consists of the following:

	<b>December 31,</b>	
	<b>2021</b>	<b>2020</b>
	<b>(Dollars in thousands)</b>	
Projects under exploration and development:		
Up-front bonus costs.....	\$ 5,335	\$ 5,347
Exploration and development costs .....	44,664	45,478
Interest capitalized .....	703	703
	<u>50,702</u>	<u>51,528</u>
Projects under construction:		
Up-front bonus costs.....	39,156	39,144
Drilling and construction costs .....	611,553	379,117
Interest capitalized .....	20,072	9,526
	<u>670,781</u>	<u>427,787</u>
Total .....	<u>\$ 721,483</u>	<u>\$ 479,315</u>

	<b>Projects under exploration and development</b>			
	<b>Up-front Bonus Costs</b>	<b>Exploration and Development Costs</b>	<b>Interest Capitalized</b>	<b>Total</b>
	<b>(Dollars in thousands)</b>			
<b>Balance at December 31, 2018</b> .....	\$ 17,018	\$ 53,237	\$ 703	\$ 70,958
Cost incurred during the year.....	—	17,215	—	17,215
Transfer of projects under exploration and development to projects under construction .....	—	(3,536)	—	(3,536)
<b>Balance at December 31, 2019</b> .....	17,018	66,916	703	84,637
Cost incurred during the year.....	—	5,832	—	5,832
Transfer of projects under exploration and development to projects under construction .....	(11,671)	(27,270)	—	(38,941)
<b>Balance at December 31, 2020</b> .....	5,347	45,478	703	51,528
Cost incurred during the year.....	—	2,680	—	2,680
Transfer of projects under exploration and development to projects under construction .....	(12)	(3,494)	—	(3,506)
<b>Balance at December 31, 2021</b> .....	<u>\$ 5,335</u>	<u>\$ 44,664</u>	<u>\$ 703</u>	<u>\$ 50,702</u>

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	Projects under construction			
	Up-front Bonus Costs	Drilling and Construction Costs	Interest Capitalized	Total
	(Dollars in thousands)			
<b>Balance at December 31, 2018</b> .....	\$ 27,473	\$ 160,398	\$ 2,861	\$ 190,732
Cost incurred during the year.....	—	264,137	3,100	267,237
Transfer of projects under exploration and development to projects under construction .....	—	3,536	—	3,536
Insurance recoveries .....	—	(35,435)	—	(35,435)
Transfer of completed projects to property, plant and equipment .....	—	(134,152)	—	(134,152)
<b>Balance at December 31, 2019</b> .....	27,473	258,484	5,961	291,918
Cost incurred during the year.....	—	298,215	3,565	301,780
Transfer of projects under exploration and development to projects under construction .....	11,671	27,270	—	38,941
Transfer of completed projects to property, plant and equipment .....	—	(204,852)	—	(204,852)
<b>Balance at December 31, 2020</b> .....	39,144	379,117	9,526	427,787
Cost incurred during the year.....	—	403,296	10,546	413,842
Transfer of projects under exploration and development to projects under construction .....	12	3,494	—	3,506
Transfer of completed projects to property, plant and equipment .....	—	(174,354)	—	(174,354)
<b>Balance at December 31, 2021</b> .....	\$ 39,156	\$ 611,553	\$ 20,072	\$ 670,781

**NOTE 10 — INTANGIBLE ASSETS AND GOODWILL**

Intangible assets amounting to \$363.3 million and \$194.4 million consist mainly of the Company's PPAs acquired in business combinations and its energy storage activities, net of accumulated amortization of \$110.1 million and \$89.4 million as of December 31, 2021 and 2020, respectively.

The following table summarizes the information related to the Company's intangible assets as of December 31, 2021 and 2020:

	December 31, 2021		December 31, 2020	
	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
	(Dollars in thousands)		(Dollars in thousands)	
Amortized intangible assets				
Electricity segment .....	\$ 417,479	\$ (96,250)	\$ 227,811	\$ (80,622)
Storage segment.....	55,973	(13,888)	55,973	(8,741)
Total .....	\$ 473,452	\$ (110,138)	\$ 283,784	\$ (89,363)

Amortization expense for the years ended December 31, 2021, 2020 and 2019 amounted to \$21.7 million, \$14.4 million and \$13.3 million, respectively.

Additions to intangible assets for the years ended December 31, 2021, 2020 and 2019, amounted to \$192.5 million, \$20.4 million and \$0.0 million, respectively. The additions to intangible assets in 2021 and 2020 relate to the geothermal assets purchase transaction from TG Geothermal Portfolio, LLC and the Pomona acquisition, respectively, as further described under Note 2 to the consolidated financial statements. The Company tested the intangible assets for recoverability in December 2021, 2020 and 2019 and assessed whether there were events or change in circumstances which may indicate that the intangible assets are not recoverable. The Company's assessment resulted in that there were no write-offs of intangible assets in 2021, 2020 and 2019.

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Estimated future amortization expense for the intangible assets as of December 31, 2021 is as follows:

	(Dollars in thousands)
<b>Year ending December 31:</b>	
2022 .....	\$ 27,429
2023 .....	27,359
2024 .....	26,398
2025 .....	26,079
2026 .....	25,368
Thereafter .....	230,681
Total .....	<u>\$ 363,314</u>

***Goodwill***

Goodwill amounting to \$90.0 million and \$24.6 million as of December 31, 2021 and 2020, respectively, represents the excess of the fair value of consideration transferred in business combination transactions over the fair value of tangible and intangible assets acquired, net of the fair value of liabilities assumed and non-controlling interest (as applicable) in the acquisitions. For the years 2021, 2020 and 2019, the Company's impairment assessment of goodwill related to its reporting units resulted in no impairment.

Changes in the carrying amount of the Company's goodwill for the years ended December 31, 2021 and 2020 were as follows:

	2021	2020
	(Dollars in thousands)	
Goodwill as of January 1, .....	\$ 24,566	\$ 20,140
Goodwill acquired <sup>(1)</sup> .....	65,441	4,107
Translation differences .....	(53)	319
Goodwill as of December 31, .....	<u>\$ 89,954</u>	<u>\$ 24,566</u>

<sup>(1)</sup> Goodwill acquired in 2021 and 2020 is related to the purchase of geothermal assets from TG Geothermal Portfolio, LLC and the Pomona storage facility purchase transaction, respectively, as further described in Note 2 to the consolidated financial statements.

**NOTE 11 — ACCOUNTS PAYABLE AND ACCRUED EXPENSES**

Accounts payable and accrued expenses consist of the following:

	December 31,	
	2021	2020
	(Dollars in thousands)	
Trade payable .....	\$ 75,164	\$ 75,779
Salaries and other payroll costs .....	25,513	29,271
Customer advances .....	1,218	1,197
Accrued interest .....	11,283	7,843
Income tax payable .....	8,138	19,913
Property tax payable .....	2,906	1,378
Scheduling and transmission .....	3,632	2,632
Royalty accrual .....	6,023	3,581
Warranty accrual .....	1,579	2,087
Other .....	7,730	9,082
Total .....	<u>\$ 143,186</u>	<u>\$ 152,763</u>

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**NOTE 12 — LONG-TERM DEBT, CREDIT AGREEMENTS AND FINANCE LIABILITY**

Long-term debt consists of the following loan agreements:

	<b>December 31,</b>	
	<b>2021</b>	<b>2020</b>
	<b>(Dollars in thousands)</b>	
<b>Limited and non-recourse agreements:</b>		
Limited recourse:		
Loan agreement with DFC (the Olkaria III power plant) .....	\$ 156,657	\$ 174,652
Loan agreement with DFC (the Platanares power plant).....	88,073	96,266
Loan agreement with Banco Industrial S.A. and Westrust Bank (International) Limited.....	19,250	22,750
Loan agreement with a global industrial company (the Plumstriker battery energy storage projects) .....	14,726	18,081
Other loans (assumed in the purchase of USG).....	79,064	84,118
Other loans.....	5,930	7,807
OFC 2 Senior Secured Notes .....	173,321	188,223
Non-recourse:		
DAC 1 Senior Secured Notes .....	67,939	73,121
Other loans.....	7,697	9,838
Total limited and non-recourse agreements .....	612,657	674,856
Less current portion.....	(61,695)	(60,846)
Noncurrent portion .....	<u>\$ 550,962</u>	<u>\$ 614,010</u>
<b>Full recourse agreements:</b>		
Senior Unsecured Bonds (Series 3 and Series 4).....	\$ 539,567	\$ 529,066
Senior Unsecured Loan (Migdal).....	191,600	200,000
Hapoalim, HSBC and Discount loans.....	266,071	—
Loan agreements with DEG (the Olkaria III and power plants 4 and 1 upgrade).....	60,896	70,264
Revolving credit lines with banks.....	—	—
Total full recourse agreements .....	1,058,134	799,330
Less current portion .....	(313,846)	(17,768)
Noncurrent portion.....	<u>\$ 744,288</u>	<u>\$ 781,562</u>

**Full-Recourse Third-Party Debt**

**Bank Hapoalim Loan**

On July 12, 2021, the Company entered into a definitive loan agreement (the "Hapoalim Loan Agreement") with Bank Hapoalim B.M. ("Bank Hapoalim"). The Hapoalim Loan Agreement provides for a loan by Bank Hapoalim to the Company in an aggregate principal amount of \$125 million (the "Hapoalim Loan"). The outstanding principal amount of the Hapoalim Loan will be repaid in 14 semi-annual payments of \$8.9 million each, commencing on December 12, 2021. The duration of the Hapoalim Loan is 7 years. The Hapoalim Loan bears interest at a fixed rate of 3.45% per annum, payable semi-annually.

The Hapoalim Loan Agreement includes various affirmative and negative covenants, including a requirement that the Company maintain (i) a financial debt to adjusted EBITDA ratio not to exceed 6, (ii) a minimum equity capital amount (as shown on its consolidated financial statements) of not less than \$750 million, and (iii) an equity capital to total assets ratio of not less than 25%. The Hapoalim Loan Agreement includes other customary affirmative and negative covenants, including payment and covenant events of default. As of December 31, 2021, the covenants have been met.

<b>Loan</b>	<b>Amount Issued</b>	<b>Amount Outstanding as of December 31, 2021</b>	<b>Annual Interest Rate <sup>(1)</sup></b>	<b>Maturity Date</b>
	<b>(Dollars in millions)</b>			
Hapoalim Loan .....	\$125.0	\$116.1	3.45%	June 2028

<sup>(1)</sup> payable semi-annually



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**HSBC Bank Loan**

On July 15, 2021, the Company entered into a definitive loan agreement (the "HSBC Loan Agreement") with HSBC Bank PLC ("HSBC Bank"). The HSBC Loan Agreement provides for a loan by HSBC Bank to the Company in an aggregate principal amount of \$50 million (the "HSBC Loan"). The outstanding principal amount of the HSBC Loan will be repaid in 14 semi-annual payments of \$3.6 million each, commencing on January 19, 2022. The duration of the HSBC Loan is 7 years. The HSBC Loan bears interest at a fixed rate of 3.45% per annum, payable semi-annually.

The HSBC Loan Agreement includes various affirmative and negative covenants, including a requirement that the Company maintain (i) a financial debt to adjusted EBITDA ratio not to exceed 6, (ii) a minimum equity capital amount (as shown on its consolidated financial statements) of not less than \$750 million, and (iii) an equity capital to total assets ratio of not less than 25%. The HSBC Loan Agreement includes other customary affirmative and negative covenants, including payment and covenant events of default. As of December 31, 2021, the covenants have been met.

<b>Loan</b>	<b>Amount Issued</b>	<b>Amount Outstanding as of December 31, 2021</b>	<b>Annual Interest Rate <sup>(1)</sup></b>	<b>Maturity Date</b>
<b>(Dollars in millions)</b>				
HSBC Loan .....	\$ 50.0	\$ 50.0	3.45%	July 2028

<sup>(1)</sup> payable semi-annually

The proceeds from Hapoalim Loan and HSBC Loan were used to pay for the purchase of the geothermal assets portfolio from TG Geothermal Portfolio, LLC as described above in Note 2 - Business Acquisitions to the consolidated financial statements.

**Discount Bank Loan**

On September 2, 2021, the Company entered into a definitive loan agreement (the "Discount Loan Agreement") with Israel Discount Bank Ltd. ("Discount Bank"). The Discount Loan Agreement provides for a loan by Discount Bank to the Company in an aggregate principal amount of \$100 million (the "Discount Loan"). The outstanding principal amount of the Discount Loan will be repaid in 16 semi-annual payments of \$6.25 million each, commencing on March 2, 2022. The duration of the Discount Loan is 8 years. The Discount Loan bears interest at a fixed rate of 2.9% per annum, payable semi-annually.

The Discount Loan Agreement includes various affirmative and negative covenants, including a requirement that the Company maintain (i) a financial debt to adjusted EBITDA ratio not to exceed 6, (ii) a minimum equity capital amount (as shown on its consolidated financial statements) of not less than \$750 million, and (iii) an equity capital to total assets ratio of not less than 25%. The Discount Loan Agreement includes other customary affirmative and negative covenants, including payment and covenant events of default. As of December 31, 2021, the covenants have been met.

<b>Loan</b>	<b>Amount Issued</b>	<b>Amount Outstanding as of December 31, 2021</b>	<b>Annual Interest Rate <sup>(1)</sup></b>	<b>Maturity Date</b>
<b>(Dollars in millions)</b>				
Discount Loan .....	\$ 100.0	\$ 100.0	2.9%	September 2029

<sup>(1)</sup> payable semi-annually

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**Senior Unsecured Bonds - Series 4**

On July 1, 2020, the Company concluded an auction tender and accepted subscriptions for New Israeli Shekels ("NIS") 1.0 billion aggregate principal amount of senior unsecured bonds (the "Senior Unsecured Bonds - Series 4"). The Senior Unsecured Bonds - Series 4 are denominated in NIS and were converted to approximately \$289.8 million using a cross-currency swap transaction shortly after the completion of such issuance as further detailed below. The Senior Unsecured Bonds - Series 4 are payable semi-annually in arrears starting December 2020 and will be repaid in 10 equal annual payments commencing June 2022 unless prepaid earlier by the Company pursuant to the terms and conditions of the trust instrument that governs the Senior Unsecured Bonds - Series 4. The proceeds from the Senior Unsecured Bonds - Series 4 were used to pay the total consideration of \$43.4 million in the Pomona purchase transaction as further detailed under Note 2 to the consolidated financial statements and to repay certain existing indebtedness with the balance being used to support the Company's growth plans. As of December 31, 2021, the covenants have been met.

<u>Loan</u>	<u>Amount Issued</u>	<u>Amount Outstanding as of December 31, 2021</u>	<u>Annual Interest Rate <sup>(1)</sup></u>	<u>Maturity Date</u>
	(Dollars in millions)			
Senior Unsecured Bonds - Series 4 .....	\$ 289.8	\$ 321.5	3.35%	June 2031

<sup>(1)</sup> payable semi-annually

**Cross Currency Swap**

Concurrently with the issuance of the Senior Unsecured Bonds - Series 4, the Company entered into a long-term cross currency swap with the objective of hedging the currency rate fluctuations related to the aggregated principal amount and interest of the Senior Unsecured Bonds - Series 4 at an average fixed rate of 4.34%. The terms of the Cross Currency Swap match those of the Senior Unsecured Bonds - Series 4, including the notional amount of the principal and interest payment dates. The Company designated the Cross Currency Swap as a cash flow hedge as per ASC 815, Derivatives and Hedging and accordingly measures the Cross Currency Swap instrument at fair value. The changes in the Cross Currency Swap fair value are initially recorded in Other Comprehensive Income (Loss) and reclassified to Derivatives and foreign currency transaction gains (losses) in the same period or periods during which the hedged transaction affects earnings and is presented in the same line item in the consolidated statements of operations and comprehensive income as the earnings effect of the Senior Unsecured Bonds - Series 4.

**Senior Unsecured Bonds - Series 3**

In September 2016, the Company concluded an auction tender and accepted subscriptions for two series of senior unsecured bonds comprised of approximately \$67.0 million aggregate principal amount of senior unsecured bonds (the "Series 2 Bonds") and approximately \$137.0 million aggregate principal amount of senior unsecured bonds (the "Series 3 Bonds" and together with the Series 2 Bonds, the "Senior Unsecured Bonds").

In September 2020, the Company fully repaid the Series 2 Bonds. The Series 3 Bonds will mature in September 2022 in a single bullet payment unless earlier prepaid by the Company pursuant to the terms and conditions of the trust instrument that governs such Senior Unsecured Bonds.

On April 6, 2020, the Company concluded an auction tender and accepted subscriptions for an additional aggregate principal amount of approximately \$51.1 million of its Series 3 Senior Unsecured Bonds (the "Additional Series 3 Bonds") for total consideration of \$50.0 million, representing an effective interest rate of 4.45%. The Additional Series 3 Bonds will mature in September 2022 and will be repaid at maturity in a single bullet payment, unless earlier prepaid by the Company pursuant to the terms and conditions of the trust instrument that governs such Senior Unsecured Bonds.

On April 20, 2020, the Company concluded an additional auction tender and accepted subscriptions for an aggregate principal amount of approximately \$14.5 million of its Series 3 Senior Unsecured Bonds (the "Second Addition to Series 3 Bonds"). The Second Addition to Series 3 Bonds will mature in September 2022 and will be repaid at maturity in a single

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bullet payment, unless earlier prepaid by the Company pursuant to the terms and conditions of the trust instrument that governs such Senior Unsecured Bonds.

On May 13, 2020, the Company concluded an additional auction tender and accepted subscriptions for an aggregate principal amount of approximately \$15.3 million under Series 3 Senior Unsecured Bonds (the “Third Addition to Series 3 Bonds”). The Third Addition to Series 3 Bonds will mature in September 2022 and will be repaid at maturity in a single bullet payment, unless earlier prepaid by the Company pursuant to the terms and conditions of the trust instrument that governs such Senior Unsecured Bonds.

<b>Loan</b>	<b>Amount Issued</b>	<b>Amount Outstanding as of December 31, 2021</b>	<b>Annual Interest Rate <sup>(1)</sup></b>	<b>Maturity Date</b>
	<b>(Dollars in millions)</b>			
Senior Unsecured Bonds - Series 3 .....	\$218.0	\$218.0	4.45%	September 2022

<sup>(1)</sup> payable semi-annually

As of December 31, 2021, the covenants have been met.

**Senior Unsecured Loan**

On March 22, 2018 the Company entered into a definitive loan agreement (the “Migdal Loan Agreement”) with Migdal Insurance Company Ltd., Migdal Makefet Pension and Provident Funds Ltd. and Yozma Pension Fund of Self-Employed Ltd., all entities within the Migdal Group, a leading Israeli insurance company and institutional investor in Israel. The Migdal Loan Agreement provides for a loan by the lenders to the Company in an aggregate principal amount of \$100.0 million (the “Migdal Loan”). The Migdal Loan is repaid in 15 semi-annual payments of \$4.2 million each, commencing on September 15, 2021, with a final payment of \$37.0 million on March 15, 2029.

The Loan is subject to early redemption by the Company prior to maturity from time to time (but not more frequently than once per quarter) and at any time in whole or in part, at a redemption price set forth in the Migdal Loan Agreement. If the rating of the Company is downgraded to “ilA-” (or equivalent), of any of Standard and Poor’s, Moody’s or Fitch (whether in Israel or outside of Israel) (each a “Credit Rating Agency”), the interest rate applicable to the Migdal Loan will increase by 0.50%. If the rating of the Company is further downgraded to a lower level by any Credit Rating Agency, the interest rate applicable to the Migdal Loan will be increased by 0.25% for each additional downgrade. In no event will the cumulative increase in the interest rate applicable to the Loan exceed 1% regardless of the cumulative rating downgrade. A subsequent upgrade or reinstatement of a rating by any Credit Rating Agency will reduce the interest rate applicable to the Migdal Loan by 0.25% for each upgrade (but in no event will the interest rate applicable the Migdal Loan fall below the base interest rate of 4.8%). Additionally, if the ratio between short-term and long-term debt to financial institutions and bondholders, deducting cash and cash equivalents to EBITDA is equal to or higher than 4.5, the interest rate on all amounts then outstanding under the Migdal Loan shall be increased by 0.5% per annum over the interest rate then-applicable to the Migdal Loan.

The Migdal Loan Agreement includes various affirmative and negative covenants, including a covenant that the Company maintain (i) a debt to adjusted EBITDA ratio below 6, (ii) a minimum equity amount (as shown on its consolidated financial statements, excluding noncontrolling interests) of not less than \$750 million, and (iii) an equity attributable to Company's stockholders to total assets ratio of not less than 25%. In addition, the Migdal Loan Agreement restricts the Company from making dividend payments if its equity falls below \$800 million and otherwise restricts dividend payments in any one year to not more than 50% of the net income of the Company of such year as shown on the Company’s consolidated annual financial statements as long as any of the Company's bonds issued in Israel prior to March 27, 2018 remain outstanding. The Migdal Loan Agreement includes other customary affirmative and negative covenants and events of default. As of December 31, 2021, the covenants have been met.

On March 25, 2019, the Company entered into a first addendum (“First Addendum”) to the Migdal Loan Agreement with the Migdal Group dated March 22, 2018. The First Addendum provides for an additional loan by the lenders to the Company in an aggregate principal amount of \$50.0 million (the “Additional Migdal Loan”). The Additional Migdal Loan is repaid in 15 semi-annual payments of \$2.1 million each, commencing on September 15, 2021, with a final payment of \$18.5 million on March 15, 2029. The Additional Migdal Loan was entered into under substantially the same terms and conditions of the Migdal Loan Agreement as disclosed above.

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In April 2020, the Company entered into a second addendum (the “Second Addendum”) to the loan agreement with the Migdal Group dated March 22, 2018. The Second Addendum provides for an additional loan by the lenders to the Company in an aggregate principal amount of \$50.0 million (the “Second Addendum Migdal Loan”). The principal amount of \$31.5 million of the Second Addendum Migdal Loan will be repaid in 15 equal semi-annual payments commencing on September 15, 2021 and ending on September 15, 2028. The principal amount of \$18.5 million is repaid in one bullet payment on March 15, 2029. The Second Addendum Migdal Loan was entered into under substantially the same terms and conditions of the Migdal Loan Agreement.

Loan	Amount Issued	Amount	Annual Interest Rate <sup>(1)</sup>	Maturity Date
		Outstanding as of December 31, 2021		
	(Dollars in millions)			
Migdal Loan .....	\$ 100.0	\$ 95.8	4.80%	March 2029
Additional Migdal Loan .....	50.0	47.9	4.60%	March 2029
Second Addendum Migdal Loan.	50.0	47.9	5.44%	March 2029
Total Senior Unsecured Loan ..	\$ 200.0	\$ 191.6		

<sup>(1)</sup> payable semi-annually in arrears.

**Loan Agreements with DEG (the Olkaria III Complex)**

On October 20, 2016, OrPower 4 entered into a new \$50.0 million subordinated loan agreement with Deutsche Investitions-und Entwicklungsgesellschaft mbH (“DEG”) (the “DEG 2 Loan Agreement”) and on December 21, 2016, OrPower 4 completed a drawdown of the full loan amount of \$50 million, with a fixed interest rate of 6.28% for the duration of the loan (the “DEG 2 Loan”). The DEG 2 Loan is being repaid in 20 equal semi-annual principal installments which commenced on December 21, 2018, with a final maturity date of June 21, 2028. Proceeds of the DEG 2 Loan were used by OrPower 4 to refinance Plant 4 of the Olkaria III Complex, which was originally financed using equity. The DEG 2 Loan is subordinated to the senior loan provided by DFC for Plants 1-3 of the Olkaria III Complex. The DEG 2 Loan is guaranteed by the Company.

On January 4, 2019, OrPower 4 entered into an additional \$41.5 million subordinated loan agreement with DEG (the “DEG 3 Loan Agreement”) and on February 28, 2019, OrPower 4 completed a drawdown of the full loan amount, with a fixed interest rate of 6.04% for the duration of the loan (the “DEG 3 Loan”). The DEG 3 Loan is being repaid in 19 equal semi-annual principal installments, which commenced on June 21, 2019, with a final maturity date of June 21, 2028. Proceeds of the DEG 3 Loan were used by OrPower 4 to refinance upgrades to Plant 1 of the Olkaria III Complex, which were originally financed using equity. The DEG 3 Loan is subordinated to the senior loan provided by DFC (formerly OPIC) for Plants 1-3 of the Olkaria III Complex. The DEG 3 Loan is guaranteed by the Company. As of December 31, 2021, the covenants have been met.

Loan	Amount Issued	Amount Outstanding as of December 31, 2021	Annual Interest Rate <sup>(1)</sup>	Maturity Date
	(Dollars in millions)			
DEG 2 Loan .....	\$ 50.0	\$ 32.5	6.28%	June 2028
DEG 3 Loan .....	41.5	28.4	6.04%	June 2028
	<u>\$ 91.5</u>	<u>\$ 60.9</u>		

<sup>(1)</sup> payable semi-annually

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***Non-Recourse and Limited-Recourse Third-Party Debt***

**Finance Agreement with DFC (formerly OPIC) (the Olkaria III Complex)**

On August 23, 2012, OrPower 4, the Company's wholly owned subsidiary, entered into a Finance Agreement with U.S. International Development Finance Corporation, an agency of the U.S. government, to provide limited-recourse senior secured debt financing in an aggregate principal amount of up to \$310.0 million (the "OPIC Loan") for the refinancing and financing of the Olkaria III geothermal power complex in Kenya.

The OPIC Loan is comprised of up to three tranches:

<b>Loan</b>	<b>Amount Issued</b>	<b>Amount Outstanding as of December 31, 2021</b>	<b>Annual Interest Rate <sup>(1)</sup></b>	<b>Maturity Date</b>
	<b>(Dollars in millions)</b>			
OPIC Loan - Tranche I.....	\$ 85.0	\$ 42.5	6.34%	December 2030
OPIC Loan - Tranche II.....	180.0	90.0	6.29%	June 2030
OPIC Loan - Tranche III .....	45.0	24.2	6.12%	December 2030
Total OPIC Loan.....	<u>\$ 310.0</u>	<u>\$ 156.7</u>		

<sup>(1)</sup> payable quarterly

The OPIC Loan is collateralized by substantially all of OrPower 4's assets and by a pledge of all of the equity interests in OrPower 4. There are various restrictive covenants under the OPIC Loan, which include a required historical and projected 12-month DSCR. As of December 31, 2021, the covenants have been met.

**Finance Agreement with DFC (the Platanares power plant)**

On April 30, 2018, Geotérmica Platanares, S.A. de C.V. ("Platanares"), a Honduran sociedad anónima de capital variable and an indirect subsidiary of Ormat Technologies, Inc., entered into a Finance Agreement (the "Finance Agreement") with DFC, pursuant to which DFC will provide to Platanares senior secured non-recourse debt financing in an aggregate principal amount of up to \$114.7 million (the "Platanares Loan"), the proceeds of which will be used principally for the refinancing and financing of the Platanares 35 MW geothermal power plant located in western Honduras. The finance agreement was amended and closed in October of 2018.

<b>Loan</b>	<b>Amount Issued</b>	<b>Amount Outstanding as of December 31, 2021</b>	<b>Annual Interest Rate <sup>(1)</sup></b>	<b>Maturity Date</b>
	<b>(Dollars in millions)</b>			
DFC - Platanares Loan .....	\$ 114.7	\$ 88.1	7.02%	September 2032

<sup>(1)</sup> payable quarterly

The Platanares Loan is secured by a first priority lien on all of the assets and ordinary shares of Platanares. The Finance Agreement contains various restrictive covenants applicable to Platanares, among others (i) to maintain a projected and historic debt service coverage ratio; (ii) to maintain on deposit in a debt service reserve account and well reserve account funds or assets with a value in excess of a minimum threshold and (iii) covenants that restrict Platanares from making certain payments or other distributions to its equity holders. As of December 31, 2021, as a result of the overdue debt outstanding of ENEE as further described under Note 1 to the consolidated financial statements, Platanares is restricted from making certain equity distributions.



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**Loan Agreement with Banco Industrial S.A. and Westrust Bank (International) Limited**

On July 31, 2015, Ortitlan, Limitada, the Company's wholly owned subsidiary, obtained a 12-year secured term loan in the principal amount of \$42.0 million (the "Amatitlan Loan") for the 20 MW Amatitlan power plant in Guatemala. Under the credit agreement with Banco Industrial S.A. and Westrust Bank (International) Limited, the Company can expand the Amatitlan power plant with financing to be provided either via equity, additional debt from Banco Industrial S.A. or from other lenders, subject to certain limitations on expansion financing in the credit agreement.

The loan is payable in 48 quarterly payments commencing September 30, 2015. The loan bears interest at a rate *per annum* equal to the sum of LIBOR (which cannot be lower than 1.25%) plus a margin of (i) 4.35% as long as the Company's guaranty of the loan (as described below) is outstanding or (ii) 4.75% otherwise.

<b>Loan</b>	<b>Amount Issued</b>	<b>Amount Outstanding as of December 31, 2021</b>	<b>Annual Interest Rate <sup>(1)</sup></b>	<b>Maturity Date</b>
	<b>(Dollars in millions)</b>			
Amatitlan Loan.....	\$ 42.0	\$ 19.3	LIBOR+4.35%	June 2027

<sup>(1)</sup> payable quarterly

There are various restrictive covenants under the Amatitlan credit agreement. These include, among other things, (i) a financial covenant to maintain a Debt Service Coverage Ratio (as defined in the credit agreement) and (ii) limitations on Restricted Payments (as defined in the credit agreement) that among other things would limit dividends that could be paid. As of December 31, 2021, the covenants have been met. The loan is collateralized by substantially all the assets of the borrower and a pledge of all of the membership interests of the borrower. The Company expects that the scheduled discontinuation of the LIBOR will have no material effect on its consolidated financial statements as the loan agreements includes a mechanism for a substitute rate.

**Plumstriker Loan**

On May 4, 2019, a wholly owned indirect subsidiary of the Company ("Plumstriker") and its two subsidiaries entered into a \$23.5 million loan agreement with a United States ("U.S.") financing division of a leading global industrial company for the financing of two 20 MW battery energy storage projects located in New Jersey.

On May 30, 2019, Plumstriker completed the drawdown of the full loan amount, bearing interest of three months U.S. Libor plus a 3.5% margin. The loan is being repaid in 29 equal quarterly principal installments of 1.25% of the loan, and additional 14 unequal semi-annual principal payments, which commenced on June 30, 2019. Proceeds of the loan were used to refinance investments in the Plumsted and Stryker projects. The debt repayment of the loan is not guaranteed by the Company or any of its subsidiaries. The Company expects that the scheduled discontinuation of the LIBOR will have no effect on its consolidated financial statements as the loan agreements includes a mechanism for a substitute rate. As of December 31, 2021, the covenants have been met.

<b>Loan</b>	<b>Amount Issued</b>	<b>Amount Outstanding as of December 31, 2021</b>	<b>Annual Interest Rate <sup>(1)</sup></b>	<b>Maturity Date</b>
	<b>(Dollars in millions)</b>			
Plumstriker Loan.....	\$23.5	\$14.7	LIBOR+3.5%	May 2026

<sup>(1)</sup> payable quarterly

**ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Don A. Campbell Senior Secured Notes — Non-Recourse**

On November 29, 2016, ORNI 47 LLC (“ORNI 47”), the Company’s subsidiary, entered into a note purchase agreement (the “ORNI 47 Note Purchase Agreement”) with MUFG Union Bank, N.A., as collateral agent, Munich Reinsurance America, Inc. and Munich American Reassurance Company (the “Purchasers”) pursuant to which ORNI 47 issued and sold to the Purchasers \$92.5 million aggregate principal amount of its Senior Secured Notes (the “DAC 1 Senior Secured Notes”) in a private placement exempt from the registration requirements of the Securities Act of 1933, as amended. ORNI 47 is the owner of the first phase of the Don A. Campbell geothermal power plant (“DAC 1”), and part of the ORPD LLC (“ORPD”) portfolio.

The net proceeds from the sale of the DAC 1 Senior Secured Notes, were used to refinance the development and construction costs of the DAC 1 geothermal power plant, which were originally financed using equity.

The DAC 1 Senior Secured Notes constitute senior secured obligations of ORNI 47 and are secured by all of the assets of ORNI 47. The ORNI 47 Note Purchase Agreement requires ORNI 47 to comply with certain covenants, including, among others, restrictions on the incurrence of indebtedness or liens, amendment or modification of material project documents, the ability of ORNI 47 to merge or consolidate with another entity. In addition, there are restrictions on the ability of ORNI 47 to make distributions to its shareholders, which include a required historical and projected DSCR. As of December 31, 2021, the covenants for this loan have not been met which resulted in certain restrictions on equity distribution by ORNI 47.

<b>Loan</b>	<b>Amount Issued</b>	<b>Amount</b>	<b>Annual Interest Rate <sup>(1)</sup></b>	<b>Maturity Date</b>
		<b>Outstanding as of December 31, 2021</b>		
		<b>(Dollars in millions)</b>		
DAC 1 Senior Secured Notes ..	\$92.5	\$67.9	4.03%	September 2033

<sup>(1)</sup> payable quarterly

**OFC 2 Senior Secured Notes**

In September 2011, OFC 2, the Company’s wholly owned subsidiary and OFC 2’s wholly owned project subsidiaries (collectively, the “OFC 2 Issuers”) entered into a note purchase agreement (the “Note Purchase Agreement”) with OFC 2 Noteholder Trust, as purchaser, John Hancock Life Insurance Company (U.S.A.), as administrative agent, and the DOE, as guarantor, in connection with the offer and sale of up to \$350.0 million aggregate principal amount of OFC 2 Senior Secured Notes (“OFC 2 Senior Secured Notes”) due December 31, 2034. The DOE will guarantee payment of 80% of principal and interest on the OFC 2 Senior Secured Notes pursuant to Section 1705 of Title XVII of the Energy Policy Act of 2005, as amended. The conditions precedent to the issuance of the OFC 2 Senior Secured Notes includes certain specified conditions required by the DOE in connection with its guarantee of the OFC 2 Senior Secured Notes.

On October 31, 2011, the OFC 2 Issuers completed the sale of \$151.7 million in aggregate principal amount Series A Notes due 2032 (the “Series A Notes”). The net proceeds from the sale of the Series A Notes were used to finance a portion of the construction costs of Phase I of the McGinness Hills and Tuscarora power plants and to fund certain reserves.

On August 29, 2014, OFC 2 sold \$140.0 million of OFC 2 Senior Secured Notes (the “Series C Notes”) to finance the construction of the second phase of the McGinness Hills project. The Series C Notes are the last tranche under the Note Purchase Agreement with John Hancock Life Insurance Company and are guaranteed by the DOE’s Loan Programs Office in accordance with and subject to the DOE’s Loan Guarantee Program under Section 1705 of Title XVII of the Energy Policy Act of 2005.

The OFC 2 Senior Secured Notes are collateralized by substantially all of the assets of OFC 2 and those of its wholly owned subsidiaries and are fully and unconditionally guaranteed by all of the wholly owned subsidiaries of OFC 2. There are various restrictive covenants under the OFC 2 Senior Secured Notes, which include limitations on additional indebtedness of OFC 2 and its wholly owned subsidiaries. Failure to comply with these and other covenants will, subject to customary cure rights, constitute an event of default by OFC 2. In addition, there are restrictions on the ability of OFC 2 to make distributions to its shareholders. Among other things, the distribution restrictions include a historical debt service coverage ratio requirement and a projected future DSCR requirement. As of December 31, 2021, the covenants have been met.

**ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**  
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<b>Loan</b>	<b>Amount Issued</b>	<b>Amount Outstanding as of December 31, 2021</b>	<b>Annual Interest Rate <sup>(1)</sup></b>	<b>Maturity Date</b>
	<b>(Dollars in millions)</b>			
OFC 2 Senior Secured Notes - Series A .....	\$ 151.7	\$ 79.6	4.69%	December 2032
OFC 2 Senior Secured Notes - Series C .....	140.0	93.8	4.61%	December 2032
Total OFC 2 Senior Secured Notes .....	<u>\$ 291.7</u>	<u>\$ 173.4</u>		

<sup>(1)</sup> payable quarterly in arrears

The Company provided a guaranty in connection with the issuance of the Series A Notes and Series C Notes. The guaranty may be drawn in the event of, among other things, the failure of any facility financed by the relevant series of OFC 2 Senior Secured Notes to reach completion and meet certain operational performance levels (the “non-performance trigger”) which gives rise to a prepayment obligation on the OFC 2 Senior Secured Notes. The guarantee may also be drawn if there is a payment default on the OFC 2 Senior Secured Notes or upon the occurrence of certain fundamental defaults that result in the acceleration of the OFC 2 Senior Secured Notes, in each case, prior to the date that the relevant facility(ies) financed by such OFC 2 Senior Secured Notes reaches completion and meets the applicable operational performance levels. The Company’s liability under the guaranty with respect to the non-performance trigger is limited to an amount equal to the prepayment amount on the OFC 2 Senior Secured Notes necessary to bring the OFC 2 Issuers into compliance with certain coverage ratios. The Company’s liability under the guarantee with respect to the other trigger event described above is not so limited.

**Other Limited Recourse Loans**

On April 24, 2018, the Company completed the acquisition of USG. As part of the acquisition the Company assumed the following non-recourse loans:

*Prudential Capital Group – Idaho non-recourse*

In May 2016, USG’s wholly owned subsidiary (Idaho USG Holdings LLC) entered into a loan agreement with the Prudential Capital Group to finance its development activities. The original principal totaled \$20.0 million. The principal and interest payments are due semi-annually and the principal is partially repaid through 2023 and the loan is secured by the Company’s ownership interests in the Neal Hot Springs and the Raft River projects. As of December 31, 2021, the covenants for this loan have been met.

*U.S. Department of Energy – non-recourse*

On August 31, 2011, USG’s wholly owned subsidiary, USG Oregon LLC (“USG Oregon”), completed the first funding drawdown associated with the U.S. Department of Energy (“DOE”) of \$96.8 million loan guarantee (“Loan Guarantee”) to construct its power plant at Neal Hot Springs project in Eastern Oregon. In connection with the Loan Guarantee, the DOE has been granted a security interest in all of the equity interests of USG Oregon, as well as in the assets of USG Oregon, including a mortgage on real property interests relating to the Neal Hot Springs site. As of December 31, 2021, the covenants for this loan have been met.

*Prudential Capital Group – Nevada non-recourse*

On September 26, 2013, USG’s wholly owned subsidiary (“USG Nevada LLC”), entered into a note purchase agreement with the Prudential Capital Group to finance Phase I of the San Emidio geothermal project located in northwest Nevada. Principal payments are due quarterly based upon minimum debt service coverage ratios established according to projected operating results made at the loan origination date and available cash balances. The loan agreement is secured by USG Nevada LLC’s right, title and interest in and to its real and personal property, including the San Emidio project and the

**ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

equity interests in USG Nevada LLC. As of December 31, 2021, the covenants for this loan have not been met which resulted in certain restrictions on equity distribution by this subsidiary.

<b>Loan</b>	<b>Amount Issued</b>	<b>Amount Outstanding as of December 31, 2021</b>	<b>Annual Interest Rate <sup>(1)</sup></b>	<b>Maturity Date</b>
<b>(Dollars in millions)</b>				
Prudential Capital Group – Idaho non-recourse .....	\$ 20.0	\$ 16.8	5.80%	March 2023
U.S. Department of Energy – non-recourse .....	96.8	39.0	2.60%	February 2035
Prudential Capital Group – Nevada non-recourse ..	30.7	25.1	6.75%	December 2037
Total.....	<u>\$ 147.5</u>	<u>\$ 80.9</u>		

<sup>(1)</sup> payable semi-annually, except for Nevada non-recourse which is payable quarterly

**Bpifrance Loan - Non Recourse**

On April 4, 2019, an indirect subsidiary of the Company (“Guadeloupe”), entered into a \$8.9 million loan agreement with Banque Publique d’Investissement (“Bpifrance”). On April 29, 2019, Guadeloupe completed the drawdown of the full loan amount, bearing a fixed interest rate of 1.93%. The loan will be repaid in 20 equal quarterly principal installments, commencing June 30, 2021. The final maturity date of the loan is March 31, 2026. The loan is not guaranteed by the Company or any of its other subsidiaries. As of December 31, 2021, \$7.7 million is outstanding under the Bpifrance Loan.

**Société Générale Loan - Limited Recourse**

On April 9, 2019, Guadeloupe, entered into a \$8.9 million loan agreement with Société Générale. On April 29, 2019, Guadeloupe completed the drawdown of the full loan amount of the loan, bearing a fixed interest rate of 1.52%. The loan is being repaid in 28 quarterly principal installments, which commenced on July 29, 2019. The final maturity date of the loan is April 29, 2026. The loan has a limited guarantee by one of the Company’s subsidiaries. As of December 31, 2021, \$5.9 million was outstanding under the Société Généralé Loan.

**Financing Liability**

On July 13, 2021, the Company closed a transaction with TG Geothermal Portfolio, LLC (a subsidiary of Terra-Gen, LLC) (the "Seller") to acquire two contracted geothermal assets in Nevada with a total net generating capacity of 67.5 MW, a greenfield development asset adjacent to one of the plants, and an underutilized transmission line. Financing liability is related to a sale and leaseback transaction entered into by the Seller in September 2015 under which it sold and leased back the undivided interests in the Dixie Valley power plant asset through June 2038. The lease transaction was accounted for by the Seller as a finance lease due to the Seller's continued involvement and management of the power plant and the existence of an early buy-out option in September 2024, which continues to be applicable to the Company. The fair value of the financing liability at the acquisition date was \$258.4 million. Further details on the Terra-Gen business combination are described under Note 2 to the consolidated financial statements. As of December 31, 2021, the covenants have been met.

<b>Loan</b>	<b>Amount Outstanding as of December 31, 2021</b>	<b>Annual Interest Rate <sup>(1)</sup></b>	<b>Maturity Date <sup>(2)</sup></b>
<b>(Dollar in millions)</b>			
Financing Liability - Dixie Valley .....	\$ 252.9	2.55%	March 2033

<sup>(1)</sup> payable semi-annually

<sup>(2)</sup> final maturity date of the financing liability is assuming execution of the buy-out option in September 2024.

**ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

***Revolving Credit Lines with Commercial Banks***

As of December 31, 2021, the Company has credit agreements with a number of financial institutions for an aggregate amount of \$623.0 million (including \$60.0 million from MUFG Union Bank, N.A. (“Union Bank”) and \$35.0 million from HSBC Bank USA N.A. as described below). Under the terms of these credit agreements, the Company, or its Israeli subsidiary, Ormat Systems Ltd. (“Ormat Systems”), can request: (i) extensions of credit in the form of loans and/or the issuance of one or more letters of credit in the amount of up to \$408.0 million; and (ii) the issuance of one or more letters of credit in the amount of up to \$120.0 million. The credit agreements mature between March 2022 and November 2023. Loans and draws under the credit agreements or under any letters of credit will bear interest at the respective bank’s cost of funds or USD LIBOR plus a margin. As of December 31, 2021, no loans were outstanding and letters of credit with an aggregate amount of \$78.3 million were issued and outstanding under such credit agreements (excluding the amounts outstanding under the section Credit Agreements below with Union bank and HSBC bank).

***Credit Agreements***

***Credit Agreement with MUFG Union Bank***

Ormat Nevada has a credit agreement with MUFG Union Bank under which it has an aggregate available credit of up to \$60.0 million as of December 31, 2021. The credit termination date is June 30, 2022.

The facility is limited to the issuance, extension, modification or amendment of letters of credit. Union Bank is currently the sole lender and issuing bank under the credit agreement, but is also designated as an administrative agent on behalf of banks that may, from time to time in the future, join the credit agreement as lenders. In connection with this transaction, the Company entered into a guarantee in favor of the administrative agent for the benefit of the banks, pursuant to which the Company agreed to guarantee Ormat Nevada’s obligations under the credit agreement. Ormat Nevada’s obligations under the credit agreement are otherwise unsecured.

There are various restrictive covenants under the credit agreement, which include a requirement to comply with the following financial ratios, which are measured quarterly: (i) a 12-month debt to EBITDA ratio not to exceed 4.5; (ii) 12-month DSCR of not less than 1.35; and (iii) distribution leverage ratio not to exceed 2.0. As of December 31, 2021: (i) the actual 12-month debt to EBITDA ratio was 2.4; (ii) the 12-month DSCR was 4.8; and (iii) the distribution leverage ratio was 0.66. In addition, there are restrictions on dividend distributions in the event of a payment default or noncompliance with such ratios, and subject to specified carve-outs and exceptions, a negative pledge on the assets of Ormat Nevada in favor of Union Bank.

As of December 31, 2021, letters of credit in the aggregate amount of \$59.1 million were issued and outstanding under this credit agreement.

***Credit Agreement with HSBC Bank USA N.A.***

Ormat Nevada has a credit agreement with HSBC Bank USA, N.A for one year with annual renewals. The current expiration date of the facility under this credit agreement is October 31, 2022. On December 31, 2021, the aggregate amount available under the credit agreement was \$35.0 million. This credit line is limited to the issuance, extension, modification or amendment of letters of credit. In addition, Ormat Nevada has an uncommitted discretionary demand line of credit in the aggregate amount of \$35.0 million available for letters of credit including up to \$20 million of credit. In connection with this transaction, the Company entered into a guarantee in favor of the administrative agent for the benefit of the banks, pursuant to which the Company agreed to guarantee Ormat Nevada’s obligations under the credit agreement. Ormat Nevada’s obligations under the credit agreement are otherwise unsecured.

There are various restrictive covenants under the credit agreement, including a requirement to comply with the following financial ratios, which are measured quarterly: (i) a 12-month debt to EBITDA ratio not to exceed 4.5; (ii) 12-month DSCR of not less than 1.35; and (iii) distribution leverage ratio not to exceed 2.0. As of December 31, 2021: (i) the actual 12-month debt to EBITDA ratio was 2.4; (ii) the 12-month DSCR was 4.8; and (iii) the distribution leverage ratio was 0.66. In addition, there are restrictions on dividend distributions in the event of a payment default or noncompliance with such ratios, and subject to specified carve-outs and exceptions, a negative pledge on the assets of Ormat Nevada in favor of HSBC.



## **ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**

### **NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

As of December 31, 2021, letters of credit in the aggregate amount of \$35.0 million were issued and outstanding under the committed portion of this credit agreement and \$2.5 million under the uncommitted portion of the agreement.

#### **Chubb Surety Bond**

In May 2017, the Company entered into a surety bond agreement (the "Surety Agreement") with Chubb Limited ("Chubb") pursuant to which the Company may request that Chubb issue up to an aggregate \$200.0 million of surety bonds with respect to the contractual obligations of the Company and its subsidiaries in exchange for bank letters of credit or as otherwise may be required. There is no expiration date for the Surety Agreement, but it may be terminated by the Company at any time upon twenty days' prior written notice to Chubb. Delivery of such termination notice will not affect any surety bonds issued and outstanding prior to the date on which such notice is delivered. As of December 31, 2021, Chubb issued a surety bond in the amount of \$182.6 million under the Surety Agreement.

#### **Short-term Commercial Paper**

On June 27, 2019, the Company entered into a framework agreement for participation in the issuance of commercial paper (the "Agreement") with Discount Capital Underwriting Ltd. under which the Company allowed the participants to submit proposals for purchasing and to purchase the Company's commercial paper ("Commercial Paper") in accordance with the provisions of the Agreement. On July 3, 2019, the Company completed the issuance of the Commercial Paper in the aggregate amount of \$50.0 million. The Commercial Paper was issued for a period of 90 days and extended automatically for additional 90 day periods for up to five years, unless the Company notifies the participants otherwise or a notice of termination is provided by the participants in accordance with the provisions of the Agreement. The Commercial Paper bore an annual interest of three months LIBOR +0.75% which was paid at the end of each 90 day period. The Commercial Paper was fully repaid during 2020.

#### ***Restrictive Covenants***

The Company's obligations under the credit agreements, the loan agreements, and the trust instrument governing the bonds, described above, are unsecured, but are subject to a negative pledge in favor of the banks and the other lenders and certain other restrictive covenants. These include, among other things, a prohibition on: (i) creating any floating charge or any permanent pledge, charge or lien over the Company's assets without obtaining the prior written approval of the lender; (ii) guaranteeing the liabilities of any third party without obtaining the prior written approval of the lender; and (iii) selling, assigning, transferring, conveying or disposing of all or substantially all of the Company's assets, or a change of control in the Company's ownership structure. Some of the credit agreements, the term loan agreements, as well as the trust instrument contain cross-default provisions with respect to other material indebtedness owed by us to any third party. In some cases, the Company has agreed to maintain certain financial ratios, which are measured quarterly, such as: (i) equity of at least \$750 million and in no event less than 25% of total assets; (ii) 12-month debt, net of cash, cash equivalents marketable securities and short-term bank deposits to Adjusted EBITDA ratio not to exceed 6; and (iii) dividend distribution not to exceed 50% of net income for that year. As of December 31, 2021: (i) total equity was \$1,998.5 million and the actual equity to total assets ratio was 45.2%, and (ii) the 12-month debt, net of cash, cash equivalents marketable securities and short-term bank deposits to Adjusted EBITDA ratio was 4.02. During the year ended December 31, 2021, the Company distributed interim dividends in an aggregate amount of \$27.0 million.

**ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

***Future minimum payments***

Future minimum payments under long-term debt, including financing liability assumed as part of the Terra-Gen business combination as further described above and under Note 2 to the consolidated financial statements, as of December 31, 2021 are as follows:

	<b>(Dollars in thousands)</b>
<b>Year ending December 31:</b>	
2022.....	\$ 386,289
2023.....	189,103
2024.....	253,044
2025.....	167,193
2026.....	168,468
Thereafter.....	761,433
Total .....	<u>\$ 1,925,530</u>

**NOTE 13 —TAX MONETIZATION TRANSACTIONS**

**Steamboat Hills tax monetization transaction**

On October 25, 2021, one of the Company’s wholly-owned subsidiaries that indirectly owns the 28.4 MW Steamboat Hills Repower Geothermal power plant entered into a partnership agreement with a private investor. Under the transaction documents, the private investor acquired membership interests in the Steamboat Hills Repower Geothermal power plant project for an initial purchase price of approximately \$38.9 million and for which it will pay additional installments that are expected to amount to approximately \$5.3 million. The Company will continue to operate and maintain the power plant and will receive substantially all the distributable cash flow generated by the power plant, as described below.

Under the transaction documents, prior to December 31, 2029 (“Target Flip Date”), the Company’s wholly-owned subsidiary, Ormat Nevada Inc. ("Ormat Nevada"), receives substantially all of the distributable cash flow generated by the project, while the private investor receives substantially all of the tax attributes of the project. Following the later of the Target Flip Date and the date on which the private investor reaches its target return, Ormat Nevada will receive 97.5% of the distributable cash and 95.0% of the taxable income, on a go forward basis. In the event that the private investor will not reach its target return by the Target Flip Date, then for the period between the Target Flip Date and the date on which the private investor reaches its target return, the private investor will receive 100% of the distributable cash generated by the power plant and 99% of the tax attributes as long as the project is generating Production Tax Credits ("PTCs") (and 5% of the tax attributes afterwards).

On the Target Flip Date, Ormat Nevada has the option to purchase the private investor’s interests at the then-current fair market value, plus an amount that causes the private investor to reach its target return, if needed. If Ormat Nevada exercises this purchase option, it will become the sole owner of the project again.

**McGinness Hills 3 tax monetization transaction**

On August 14, 2019, one of the Company’s wholly-owned subsidiaries that indirectly owns the 48 MW McGinness Hills phase 3 geothermal power plant entered into a partnership agreement with a private investor. Under the transaction documents, the private investor acquired membership interests in the McGinness Hills phase 3 geothermal power plant for an initial purchase price of approximately \$59.3 million and for which it will pay additional installments that are expected to amount to approximately \$9 million and can reach up to \$22 million based on the actual generation. The Company will continue to consolidate, operate and maintain the power plant and will receive substantially all the distributable cash flow generated by the power plant and the private investor will receive substantially all of the tax attributes, as described below.

## **ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**

### **NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

Pursuant to the transaction documents, prior to December 31, 2027 (“Target Flip Date”), one of the Company’s wholly owned subsidiaries receives substantially all of the distributable cash flow generated by the McGinness Hills phase 3 power plant, while the private investor receives substantially all of the tax attributes of the project. Following the later of the Target Flip Date and the date on which the private investor reaches its target return, the Company will receive 97.5% of the distributable cash generated by the power plant and 95.0% of the tax attributes, on a go forward basis. In the event that the private investor will not reach its target return by the Target Flip Date, then for the period between the Target Flip Date and the date on which the private investor reaches its target return, the private investor will receive 100% of the distributable cash generated by the power plant and 99% of the tax attributes as long as the project is generating PTCs (and 5% of the tax attributes afterwards).

On the Target Flip Date, the Company, through one of its wholly-owned subsidiaries, has the option to purchase the private investor’s interests at the then-current fair market value, plus an amount that causes the private investor to reach its target return, if needed. If the Company exercises this purchase option, it will become the sole owner of the project again.

#### **Tungsten Mountain tax monetization transaction**

On May 17, 2018, one of the Company’s wholly-owned subsidiaries that indirectly owns the 26 MW Tungsten Mountain Geothermal power plant entered into a partnership agreement with a private investor. Under the transaction documents, the private investor acquired membership interests in the Tungsten Mountain Geothermal power plant project for an initial purchase price of approximately \$33.4 million and for which it will pay additional installments that are expected to amount to approximately \$13 million. The Company will continue to operate and maintain the power plant and will receive substantially all the distributable cash flow generated by the power plant, as described below.

Under the transaction documents, prior to December 31, 2026 (“Target Flip Date”), the Company’s wholly-owned subsidiary, Ormat Nevada Inc. (“Ormat Nevada”), receives substantially all of the distributable cash flow generated by the project, while the private investor receives substantially all of the tax attributes of the project. Following the later of the Target Flip Date and the date on which the private investor reaches its target return, Ormat Nevada will receive 97.5% of the distributable cash and 95.0% of the taxable income, on a go forward basis. In the event that the private investor will not reach its target return by the Target Flip Date, then for the period between the Target Flip Date and the date on which the private investor reaches its target return, the private investor will receive 100% of the distributable cash generated by the power plant and 99% of the tax attributes as long as the project is generating PTCs (and 5% of the tax attributes afterwards).

On the Target Flip Date, Ormat Nevada has the option to purchase the private investor’s interests at the then-current fair market value, plus an amount that causes the private investor to reach its target return, if needed. If Ormat Nevada exercises this purchase option, it will become the sole owner of the project again.

#### **Opal Geo tax monetization transaction**

On December 16, 2016, Ormat Nevada entered into an equity contribution agreement (the “Equity Contribution Agreement”) with OrLeaf LLC (“OrLeaf”) and JPM with respect to Opal Geo. Also on December 16, 2016, OrLeaf, a newly formed limited liability company formed by Ormat Nevada and ORPD LLC, entered into an amended and restated limited liability company agreement of Opal Geo (the “LLC Agreement”) with JPM. The transactions contemplated by the Equity Contribution Agreement and LLC Agreement will allow the Company to monetize federal PTCs and certain other tax benefits relating to the operation of five geothermal power plants located in Nevada.

In connection with the transactions contemplated by the Equity Contribution Agreement and the LLC Agreement, Ormat Nevada transferred its indirect ownership interest in the McGinness Hills (Phase I and Phase II), Tuscarora, Jersey Valley and second phase of the Don A. Campbell (“DAC 2”) geothermal power plants to Opal Geo. Prior to such transfer, Ormat Nevada held an approximately 63.25% indirect ownership interest in DAC 2 through ORPD LLC, a joint venture between Ormat Nevada and Northleaf Geothermal Holdings LLC (“Northleaf”), an affiliate of Northleaf Capital Partners, and held, directly or indirectly, a 100% ownership interest in the remaining geothermal power plants that were transferred to Opal Geo.

Pursuant to the Equity Contribution Agreement, JPM contributed approximately \$62.1 million to Opal Geo in exchange for 100% of the Class B Membership Interests of Opal Geo. JPM also agreed to make deferred capital contributions to Opal Geo based on the amount of electricity generated by the DAC 2 and McGinness Hills Phase II power plants which

**ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**  
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are eligible for the federal PTC. The Company expects the aggregate amount of JPM's deferred capital contributions to equal approximately \$21 million and to be paid over time covering the period through December 31, 2022.

Under the LLC Agreement, until December 31, 2022, OrLeaf will receive distributions of 97.5% of any distributable cash generated by operation of the power plants while JPM will receive distributions of 2.5% of any distributable cash generated by operation of the power plants. Unless JPM has already achieved its target internal rate of return on its investment in Opal Geo, from December 31, 2022 until JPM has achieved its target internal rate of return, JPM will receive 100% of any distributable cash generated by operation of the power plants. Thereafter, OrLeaf will receive distributions of 97.5%, and JPM will receive 2.5%, of any distributable cash generated by operation of the power plants.

Under the LLC Agreement, all items of Opal Geo income and loss, gain, deduction and credit (including the federal production tax credits relating to the operation of the two PTC eligible power plants) will be allocated, until JPM has achieved its target internal rate of return on its investment in Opal Geo (and for so long as the two PTC eligible power plants are generating PTCs), 99% to JPM and 1% to OrLeaf, or 5% to JPM and 95% to OrLeaf if PTCs are no longer available to either of the two PTC eligible power plants. Once JPM achieves its target internal rate of return, all items of Opal Geo income and loss, gain, deduction and credit will be allocated 5% to JPM and 95% to OrLeaf.

Under the LLC Agreement, OrLeaf, which owns 100% of the Class A Membership Interests in Opal Geo, will serve as the managing member of Opal Geo and control the day-to-day management of Opal Geo and its portfolio of five power plants. However, in certain limited circumstances (such as bankruptcy of OrLeaf, fraud or gross negligence by OrLeaf) JPM may remove OrLeaf as the managing member of Opal Geo. JPM, as the Class B Member of Opal Geo, has consent and approval rights with respect to certain items that are designated as major decisions for Opal Geo and the five power plants. In addition, by virtue of certain provisions in OrLeaf's own limited liability company agreement, and consistent with the ORPD LLC formation documents, Northleaf has similar consent and approval rights with respect to OrLeaf's determination of major decisions pertaining to the DAC 2 power plant. In both cases, these major decisions are generally equivalent to customary minority protection rights. As a result, the Company's wholly owned subsidiary, Ormat Nevada, which serves as the managing member of OrLeaf and as the managing member of ORPD LLC, will effectively retain the day-to-day control and management of Opal Geo and its portfolio of five power plants.

The LLC Agreement contains certain customary restrictions on transfer applicable to both OrLeaf and JPM with respect to their respective Membership Interests in Opal Geo, and also provides OrLeaf with a right of first offer in the event JPM desires to transfer any of its Class B Membership Interests, pursuant to which OrLeaf may purchase such Class B Membership Interests. The LLC Agreement also provides OrLeaf with the option to purchase all of the Class B Membership Interests on either December 31, 2022 or the date that is 9 years after the closing date under the Equity Contribution Agreement at a price equal to the greater of (i) the fair market value of the Class B Membership Interests as of the date of purchase (subject to certain adjustments) and (ii) \$3 million.

Pursuant to the Equity Contribution Agreement, the Company has provided a guaranty for the benefit of JPM of certain of OrLeaf's indemnification obligations to JPM under the LLC Agreement. In addition, Ormat Nevada also provided a guaranty for the benefit of JPM of all present and future payment and performance obligations of OrLeaf under the LLC Agreement and each ancillary document to which OrLeaf is a party.

JPM's approximately \$62.1 million capital contribution to Opal Geo was recorded as a \$3.7 million allocation to noncontrolling interests and a \$58.5 million allocation to liability associated with sale of tax benefits as described in Note 1. JPM also agreed to make deferred capital contributions to Opal Geo based on the amount of electricity generated by the DAC 2 and McGinness Hills Phase II power plants which are eligible for the federal PTC.

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**NOTE 14 — ASSET RETIREMENT OBLIGATION**

The following table presents a reconciliation of the beginning and ending aggregate carrying amount of asset retirement obligation for the years presented below:

	<b>Year Ended December 31,</b>		
	<b>2021</b>	<b>2020</b>	<b>2019</b>
	<b>(Dollars in thousands)</b>		
Balance at beginning of year .....	\$ 63,457	\$ 50,183	\$ 39,475
Revision in estimated cash flows .....	10,504	(165)	(335)
Liabilities incurred and acquired .....	6,953	10,207	8,334
Accretion expense .....	3,977	3,232	2,709
Balance at end of year .....	<u>\$ 84,891</u>	<u>\$ 63,457</u>	<u>\$ 50,183</u>

**NOTE 15 — STOCK-BASED COMPENSATION**

The Company makes an estimate of expected forfeitures and recognizes compensation costs only for those stock-based awards expected to vest. As of December 31, 2021, the total future compensation cost related to unvested stock-based awards that are expected to vest is \$8.9 million, which will be recognized over a weighted average period of 1.2 years.

During the years ended December 31, 2021, 2020 and 2019, the Company recorded compensation related to stock-based awards as follows:

	<b>Year Ended December 31,</b>		
	<b>2021</b>	<b>2020</b>	<b>2019</b>
	<b>(Dollars in thousands)</b>		
Cost of revenues .....	\$ 4,656	\$ 4,435	\$ 3,633
Selling and marketing expenses .....	766	1,081	916
General and administrative expenses .....	3,746	4,314	4,810
Total stock-based compensation expense .....	9,168	9,830	9,359
Tax effect on stock-based compensation expense .....	872	858	736
Net effect of stock-based compensation expense .....	<u>\$ 8,296</u>	<u>\$ 8,972</u>	<u>\$ 8,623</u>

During the fourth quarter of 2021, 2020 and 2019, the Company evaluated the trends the employees stock-based award forfeiture rate and determined that the actual rates are 11.1%, 10.8% and 10.7%, respectively. This represents an increase of 2.8%, 0.9%, and 101.9%, respectively, from prior estimates. As a result of the change in the estimated forfeiture rate, there was an immaterial impact on stock-based compensation expense for each of the respective periods.

***Valuation assumptions***

The Company estimates the fair value of the stock-based awards using the Complex Lattice, Tree-based option-pricing model. The dividend yield forecast is expected to be at least 20% of the Company's yearly net profit, which is equivalent to a 0.6% yearly weighted average dividend rate in the year ended December 31, 2021. The risk-free interest rate was based on the yield from U.S. constant treasury maturities bonds with an equivalent term. The forfeiture rate is based on trends in actual stock-based awards forfeitures.



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The Company calculated the fair value of each stock-based award on the date of grant based on the following assumptions:

	<b>Year Ended December 31,</b>		
	<b>2021</b>	<b>2020</b>	<b>2019</b>
For stock based awards issued by the Company:			
Risk-free interest rates .....	0.7%	0.4%	1.8%
Expected lives (in weighted average years).....	3.8	5.8	3.5
Dividend yield .....	0.6%	0.6%	0.7%
Expected volatility (weighted average) .....	36.7%	28.8%	25.1%

The Company estimated the forfeiture rate (on a weighted average basis) as follows:

	<b>Year Ended December 31,</b>		
	<b>2021</b>	<b>2020</b>	<b>2019</b>
Weighted average forfeiture rate .....	6.1%	8.2%	8.6%

***Stock-based awards***

*The 2012 Incentive Compensation Plan*

In May 2012, the Company's shareholders adopted the 2012 Incentive Plan, which provides for the grant of the following types of awards: incentive stock options, non-qualified stock options, restricted stock units ("RSUs"), stock appreciation rights ("SARs"), stock units, performance awards, phantom stock, incentive bonuses, and other possible related dividend equivalents to employees of the Company, directors and independent contractors. Under the 2012 Incentive Plan, a total of 4,000,000 shares of the Company's common stock were reserved for issuance, all of which could be issued as options or as other forms of awards. Options and SARs granted to employees under the 2012 Incentive Plan typically vest and become exercisable as follows: 50% on the second anniversary of the grant date and 25% on each of the third and fourth anniversaries of the grant date. Options granted to non-employee directors under the 2012 Incentive Plan will vest and become exercisable one year after the grant date. Restricted stock units granted to directors and members of senior management vest according to a vesting schedule as follows: for the directors, 100% on the first anniversary of the grant date and for members of senior management, 25% on each of the first, second, third and fourth anniversaries of the grant date. The term of stock-based awards typically ranges from six to ten years from the grant date. The shares of common stock issued in respect of awards under the 2012 Incentive Plan are issued from the Company's authorized share capital upon exercise of options or SARs. The 2012 Incentive Plan expired in May 2018 upon adoption of the 2018 Incentive Compensation Plan ("2018 Incentive Plan"), except as to stock-based awards outstanding under the 2012 Incentive Plan on that date.

*The 2018 Incentive Compensation Plan*

In May 2018, the Company held its 2018 Annual Meeting of Stockholders at which the Company's stockholders approved the 2018 Incentive Plan. The 2018 Incentive Plan provides for the grant of the following types of awards: incentive stock options, RSUs, SARs, Performance Stock Units ("PSUs"), stock units, performance awards, phantom stock, incentive bonuses and other possible related dividend equivalents to employees of the Company, directors and independent contractors. Under the 2018 Incentive Plan, a total of 5,000,000 shares of the Company's common stock were authorized and reserved for issuance, all of which could be issued as options or as other forms of awards. SARs, RSUs and PSUs granted to employees under the 2018 Incentive Plan typically vest and become exercisable as follows: 50% on the second anniversary of the grant date and 25% on each of the third and fourth anniversaries of the grant date. SARs, RSUs and PSUs granted to directors under the 2018 Incentive Plan typically vest and become exercisable (100%) on the first anniversary of the grant date. The term of stock-based awards typically ranges from six to ten years from the grant date. The shares of common stock issued in respect of awards under the 2018 Incentive Plan are issued from the Company's authorized share capital upon exercise of options or SARs.

As of December 31, 2021, 2,591,783 shares of the Company's common stock are available for future grants under the 2018 Incentive Plan.

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In November 2021, the Company granted its directors an aggregate of 11,804 RSUs under the Company's 2018 Incentive Plan. The RSUs have a vesting period of one year from the grant date.

The average fair value of each RSU on the grant date was \$76.2. The Company calculated the fair value of each RSU on the grant date using the complex lattice, tree-based option-pricing model based on the following assumptions:

Risk-free interest rates.....	0.14%	-	0.16%
Expected life (in years) .....	1		
Dividend yield.....	0.65%		
Expected volatility (weighted average).....	43.26%		

On December 31, 2020, the Company granted certain members of its management an aggregate of 573 Stock Appreciation Rights ("SARs"), 2,103 RSUs and 1,952 Performance Stock Units ("PSUs") under the Company's 2018 Incentive Plan. The exercise price of each SAR was \$90.28 which represented the fair market value of the Company's common stock on the grant date. The SARs will expire six years from date of the grant and the SARs, RSUs and PSUs have a vesting period of between 2 to 4 years from the grant date.

The average fair value of each SAR, RSU and PSU on the grant date was \$25.50, \$89.15 and \$96.10, respectively. The Company calculated the fair value of each SAR on the grant date using the complex lattice, tree-based option-pricing model based on the following assumptions:

Risk-free interest rates .....	0.13%	-	0.51%
Expected life (in years) .....	2	-	6
Dividend yield.....	0.61%		
Expected volatility (weighted average).....	37.68%	-	30.15%

On November 3, 2020, the Company granted some of its directors an aggregate of 11,835 SARs and 10,010 RSUs under the Company's 2018 Incentive Plan. The exercise price of each SAR was \$67.54 which represented the fair market value of the Company's common stock on the grant date. The SARs will expire in six years from date of the grant and the SARs and RSUs have a vesting period one year from the grant date.

The average fair value of each SAR and RSU on the grant date was \$18.25 and \$67.13, respectively. The Company calculated the fair value of each SAR on the grant date using the complex lattice, tree-based option-pricing model based on the following assumptions:

Risk-free interest rates.....	0.12%	-	0.44%
Expected life (in years) .....	1	-	6
Dividend yield.....	0.61%		
Expected volatility (weighted average).....	45.2%	-	29.4%

On May 12, 2020, the Company granted certain members of its management an aggregate of 46,795 SARs, 6,142 RSUs and 5,637 PSUs under the Company's 2018 Incentive Plan. The exercise price of each SAR was \$68.34 which represented the fair market value of the Company's common stock on the grant date. The SARs will expire six years from date of grant and the SARs, RSUs and PSUs have a vesting period of between 2 to 4 years from the grant date.

The fair value of each SAR, RSU and PSU on the grant date was \$17.6, \$67.2 and \$73.2, respectively. The Company calculated the fair value of each SAR on the grant date using the complex lattice, tree-based option-pricing model based on the following assumptions:

Risk-free interest rates.....	0.44%		
Expected life (in years) .....	2	-	6
Dividend yield.....	0.63%		
Expected volatility (weighted average).....	28.14%		

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On June 15, 2020, the Company granted certain directors, members of its management and employees an aggregate of 852,475 SARs, 11,068 RSUs and 10,962 PSUs under the Company's 2018 Incentive Plan. The exercise price of each SAR was \$69.14 which represented the fair market value of the Company's common stock on the grant date. The SARs will expire six years from date of grant, except for 1,156 SARs which have an expiration date of 5 months from the grant date, and the SARs, RSUs and PSUs have a vesting period of between 2 to 4 years from the grant date.

The fair value of each SAR, RSU and PSU on the grant date was \$18.0, \$68.0 and \$65.0, respectively. The Company calculated the fair value of each SAR on the grant date using the complex lattice, tree-based option-pricing model based on the following assumptions:

Risk-free interest rates.....	0.44%	-	0.28%
Expected life (in years) .....	2	-	6
Dividend yield.....	0.64%		
Expected volatility (weighted average).....	28.5%	-	5.2%

On July 1, 2020, the Company granted its newly appointed CEO an aggregate of 45,365 SARs, 6,020 RSUs and 6,540 PSUs under the Company's 2018 Incentive Plan. The exercise price of each SAR was \$63.40 which represented the fair market value of the Company's common stock on the grant date. The SARs will expire six years from date of grant and the SARs, RSUs and PSUs have a vesting period of between 2 to 4 years from the grant date.

The fair value of each SAR, RSU and PSU on the grant date was \$16.5, \$62.3 and \$57.3, respectively. The Company calculated the fair value of each SAR on the grant date using the complex lattice, tree-based option-pricing model based on the following assumptions:

Risk-free interest rates.....	0.41%	-	0.17%
Expected life (in years) .....	2	-	6
Dividend yield.....	0.64%		
Expected volatility (weighted average).....	28.5%	-	35.7%

On November 7, 2019, the Company granted its directors an aggregate of 11,495 SARs and 9,420 RSUs under the Company's 2018 Incentive Plan. The exercise price of each SAR was \$76.87 which represented the fair market value of the Company's common stock on the grant date. The SARs will expire six years from date of grant and both the SARs and RSUs will fully vest on the first anniversary of the grant date.

The fair value of each SAR and RSU for the directors on the grant date was \$19.8 and \$76.4, respectively. The Company calculated the fair value of each SAR on the grant date using the Exercise Multiple-Based Lattice Pricing model based on the following assumptions:

Risk-free interest rate .....	1.79%		
Expected life (in years) .....	1	-	6
Dividend yield.....	0.57%		
Expected volatility .....	24.80%		

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Information on the awards outstanding and the related weighted average exercise price as of and for the years ended December 31, 2021, 2020 and 2019 are presented in the table below:

	Year Ended December 31,					
	2021		2020		2019	
	Awards (In thousands)	Weighted Average Exercise Price	Awards (In thousands)	Weighted Average Exercise Price	Awards (In thousands)	Weighted Average Exercise Price
Outstanding at beginning of year ..	2,240	\$ 57.68	1,792	\$ 50.39	2,527	\$ 46.77
Granted:						
SARs <sup>(1)</sup> .....	15	77.22	957	68.82	38	69.13
RSUs <sup>(2)</sup> .....	12	—	35	—	9	—
PSUs <sup>(3)</sup> .....	0	—	25	—	—	—
Exercised .....	(159)	40.47	(469)	45.71	(711)	37.83
Forfeited.....	(83)	64.34	(100)	55.05	(71)	50.59
Expired.....	—	—	—	—	—	—
Outstanding at end of year.....	<u>2,025</u>	58.70	<u>2,240</u>	57.68	<u>1,792</u>	50.39
Options and SARs exercisable at end of year .....	<u>881</u>	53.20	<u>704</u>	51.64	<u>479</u>	48.35
Weighted-average fair value of awards granted during the year ..		<u>\$ 46.23</u>		<u>\$ 20.84</u>		<u>\$ 29.24</u>

- <sup>(1)</sup> Upon exercise, SARs entitle the recipient to receive shares of common stock equal to the increase in value of the award between the grant date and the exercise date.
- <sup>(2)</sup> An RSU represents the right to receive one share of common stock once certain vesting conditions are met. The value of an RSU is identical to the value of the underlying stock.
- <sup>(3)</sup> The Performance shares units shall be paid out based on achievement of three-year relative total stockholder return compared to other companies in S&P 500 index.

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The following table summarizes information about stock-based awards outstanding at December 31, 2021 (shares in thousands):

Exercise Price	Awards Outstanding			Awards Exercisable		
	Number of Stock-based Awards Outstanding	Weighted Average Remaining Contractual Life in Years	Aggregate Intrinsic Value	Number of Stock-based Awards Exercisable	Weighted Average Remaining Contractual Life in Years	Aggregate Intrinsic Value
\$ —	66	1.3	\$ 5,208	—	—	\$ —
42.87	187	0.5	6,796	187	0.5	6,796
47.46	15	1.9	478	15	1.9	478
51.71	8	3.0	221	4	3.0	110
53.16	31	2.9	819	26	2.9	689
53.44	386	2.5	9,985	227	2.5	5,859
55.16	296	1.9	7,137	296	1.9	7,137
57.97	15	2.6	320	15	2.6	320
58.79	1	0.5	19	1	0.5	19
63.35	88	1.9	1,401	88	1.9	1,401
63.40	45	4.5	721	—	4.5	—
67.54	12	4.9	139	12	4.9	139
68.34	47	4.4	513	—	4.4	—
69.14	799	4.4	8,123	1	4.4	12
70.10	1	0.5	5	—	0.5	—
71.71	4	3.6	30	2	3.6	15
76.43	8	3.9	24	8	3.9	24
76.54	9	5.9	23	—	5.9	—
78.53	6	5.3	5	—	5.3	—
90.28	1	5.0	—	—	5	—
	2,025	3.0	\$ 41,967	882	1.8	\$ 22,999



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The following table summarizes information about stock-based awards outstanding at December 31, 2020 (shares in thousands):

Exercise Price	Awards Outstanding			Awards Exercisable		
	Number of Stock-based Awards Outstanding	Weighted Average Remaining Contractual Life in Years	Aggregate Intrinsic Value	Number of Stock-based Awards Exercisable	Weighted Average Remaining Contractual Life in Years	Aggregate Intrinsic Value
\$ —	85	2.1	\$ 7,677	—	—	\$ —
42.87	235	1.5	11,129	235	1.5	11,129
47.46	15	2.9	642	15	2.9	642
51.71	8	4.0	309	0	4.0	0
53.16	31	3.9	1,164	21	3.9	792
53.44	486	3.5	17,893	129	3.5	4,719
55.16	296	2.9	10,384	213	2.9	7,484
57.97	15	3.6	485	15	3.6	485
58.79	1	1.5	33	—	1.5	—
63.35	94	2.9	2,525	68	2.9	1,843
63.40	45	5.5	1,219	—	5.5	—
67.54	12	5.9	269	—	5.9	—
68.34	47	5.4	1,027	—	5.4	—
69.14	842	5.4	17,820	—	5.4	—
71.71	4	4.6	74	—	4.6	—
72.14	15	4.7	272	—	4.7	—
76.43	8	4.9	117	8	4.9	117
90.28	1	2.8	—	—	2.8	—
	2,240	3.9	\$ 73,039	704	2.6	\$ 27,211

The aggregate intrinsic value in the above tables represents the total pretax intrinsic value, based on the Company's stock price of \$79.3 and \$90.28 as of December 31, 2021 and 2020, respectively, which would have potentially been received by the stock-based award holders had all stock-based award holders exercised their stock-based award as of those dates. The total number of in-the-money stock-based awards exercisable as of December 31, 2021 and 2020 was 881,393 and 704,169, respectively.

The total pretax intrinsic value of options exercised during the year ended December 31, 2021 and 2020 was \$6.1 million and \$11.0 million, respectively, based on the average stock price of \$78.4 and \$69.2 during the years ended December 31, 2021 and 2020, respectively.

**NOTE 16 — INTEREST EXPENSE, NET**

The components of interest expense are as follows:

	Year Ended December 31,		
	2021	2020	2019
	(Dollars in thousands)		
Interest related to sale of tax benefits .....	\$ 12,246	\$ 9,344	\$ 11,786
Interest expense .....	84,994	79,018	71,883
Less — amount capitalized .....	(14,582)	(10,409)	(3,285)
	<u>\$ 82,658</u>	<u>\$ 77,953</u>	<u>\$ 80,384</u>

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**NOTE 17 — INCOME TAXES**

U.S. and foreign components of income from continuing operations, before income taxes and equity in income (losses) of investees consisted of:

	<b>Year Ended December 31,</b>		
	<b>2021</b>	<b>2020</b>	<b>2019</b>
	<b>(Dollars in thousands)</b>		
U.S.....	\$ 37,032	\$ 43,273	\$ 14,187
Non-U.S. (foreign) .....	66,519	125,444	123,116
Total income from continuing operations, before income taxes and equity in losses.....	<u>\$ 103,551</u>	<u>\$ 168,717</u>	<u>\$ 137,303</u>

The components of the provision (benefit) for income taxes, net are as follows:

	<b>Year Ended December 31,</b>		
	<b>2021</b>	<b>2020</b>	<b>2019</b>
	<b>(Dollars in thousands)</b>		
Current:			
Federal .....	\$ —	\$ 0	\$ —
State .....	400	363	172
Foreign.....	25,096	61,574	16,969
Total current income tax expense.....	<u>\$ 25,496</u>	<u>\$ 61,937</u>	<u>\$ 17,141</u>
Deferred:			
Federal .....	(3,267)	22,682	(12,179)
State .....	9,301	7,277	4,671
Foreign.....	(6,680)	(24,893)	35,980
Total deferred tax provision (benefit).....	<u>(646)</u>	<u>5,066</u>	<u>28,472</u>
Total Income tax provision.....	<u>\$ 24,850</u>	<u>\$ 67,003</u>	<u>\$ 45,613</u>

Reconciliation of the U.S. federal statutory tax rate to the Company's effective income tax rate is as follows:

	<b>Year Ended December 31,</b>		
	<b>2021</b>	<b>2020</b>	<b>2019</b>
U.S. federal statutory tax rate .....	21.0%	21.0%	21.0%
Foreign tax credits .....	(0.4)	(0.3)	(22.8)
Withholding tax.....	6.0	4.4	10.4
Valuation allowance - U.S.....	(10.4)	3	(3.7)
State income tax, net of federal benefit.....	8.8	3.8	3.7
Uncertain tax positions .....	3.6	(7.5)	2.1
Effect of foreign income tax, net.....	(5.2)	8.5	9.7
Production tax credits.....	(4.2)	(1.8)	(5)
Subpart F income .....	0.0	0.2	0.5
Tax on global intangible low-tax income .....	9.3	11.1	16.9
Intra-entity transfers of assets other than inventory .....	(1.8)	(0.4)	0.3
Noncontrolling interest.....	(2.5)	(1.6)	(0.4)
Other, net.....	(0.1)	(0.7)	0.5
Effective tax rate .....	<u>24.0%</u>	<u>39.7%</u>	<u>33.2%</u>

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The net deferred tax assets and liabilities consist of the following:

	<b>December 31,</b>	
	<b>2021</b>	<b>2020</b>
	<b>(Dollars in thousands)</b>	
Deferred tax assets (liabilities):		
Net foreign deferred taxes, primarily depreciation .....	\$ (54,899)	\$ (66,452)
Depreciation.....	(62,996)	(23,835)
Intangible drilling costs .....	(11,501)	(6,689)
Net operating loss carryforward - U.S. ....	32,848	35,346
Tax monetization transaction.....	(62,533)	(46,449)
Right-of-use assets.....	(5,101)	(3,753)
Lease liabilities .....	5,148	3,846
State and Investment tax credits .....	813	813
Production tax credits .....	108,103	103,592
Foreign tax credits .....	92,240	92,077
Withholding tax .....	(20,521)	(12,416)
Stock options amortization .....	2,106	1,510
Basis difference in partnership interest.....	(45,683)	(41,818)
Excess business interest.....	13,662	10,971
Sale and leaseback transaction.....	64,070	—
Other assets.....	10,169	—
Accrued liabilities and other .....	4,161	6,777
Total .....	70,086	53,520
Less - valuation allowance .....	(11,298)	(22,193)
Total, net .....	<u>\$ 58,788</u>	<u>\$ 31,327</u>

The following table presents a reconciliation of the beginning and ending valuation allowance:

	<b>2021</b>	<b>2020</b>
	<b>(Dollars in thousands)</b>	
Balance at beginning of the year .....	\$ 22,193	\$ 17,412
Additions to valuation allowance .....	2,029	20,214
Release of valuation allowance .....	(12,924)	(15,433)
Balance at end of the year .....	<u>\$ 11,298</u>	<u>\$ 22,193</u>

At December 31, 2021, the Company had U.S. federal net operating loss (“NOL”) carryforwards of approximately \$57.3 million, all of which was generated before 2018 and expires by 2038.

At December 31, 2021, the Company had PTCs in the amount of \$108.1 million. These PTCs are available for a 20-year period and begin to expire in 2022. At December 31, 2021, the Company had U.S. foreign tax credits (“FTCs”) in the amount of \$92.2 million. These FTCs are available for a 10-year period and begin to expire in 2022.

At December 31, 2021, the Company had state NOL carryforwards of approximately \$297.7 million, \$294.4 million which expire between 2025 and 2040 and \$2.8 million are available to be carried forward for an indefinite period. At December 31, 2021, the Company had state tax credits in the amount of \$1.0 million. These state tax credits are available to be carried forward for an indefinite period.

The Company has recorded deferred tax assets for net operating losses, foreign tax credits, and production tax credits. Realization of the deferred tax assets and tax credits is dependent on generating sufficient taxable income in appropriate jurisdictions prior to expiration of the NOL carryforwards and tax credits. Based upon available evidence of the Company’s ability to generate additional taxable income in the future and historical losses in prior years, a valuation allowance in the amount of \$11.3 million and \$22.2 million is recorded against the U.S. deferred tax assets as of December 31, 2021 and 2020, respectively, as it is more likely than not that the deferred tax assets will not be realized. The overall decrease in the valuation allowance of \$10.9 million is due to a decreased valuation allowance related to FTCs, partially offset by a valuation allowance increase related to PTCs. The Company is maintaining a valuation allowance of \$11.3 million

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against a portion of the U.S. FTCs and PTCs, capital loss carryforward, and state NOLs that are expected to expire before they can be utilized in future periods.

On April 24, 2018, the Company acquired 100% of stock of USG for approximately \$110 million. Under the acquisition method of accounting, the Company recorded a net deferred tax asset of \$1.7 million comprised primarily of federal and state NOLs netted against deferred tax liabilities for partnership basis differences and fixed assets. The total amount of acquired federal and state NOLs, which are subject to limitations under Section 382, were \$113.9 million and \$49.9 million, respectively. A valuation allowance of \$1.8 million has been recorded against such acquired state NOLs, as it is more likely than not that the deferred tax asset will not be realized.

The FASB released guidance Staff Q&A, Topic 740, No. 5, that states a company can make an accounting policy election to either recognize deferred taxes related to GILTI or to provide for the GILTI tax expense in the year the tax is incurred as a period cost. The Company has elected to treat any GILTI inclusions as a period cost. We have elected and applied the tax law ordering approach when considering GILTI as part of our valuation allowance.

The following table presents the deferred taxes on the balance sheet as of the dates indicated:

	<b>Year Ended December 31,</b>	
	<b>2021</b>	<b>2020</b>
	<b>(Dollars in thousands)</b>	
Non-current deferred tax assets .....	\$ 143,450	\$ 119,299
Non-current deferred tax liabilities .....	(84,662)	(87,972)
Non-current deferred tax assets, net .....	58,788	31,327
Uncertain tax benefit offset <sup>(1)</sup> .....	(95)	(95)
	<u>\$ 58,693</u>	<u>\$ 31,232</u>

(1) The non-current deferred tax asset has been reduced by the uncertain tax benefit of \$0.1 million in accordance with ASU 2013-11, Income Taxes.

At December 31, 2021, the Company is no longer indefinitely reinvested with respect to the earnings of its foreign subsidiaries due to forecasted changes in cash needs and the impact of U.S. tax reform. The Company has accrued withholding taxes that would be owed upon future distributions of such earnings. Accordingly, as of December 31, 2021, the Company has accrued \$17.3 million of foreign withholding taxes on future distributions of foreign earnings.

***Uncertain tax positions***

The Company is subject to income taxes in the United States (federal and state) and numerous foreign jurisdictions. Significant judgment is required in evaluating the Company's tax positions and determining its provision for income taxes. During the ordinary course of business, there are many transactions and calculations for which the ultimate tax determination is uncertain. The Company establishes reserves for tax-related uncertainties based on estimates of whether, and the extent to which additional taxes will be due. These reserves are established when the Company believes that certain positions might be challenged despite evidence supporting the position. The Company adjusts these reserves in light of changing facts and circumstances, such as the outcome of tax audits. The provision for income taxes includes the impact of reserve positions and changes to reserves that are considered probable.

At December 31, 2021 and 2020, there are \$5.7 million and \$2.0 million of unrecognized tax benefits, respectively, that if recognized would reduce the effective tax rate. Interest and penalties assessed by taxing authorities on an underpayment of income taxes are included as a component of income tax provision in the consolidated statements of operations and comprehensive income.

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A reconciliation of the Company's unrecognized tax benefits is as follows:

	<b>Year Ended December 31,</b>	
	<b>2021</b>	<b>2020</b>
	<b>(Dollars in thousands)</b>	
Balance at beginning of year .....	\$ 1,673	\$ 10,623
Additions based on tax positions taken in prior years .....	9	283
Additions based on tax positions taken in the current year .....	3,408	1,570
Reduction based on tax positions taken in prior years .....	(14)	(10,803)
Balance at end of year .....	<u>\$ 5,076</u>	<u>\$ 1,673</u>

The Company and its U.S. subsidiaries file consolidated income tax returns for federal and state (where applicable) purposes. As of December 31, 2021, the Company has not been subject to U.S. federal or state income tax examinations.

The Company remains open to examination by the Internal Revenue Service for the years 2002-2019 and by local state jurisdictions for the years 2004-2019. These examinations may lead to ordinary course adjustments or proposed adjustments to the Company's taxes or the Company's net operating losses with respect to years under examination as well as subsequent periods.

The Company's foreign subsidiaries remain open to examination by the local income tax authorities in the following countries for the years indicated:

Israel.....	2019 - 2021
Kenya .....	2018 - 2021
Guatemala.....	2016 - 2021
Honduras .....	2015 - 2021
Guadeloupe.....	2019 - 2021

Management believes that the liability for unrecognized tax benefits is adequate for all open tax years based on its assessment of many factors, including among others, past experience and interpretations of local income tax regulations. This assessment relies on estimates and assumptions and may involve a series of complex judgments about future events. As a result, it is possible that federal, state and foreign tax examinations will result in assessments in future periods. To the extent any such assessments occur, the Company will adjust its liability for unrecognized tax benefits. The Company is not able to reasonably estimate the amount of unrecognized tax benefits that will be reduced within the next twelve months.

***Tax benefits in the United States***

The U.S. government encourages production of electricity from geothermal resources through certain tax subsidies. On February 9, 2018 the Bipartisan Budget Act of 2018 was enacted extending the PTC and ITC in lieu of PTCs for geothermal projects that began construction before 2018. On December 20, 2019, the Tax Extenders Bill was enacted, further extending the PTC and ITC in lieu of PTCs. Therefore, geothermal projects that begin construction before 2021 and meet certain other "beginning of construction" rules qualify for PTCs for their first 10-years of operations; alternatively, the owner of the project may elect to claim the ITC in lieu of PTCs. In either case, under current tax rules for tax credits, any unused tax credit has a 1-year carry back and a 20-year carry forward.

If the Company claims the ITC, the Company's "tax basis" in the plant that it can recover through bonus or accelerated depreciation (if elected) must be reduced by half of the ITC. If the Company claims the PTC, there is no reduction in the tax basis for depreciation. Whether the Company claims the PTC or the ITC in lieu of PTC, for assets acquired and placed in service after September 27, 2017, the Company is eligible to expense 100% of the cost of qualified property ("bonus depreciation"). In later years, the first-year bonus depreciation deduction phases down, as follows:

- 80% for property placed in service after Dec. 31, 2022 and before Jan. 1, 2024.
- 60% for property placed in service after Dec. 31, 2023 and before Jan. 1, 2025.
- 40% for property placed in service after Dec. 31, 2024 and before Jan. 1, 2026.
- 20% for property placed in service after Dec. 31, 2025 and before Jan. 1, 2027.



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The Company could also elect in lieu of bonus depreciation to depreciate most of its "tax basis" in the plant for tax purposes over five years on an accelerated basis, meaning that more of the cost may be deducted in the first few years than during the remainder of the depreciation period.

***Income taxes related to foreign operations***

*Guadeloupe* - The Company's operations in Guadeloupe are taxed at a maximum rate of 31% in 2019, a rate of 28% in 2020, 26.5% in 2021 and 25% in 2022.

*Guatemala* — The enacted tax rate is 25%. Orzunil, a wholly owned subsidiary, was granted a benefit under a law which promotes development of renewable power sources. The law allows Orzunil to reduce the investment made in its geothermal power plant from income tax payable, which currently reduces the effective tax rate to zero. Ortitlan, another wholly owned subsidiary, was granted a tax exemption for a period of ten years ending August 2017. Starting August 2017, Ortitlan pays income tax of 7% on its Electricity revenues.

*Honduras* - The Company's operations in Honduras are exempt from income taxes for the first ten years starting at the commercial operation date of the power plant, which was in September 2017..

*Israel* — The Company's operations in Israel through its wholly owned Israeli subsidiary, Ormat Systems Ltd. ("Ormat Systems"), were taxed at a reduced corporate tax rate of 16% in 2017 and 23% in 2018 and 16% thereafter, under the "Benefited Enterprise" tax regime of the Encouragement of Capital Investments Law, 1959 (the "Investment Law"), with respect to two of its investment programs. In January 2011, new legislation amending the Investment Law by adding, inter alia, the Preferred Enterprise Regime was enacted. Under the Preferred Enterprise Regime, a uniform reduced corporate tax rate would apply to all qualified income of certain industrial companies, as opposed to the Investment Law incentives that are limited to income from a "Benefited Enterprise" during their benefits period. According to the amendment, the uniform tax rate applicable to the zone where the production facilities of Ormat Systems are located would be 16% in 2014 and thereafter. Ormat Systems decided to irrevocably comply with the new law starting in 2011.

On December 29, 2016, the Investment Law was amended ("73 Amendment"), which includes, inter alia, two new tax incentive opportunities. These are the Preferred Technological Enterprise ("PTE") and Special Preferred Technological Enterprise ("SPTE"). In order to benefit from either of these options, a Company must meet certain qualifications and receive formal approval from the Israel Innovation Authority ("IIA"). The Company received such approval on January 20, 2021, which allowed the Company to use the reduced corporate tax rate of 12% on its "Preferred Technological Income" for the tax years 2018, 2019 and 2020. The benefit of the reduced corporate tax rate has been reflected in these financial statements.

The Investment Law also included a specific order that allowed companies to distribute earnings that were previously untaxed after paying a reduced corporate tax rate of 10% versus 25% under the prior tax regime. Ormat elected to pay the 10% corporate rate on such previously untaxed earnings during 2021 which now allows such earnings to be dividended.

*Kenya* - The Company's operations in Kenya are taxed at the rate of 37.5%.

**Tax audit in Israel**

On December 28, 2020, the Company entered into a settlement agreement with the Israel Tax Authority ("ITA") in relation to a tax audit for the income tax years 2015 to 2018. The settlement amount for the audit period was \$4.3 million and was paid on January 7, 2021. This settlement closes and concludes all years within the audit period.

**Tax audit in Kenya**

The Company was audited by the Kenya Revenue Authority ("KRA") for income tax years 2013 to 2017 for which it had received during 2019, and 2020 three separate Notices of Assessments ("NoA") detailing different issues relating to certain findings in respect of the KRA review of such years.

On October 19, 2020, the Company entered into a settlement agreement in relation to the second NoA that was issued by the KRA on December 4, 2019 totaling approximately \$190 million of proposed adjustments, including interest and penalties. The settlement agreement extended the audit period for the issues addressed within the assessment, to cover the period from 2013 through 2019 and resulted in a total settlement payment of approximately \$28 million, including interest

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and penalties, related to late payment in respect of 2019 taxable income. Additionally, the settlement included a deferral of tax benefits to be utilized in years subsequent to 2019 in an amount of approximately \$28 million. The assessment was paid on October 27, 2020.

On December 21, 2020, the Company entered into a settlement agreement with the KRA in relation to the first and third NoA's that were issued by the KRA on June 28, 2019 and May 12, 2020, respectively, totaling approximately \$9 million, including interest and penalties. The total settlement amount reflected in the agreement was \$1.5 million, which was paid on December 28, 2020. This concluded all open audits and NoA with the KRA.

**NOTE 18 — BUSINESS SEGMENTS**

The Company has three reporting segments: the Electricity segment, the Product segment and the Energy Storage segment. These segments are managed and reported separately as each offers different products and serves different markets.

- Under the Electricity segment, the Company builds, owns and operates geothermal, solar PV and recovered energy-based power plants in the United States and geothermal power plants in foreign countries, and sell the electricity generated by those power plants.
- Under the Product segment, the Company designs, manufactures and sells equipment for geothermal and recovered energy-based electricity generation and remote power units and provide services relating to the engineering, procurement and construction of geothermal and recovered energy-based power plants.
- Under the Energy Storage segment, the Company provides energy storage and related services as well as services relating to the engineering, procurement, construction, operation and maintenance of energy storage units.

Transfer prices between the operating segments were determined on current market values or cost plus markup of the seller's business segment.

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Summarized financial information concerning the Company's reportable segments is shown in the following tables, including, as further described under Note 1 to the consolidated financial statements, the Company's disaggregated revenues from contracts with customers as required by ASC 606:

	Electricity	Product	Energy Storage	Consolidated
	(Dollars in thousands)			
<b>Year Ended December 31, 2021:</b>				
Revenues from external customers:				
United States <sup>(1)</sup> .....	\$ 404,303	\$ 5,414	\$ 30,393	\$ 440,110
Foreign <sup>(2)</sup> .....	181,468	41,506	—	222,974
Net revenues from external customers.....	585,771	46,920	30,393	663,084
Intersegment revenues .....	—	129,589	—	—
Depreciation and amortization expense .....	164,490	7,719	10,763	182,972
Operating income (loss).....	171,550	(3,641)	1,448	169,357
Segment assets at period end <sup>(3) (*)</sup> .....	4,142,341	113,817	169,520	4,425,678
Expenditures for long-lived assets .....	383,307	10,687	25,278	419,272
* Including unconsolidated investments.....	105,886	—	—	105,886
<b>Year Ended December 31, 2020:</b>				
Revenues from external customers:				
United States <sup>(1)</sup> .....	341,399	5,800	15,824	363,023
Foreign <sup>(2)</sup> .....	199,994	142,325	—	342,319
Net revenues from external customers.....	\$ 541,393	\$ 148,125	\$ 15,824	\$ 705,342
Intersegment revenues .....	—	113,200	—	—
Depreciation and amortization expense .....	144,357	6,010	6,245	156,612
Operating income (loss).....	205,256	13,145	(4,388)	214,013
Segment assets at period end <sup>(3) (*)</sup> .....	3,607,384	145,911	135,692	3,888,987
Expenditures for long-lived assets .....	267,843	18,011	34,884	320,738
* Including unconsolidated investments.....	98,217	—	—	98,217
<b>Year Ended December 31, 2019:</b>				
Revenues from external customers:				
United States <sup>(1)</sup> .....	333,797	30,562	13,597	377,956
Foreign <sup>(2)</sup> .....	206,536	160,447	1,105	368,088
Net revenues from external customers.....	540,333	191,009	14,702	746,044
Intersegment revenues .....	—	84,614	—	—
Depreciation and amortization expense .....	138,426	5,308	5,027	148,761
Operating income (loss).....	177,192	23,180	(6,576)	193,796
Segment assets at period end <sup>(3) (*)</sup> .....	3,044,909	126,018	79,567	3,250,494
Expenditures for long-lived assets .....	259,898	9,156	10,932	279,986
* Including unconsolidated investments.....	81,140	—	—	81,140

- <sup>(1)</sup> Electricity segment revenues in the United States are all accounted under lease accounting, except for \$83.4 million, \$68.1 million and \$61.3 million for the years 2021, 2020 and 2019, which are accounted under ASC 606. Product and Energy Storage segment revenues in the United States are accounted under ASC 606, as further described under Note 1 to the consolidated financial statements.
- <sup>(2)</sup> Electricity segment revenues in foreign countries are all accounted under lease accounting. Product and Energy Storage segment revenues in foreign countries are accounted under ASC 606 as further described under Note 1 to the consolidated financial statements.
- <sup>(3)</sup> Electricity segment assets include goodwill in the amount of \$85.3 million, \$20.5 million and \$20.1 million as of December 31, 2021, 2020 and 2019, respectively, \$65.4 million of which was added in the third quarter of 2021 as a result of the Terra-Gen Transaction as further described under Note 2 to the consolidated financial statements. Energy Storage segment assets include goodwill in the amount of \$4.6 million, \$4.1 million and \$0.0 million as of December

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31, 2021, 2020 and 2019, respectively. No goodwill is included in the Product segment assets as of December 31, 2021, 2020 and 2019.

Reconciling information between reportable segments and the Company's consolidated totals is shown in the following table:

	Year Ended December 31,		
	2021	2020	2019
	(Dollars in thousands)		
Revenues:			
Total segment revenues.....	\$ 663,084	\$ 705,342	\$ 746,044
Intersegment revenues.....	129,589	113,200	84,614
Elimination of intersegment revenues.....	(129,589)	(113,200)	(84,614)
Total consolidated revenues.....	<u>\$ 663,084</u>	<u>\$ 705,342</u>	<u>\$ 746,044</u>
Operating income (expense):			
Operating income.....	\$ 169,357	\$ 214,013	\$ 193,796
Interest income.....	2,124	1,717	1,515
Interest expense, net.....	(82,658)	(77,953)	(80,384)
Derivatives and foreign currency transaction gains (losses) .....	(14,720)	3,802	624
Income attributable to sale of tax benefits.....	29,582	25,720	20,872
Other non-operating income (expense), net.....	(134)	1,418	880
Total consolidated income before income taxes and equity in earnings (losses) of investees .....	<u>\$ 103,551</u>	<u>\$ 168,717</u>	<u>\$ 137,303</u>

The Company sells electricity, products and energy storage services mainly to the geographical areas set forth below based on the location of the customer. The following tables present certain data by geographic area:

	Year Ended December 31,		
	2021	2020	2019
	(Dollars in thousands)		
Revenues from external customers attributable to:			
United States.....	\$ 440,110	\$ 363,023	\$ 377,956
Indonesia.....	8,056	—	0
Kenya.....	102,844	115,474	121,661
Turkey.....	2,723	65,535	88,938
Chile.....	7,035	32,418	25,540
Guatemala.....	26,868	27,391	28,624
New Zealand.....	6,770	34,985	31,222
Honduras.....	35,233	35,197	34,446
Other foreign countries.....	33,445	31,319	37,657
Consolidated total.....	<u>\$ 663,084</u>	<u>\$ 705,342</u>	<u>\$ 746,044</u>

	Year Ended December 31,		
	2021	2020	2019
	(Dollars in thousands)		
Long-lived assets (primarily power plants and related assets) located in:			
United States.....	\$ 2,527,429	\$ 2,084,021	\$ 1,870,335
Kenya.....	297,427	289,266	284,526
Other foreign countries.....	217,371	232,953	224,676
Consolidated total.....	<u>\$ 3,042,227</u>	<u>\$ 2,606,240</u>	<u>\$ 2,379,537</u>

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The following table presents revenues from major customers:

	Year Ended December 31,					
	2021		2020		2019	
	Revenues	%	Revenues	%	Revenues	%
	(Dollars in thousands)		(Dollars in thousands)		(Dollars in thousands)	
Southern California Public Power <sup>(1)</sup> .....	\$ 157,318	23.7	\$ 145,450	20.6	\$ 133,725	17.9
Sierra Pacific Power Company and Nevada Power Company <sup>(1)(2)</sup> .....	120,206	18.1	123,734	17.5	125,486	16.8
KPLC <sup>(1)</sup> .....	102,844	15.5	115,474	16.4	121,661	16.3

<sup>(1)</sup> Revenues reported in Electricity segment.

<sup>(2)</sup> Subsidiaries of NV Energy, Inc.

**NOTE 19 — TRANSACTIONS WITH RELATED ENTITIES**

There were no transactions between the Company and related entities, other than those disclosed elsewhere in these consolidated financial statements.

**NOTE 20 — EMPLOYEE BENEFIT PLAN**

***401(k) Plan***

The Company has a 401(k) Plan (the “Plan”) for the benefit of its U.S. employees. Employees of the Company and its U.S. subsidiaries who have completed 60 days of employment are eligible to participate in the Plan. Contributions are made by employees through pre- and post-tax deductions up to 60% of their annual salary. In 2021, 2020 and 2019, the Company matched employee contributions, after completion of one year of service, up to a maximum of 4%, 4% and 4% of the employee’s annual salary, respectively. The Company’s contributions to the Plan were \$1.8 million, \$1.6 million and \$1.6 million for the years ended December 31, 2021, 2020 and 2019, respectively.

***Severance plan***

The Company, through Ormat Systems, provides limited non-pension benefits to all current employees in Israel who are entitled to benefits in the event of termination or retirement in accordance with the Israeli Government sponsored programs. These plans generally obligate the Company to pay one month’s salary per year of service to employees in the event of involuntary termination. There is no limit on the number of years of service in the calculation of the benefit obligation. The liabilities for these plans are recorded at each balance sheet date by determining the undiscounted obligation as if it were payable at that point in time. Such liabilities have been presented in the consolidated balance sheets as “liabilities for severance pay”. The Company has an obligation to partially fund the liabilities through regular deposits in pension funds and severance pay funds. The amounts funded amounted to \$9.1 million and \$10.7 million at December 31, 2021 and 2020, respectively, and have been presented in the consolidated balance sheets as part of “Deposits and other”. The severance pay liability covered by the pension funds is not reflected in the financial statements as the severance pay risks have been irrevocably transferred to the pension funds. Under the Israeli severance pay law, restricted funds may not be withdrawn or pledged until the respective severance pay obligations have been met. As allowed under the program, earnings from the investment are used to offset severance pay costs. Severance pay expenses for the years ended December 31, 2021, 2020 and 2019 were \$2.0 million, \$3.0 million and \$3.5 million, respectively, which are net of income (including loss) amounting to \$1.3 million, \$0.9 million, and \$1.0 million, respectively, generated from the regular deposits and amounts accrued in severance funds.



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The Company expects to pay the following future benefits to its employees upon their reaching normal retirement age:

	<b>(Dollars in thousands)</b>
<b>Year ending December 31:</b>	
2022 .....	\$ 4,526
2023 .....	92
2024 .....	263
2025 .....	951
2026 .....	664
2027-2044 .....	9,110
<b>Total .....</b>	<b><u>\$ 15,606</u></b>

The above amounts were determined based on the employees' current salary rates and the number of years' service that will have been accumulated at their retirement date. These amounts do not include amounts that might be paid to employees that will cease working with the Company before reaching their normal retirement age.

**NOTE 21 — COMMITMENTS AND CONTINGENCIES**

***Geothermal resources***

The Company, through its project subsidiaries in the United States and other foreign locations, controls certain rights to geothermal fluids through certain leases with the BLM or through private leases. Royalties on the utilization of the geothermal resources are computed and paid to the lessors as defined in the respective agreements. Royalty expense under the geothermal resource agreements were \$25.2 million, \$20.8 million and \$21.7 million for the years ended December 31, 2021, 2020 and 2019, respectively.

***Letters of credit***

In the ordinary course of business with customers, vendors, and lenders, the Company is contingently liable for performance under letters of credit totaling \$185.0 million at December 31, 2021. Management does not expect any material losses to result from these letters of credit because performance is not expected to be required.

***Purchase commitments***

The Company purchases raw materials for inventories, construction-in-process and services from a variety of vendors. During the normal course of business, in order to manage manufacturing lead times and help assure adequate supply, the Company enters into agreements with contract manufacturers and suppliers that either allow them to procure goods and services based upon specifications defined by the Company, or that establish parameters defining the Company's requirements. At December 31, 2021, total obligations related to such supplier agreements were approximately \$249.2 million (out of which approximately \$152.8 million relate to construction-in-process). All such obligations are payable in 2022.

***Grants and royalties***

The Company, through Ormat Systems, had historically, through December 31, 2003, requested and received grants for research and development from the Office of the Chief Scientist of the Israeli Government. Ormat Systems is required to pay royalties to the Israeli Government at a rate of 3.5% to 5.0% of the revenues derived from products and services developed using these grants. No royalties were paid for the years ended December 31, 2021, 2020 and 2019. The Company is not liable for royalties if the Company does not sell such products and services. Such royalties are capped at the amount of the grants received plus interest at LIBOR. The cap at December 31, 2021 and 2020, amounted to \$2.2 million and \$2.1 million, respectively, of which approximately \$1.2 million and \$1.1 million, represents interest based on the LIBOR rate as defined above, for 2021 and 2020, respectively.

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**Lease commitments**

The Company's lease commitments are detailed under Note 22, Leases to the consolidated financial statements.

***Contingencies***

- On May 21, 2018, a motion to certify a class action was filed in Tel Aviv District Court against Ormat Technologies, Inc. and 11 officers and directors. The alleged class is defined as "All persons who purchased Ormat shares on the Tel Aviv Stock Exchange between August 3, 2017 and May 13, 2018". The motion alleges that the Company and other respondents violated Sections 31(a)(1) and 38C of the Israeli Securities Law, and Section 10(b) of the Exchange Act and Rule 10b-5 thereunder, because they allegedly: (1) misled investors by stating in the Company's financial statements that it maintains effective internal controls over its accounting policies and procedures, even though the Company's internal controls had material weaknesses which led to erroneous accounting in its 2017 unaudited quarterly reports that had to be restated, including adjustments to the Company's net income and shareholders' equity; and (2) failed to issue an immediate report in Israel until May 16, 2018, analogous to the report that was released in the United States on May 11, 2018 stating, inter alia, that the errors in its financial reports affected its balance sheet and would be remedied in its 2017 Annual Report. Agreed motions were filed from time to time with, and granted by, the Tel Aviv District Court to stay the proceedings in Israel in light of the United States case (Mac Costas). On June 30, 2020, pursuant to the execution and submission of a settlement agreement to the United States court for approval, which resolves the matters raised with respect to the entire class of shareholders (whether traded on the Tel Aviv Stock Exchange or U.S. stock exchange), the Company filed a motion informing the Tel Aviv court of the settlement. On March 3, 2021, the Tel Aviv District Court approved the parties' joint motion for withdrawal and dismissal of the plaintiff's July 2, 2020 motion for an Anti-Suit Injunction and issued an order to the Tel Aviv Stock Exchange members executing the settlement. The final settlement was concluded with the payment of an immaterial amount by the Company.
- On June 11, 2018, a putative class action filed by Mac Costas on behalf of alleged shareholders that purchased or acquired the Company's ordinary shares between August 8, 2017 and May 15, 2018 was commenced in the United States District Court for the District of Nevada against the Company and its Chief Executive Officer and Chief Financial Officer, which was subsequently amended by a consolidated complaint filed by lead plaintiff Phoenix Insurance in May 13, 2019. The complaint asserts claim against all defendants pursuant to Section 10(b) of the Exchange Act, as amended, and Rule 10b-5 thereunder and against its officers pursuant to Section 20(a) of the Exchange Act. The complaint alleges that the Company's Form 10-K for the years ended December 31, 2016 and 2017, and Form 10-Qs for each of the quarters in the nine months ended September 30, 2017 contained material misstatements or omissions, among other things, with respect to the Company's tax provisions and the effectiveness of its internal control over financial reporting, and that, as a result of such alleged misstatements and omissions, the plaintiffs suffered damages. On December 6, 2019 the Company's motion to dismiss was denied by the court. On March 23, 2020, pursuant to out of court mediation, a term sheet for a proposed settlement of the action without admission of liability or wrongdoing, was signed between the parties and on June 10, 2020, a joint stipulation and motion for preliminary approval of the comprehensive executed settlement documentation was filed for the court for approval. On January 21, 2021, the Court issued its Order and Final Judgement certifying the Class, approving the method of notification of the settlement pursued, and approving the final settlement and proposed Plan of Allocation as well as the plaintiff's attorneys and plaintiff's awards. The final settlement was concluded with an immaterial amount for the Company.
- On September 11, 2018, the Klein derivative action (Klein Action) was filed against the Company, our board and its Chief Executive Officer and Chief Financial Officer in the United States District Court for the District of Nevada, and on October 22, 2018, the Matthew derivative action (Matthew Action) was filed against the Company, certain named present and former board members (Barniv, Beck, Boehm, Clark, Falk, Freeland, Granot, Joyal, Nishigori, Sharir, Stern and Wong) in the United States District Court, District of Nevada. The Klein complaint asserts four derivative causes of action generally arising from Ormat's restatement of its financial statements: (i) the individual defendants allegedly breached their fiduciary duties by allowing the Company to improperly report its financials; (ii) the individual defendants allegedly were unjustly enriched by being compensated while breaching their fiduciary duties; (iii) the individual defendants allegedly committed corporate waste in paying officers and directors and by incurring legal costs and potential liability; and (iv) the director defendants allegedly breached Section 14(a) of the Exchange Act in connection with the issuance of the

**ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

2018 proxy. The Matthew complaint similarly alleges derivatively a breach of fiduciary duties, abuse of control, gross mismanagement, and corporate waste by the named directors. On January 24, 2019, the Nevada Court entered an order consolidating the Klein Action and Matthew Action. On July 10, 2020, a comprehensive settlement package and derivative stipulation of settlement was submitted to the court, and on October 12, 2020, Plaintiff filed an unopposed motion to the Nevada Court requesting preliminary approval of the corporate governance enhancement settlement. On March 29, 2021, the Nevada Court issued its final order and judgement resolving all actions to the claim, dismissing them with prejudice, and approving the final settlement. The sum the Company will bear for implementation of the settlement is not material.

- On March 29, 2016, a former local sales representative in Chile, Aquavant, S.A., filed a claim on the basis of unjust enrichment against Ormat's subsidiaries in the 27th Civil Court of Santiago, Chile. The claim requests that the court order Ormat to pay Aquavant \$4.6 million in connection with its activities in Chile, including the EPC contract for the Cerro Pabellon project and various geothermal concessions, plus 3.75% of Ormat geothermal products sales in Chile over the next 10 years. Pursuant to various motions submitted by the defendants and the plaintiffs to various courts, including the Court of Appeals, the case was removed from the original court and then refiled before the 11th Civil Court of Santiago. On April 16, 2020, the 11th Civil Court of Santiago issued its order rejecting Plaintiff's principal claim of unjust enrichment, as an improper cause of action, rejecting Plaintiff's secondary claim for declaratory judgment, which the Court associates with the principal claim of unjust enrichment and not relating to a number of defenses raised by the Company. In May 2020, each of the parties filed separately to the court of appeals, which are pending. On October 19, 2020, the Court of Appeals dismissed all ancillary appeals on procedural issues filed by Aquavant as well as two ancillary appeals on procedural issues filed by the Company. The Company considers it has strong legal defenses and the probability of the claimant receiving an award is low. The potential amount that the Company may bear in this context cannot be reasonably estimated at this time.
- On March 3, 2021, a claim and motion to certify a class action was filed in the Tel Aviv District Court (Economic Division) on behalf of Avishai Shmuel Mano against Ormat Technologies Inc. and 23 additional named respondents, who include existing and former directors and officers of the Company. On July 1, 2021, the court accepted plaintiff's motion to withdraw the claim against the named foreign respondents, retaining only the claim against the Company and the named present and former directors and officers who are domiciled in Israel. The claim seeks economic damages of approximately \$100 million purportedly caused to shareholders by defendants' alleged inaccurate reporting and provision of misleading information to the public in breach of Sections 10(b) and 20(a) of the U.S. Securities and Exchange Act of 1934, as amended, based on claims made in a report published by short-seller Hindenburg Research on March 1, 2021. The Company timely filed its response on February 2, 2022. The Company considers it has strong legal defenses and the probability of the claimant receiving an award is low. The potential amount that the Company may bear in this context cannot be reasonably estimated at this time.
- On September 14, 2021, an arbitration was filed on behalf of Kipreos before CAM Santiago, an electrical works subcontractor who had been hired to perform certain works at the Cerro Pabellon III Project for the recovery of alleged unpaid amounts in the approximate sum of \$5.2 million. Ormat's subsidiary timely responded with a counterclaim of approximately the same amount for recovery of damages and losses due to the subcontractor's negligent performance under its terminated contract. The former subcontractor also initiated ancillary interim proceedings in the civil courts of Santiago attempting to recover three unpaid invoices and to obtain a seizure order, pursuant to which the lower court recently issued a preliminary, administrative ruling in favor of the plaintiff regarding invoices valued approximately \$570,000, subject to fulfillment of bonding requirements. The Company considers it has strong legal defenses against the arbitral claims and the probability of the claimant receiving a final award is low.

In addition, from time to time, the Company is named as a party to various other lawsuits, claims and other legal and regulatory proceedings that arise in the ordinary course of the Company's business. These actions typically seek, among other things, compensation for alleged personal injury, breach of contract, property damage, punitive damages, civil penalties or other losses, or injunctive or declaratory relief. With respect to such lawsuits, claims and proceedings, the Company accrues reserves when a loss is probable, and the amount of such loss can be reasonably estimated. It is the opinion of the Company's management that the outcome of these proceedings, individually and collectively, will not be material to the Company's consolidated financial statements as a whole.

**ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Other matters**

On March 2, 2021, the Company's board of directors established a Special Committee of independent directors to investigate, among other things, certain claims made in a report published by a short seller regarding the Company's compliance with anti-corruption laws. The Special Committee is working with outside legal counsel to investigate the claims made. All members of the Special Committee are "independent" in accordance with the Company's Corporate Governance Guidelines, the NYSE listing standards and SEC rules applicable to board of directors in general. The Company is also providing information as requested by the SEC and Department of Justice ("DOJ") related to the claims.

**NOTE 22 — LEASES**

The Company is a lessee in operating lease transactions primarily consisting of land leases for its exploration and development activities. The Company is a lessee in finance lease transactions primarily consisting of fleet vehicles and office rentals. The Company is a lessor in PPAs that are accounted under lease accounting, as further described under Note 1 to the consolidated financial statements under "Revenues and cost of revenues" and "Leases".

**A. Leases in which the Company is a lessee**

The table below presents the effects on the amounts relating to total lease cost:

	<b>Year Ended December 31,</b>		
	<b>2021</b>	<b>2020</b>	<b>2019</b>
	<b>(Dollars in thousands)</b>		
<b>Lease cost</b>			
Finance lease cost:			
Amortization of right-of-use assets .....	\$ 3,265	\$ 3,422	\$ 3,273
Interest on lease liabilities .....	770	1,226	1,330
Operating lease cost .....	3,707	3,303	8,057
Variable lease cost.....	2,368	1,891	1,647
Short-term lease cost .....	—	—	—
<b>Total lease cost.....</b>	<b>\$ 10,110</b>	<b>\$ 9,842</b>	<b>\$ 14,307</b>

**Other information**

Cash paid for amounts included in the measurement of lease liabilities:

Operating cash flows for finance leases .....	\$ 770	\$ 1,226	\$ 1,330
Operating cash flows for operating leases.....	3,589	3,213	9,004
Financing cash flows for finance leases .....	3,181	2,890	3,164
Right-of-use assets obtained in exchange for new finance lease liabilities .....	948	1,028	5,262
Right-of-use assets obtained in exchange for new operating lease liabilities .....	5,227	2,614	6,364

	<b>December 31,</b>	<b>December 31,</b>
	<b>2021</b>	<b>2020</b>
Additional information as of the end of the year:		
Weighted-average remaining lease term — finance leases (in years) .....	2.8	5.2
Weighted-average remaining lease term — operating leases (in years).....	17.1	10.7
Weighted-average discount rate — finance leases (in percentage) .....	3%	5%
Weighted-average discount rate — operating leases (in percentage).....	5%	5%

**ORMAT TECHNOLOGIES, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

Future minimum lease payments under non-cancellable leases as of December 31, 2021 were as follows:

	<b>Operating Leases</b>	<b>Finance Leases</b>	<b>Financing Liability <sup>(1)</sup></b>
	<b>(Dollars in thousands)</b>		
<b>Year ending December 31,</b>			
2022.....	\$ 3,079	\$ 3,326	\$ 17,238
2023.....	2,329	1,549	22,368
2024.....	2,043	854	102,074
2025.....	1,656	693	13,324
2026.....	1,519	514	18,118
Thereafter .....	18,978	3,313	113,462
Total future minimum lease payments.....	29,604	10,249	286,584
Less imputed interest.....	10,578	3,106	33,720
<b>Total .....</b>	<b>\$ 19,026</b>	<b>\$ 7,143</b>	<b>\$ 252,864</b>

<sup>(1)</sup> Financing liability was assumed as part of the Terra-Gen business combination transaction as further described under Note 2 to the consolidated financial statements and is related to the sale and lease-back transaction of the Dixie Valley geothermal assets.

**B. Leases in which the Company is a lessor**

The table below presents the lease income recognized for lessors:

	<b>Year Ended December 31,</b>		
	<b>2021</b>	<b>2020</b>	<b>2019</b>
	<b>(Dollars in thousands)</b>		
Lease income relating to lease payments of operating leases.....	\$ 502,355	\$ 473,260	\$ 479,059

**NOTE 23 — SUBSEQUENT EVENTS**

**Cash dividend**

On February 23, 2022, the Company's Board of Directors declared, approved and authorized payment of a quarterly dividend of \$6.7 million (\$0.12 per share) to all holders of the Company's issued and outstanding shares of common stock on March 9, 2022, payable on March 23, 2022.



## **ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE**

None.

### **ITEM 9A. CONTROLS AND PROCEDURES**

#### **Disclosure Controls and Procedures**

We maintain disclosure controls and procedures that are designed to provide reasonable assurance that information required to be disclosed by us in reports that we file or submit under the Securities Exchange Act of 1934, as amended (the “Exchange Act”) is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms, and that such information is accumulated and communicated to our management, including our CEO (principal executive officer) and CFO (principal financial officer), as appropriate, to allow for timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

As required by SEC Rule 13a-15(e), we carried out an evaluation, under the supervision and with the participation of our management, including our CEO and CFO, of the effectiveness of our disclosure controls and procedures as of December 31, 2021. Based on this evaluation, our CEO and CFO concluded that our disclosure controls and procedures were effective as of December 31, 2021 to provide the reasonable assurance described above.

#### **Changes in Internal Control Over Financial Reporting**

There were no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2021 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

#### **Management’s Report on Internal Control over Financial Reporting**

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rule 13a-15(f) of the Exchange Act. Under the supervision and with the participation of our management, including the CEO and the CFO, we carried out an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2021 using the criteria established in “Internal Control-Integrated Framework” (2013), issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on that evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2021.

Our internal control over financial reporting as of December 31, 2021 has been audited by Kesselman & Kesselman, Certified Public Accountants (Isr.), an independent registered public accounting firm and a member of PricewaterhouseCoopers International Limited (“PwC”), as stated in their report which is included under “Item 8—Financial Statements.”

### **ITEM 9B. OTHER INFORMATION**

None.

### **ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS**

Not applicable.

### **PART III**

#### **ITEM 10. *DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE***

Information required by this item is incorporated herein by reference to our definitive proxy statement for the 2022 annual meeting of stockholders, which is to be filed with the SEC (the “2022 Proxy Statement”).

#### **ITEM 11. *EXECUTIVE COMPENSATION***

Information required by this item is incorporated herein by reference to our 2022 Proxy Statement.

#### **ITEM 12. *SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS***

Information required by this item is incorporated herein by reference to our 2022 Proxy Statement.

#### **ITEM 13. *CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE***

Information required by this item is incorporated herein by reference to our 2022 Proxy Statement.

#### **ITEM 14. *PRINCIPAL ACCOUNTANT FEES AND SERVICES***

Information required by this item is incorporated herein by reference to our 2022 Proxy Statement.

## PART IV

### ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

#### (a) (1) List of Financial Statements

See Index to Financial Statements in Part II, Item 8 of this Annual Report.

#### (2) List of Financial Statement Schedules

All applicable schedule information is included in our Financial Statements in Part II, Item 8 of this Annual Report.

(b) Exhibit Index. We hereby file, as exhibits to this Annual Report, those exhibits listed on the Exhibit Index immediately following the signature page hereto.

Exhibit No.	<u>Document</u>
----------------	-----------------

- |      |  |
|------|--|
| 3.1  | Fourth Amended and Restated Certificate of Incorporation, incorporated by reference to Exhibit 3.1 to Ormat Technologies, Inc.'s Current Report on Form 8-K filed with the Securities and Exchange Commission on November 12, 2019.  |
| 3.2  | Sixth Amended and Restated By-laws, incorporated by reference to Exhibit 3.1 to Ormat Technologies, Inc.'s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 6, 2021.   |
| 3.3  | Amended and Restated Limited Liability Company Agreement of ORPD LLC, dated April 30, 2015, by and among Ormat Nevada Inc., Northleaf Geothermal Holdings LLC, and ORPD Holding LLC incorporated by reference to Exhibit 3.5 to Ormat Technologies, Inc.'s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 7, 2015.                         |
| 4.1  | Form of Common Share Stock Certificate, incorporated by reference to Exhibit 4.1 to Ormat Technologies, Inc.'s Registration Statement on Form S-1 (File No. 333-117527) filed with the Securities and Exchange Commission on July 21, 2004.  |
| 4.2  | Indenture of Trust and Security Agreement, dated September 23, 2011, among OFC 2 LLC, ORNI 15 LLC, ORNI 39 LLC, ORNI 42 LLC, HSS II, LLC, and Wilmington Trust Company, as Trustee and Depository, incorporated by reference to Exhibit 4.8 to Ormat Technologies, Inc.'s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 4, 2011.     |
| 4.4+ | Description of Securities Registered under Section 12 of the Securities Exchange Act of 1934.  |
| 4.5  | Deed of Trust, dated as of June 25, 2020, by and between Ormat Technologies, Inc. and Mishmeret Trust Services Company Ltd., as trustee, and a Form of Bonds (included in Schedule One to the Deed of Trust), incorporated by reference to Exhibit 4.1 to Ormat Technologies, Inc.'s Current Report on Form 8-K filed with the Securities and Exchange Commission on July 1, 2020. |
| 10.1 | Agreement for Purchase of Membership Interests in ORPD LLC, dated as of February 5, 2015, by and between Ormat Nevada Inc. and Northleaf Geothermal Holdings LLC is incorporated by reference to Exhibit 3.5 to Ormat Technologies, Inc.'s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 7, 2015.   |
| 10.2 | Agreement for Purchase of Membership Interests in ORNI 37 LLC, dated as of November 22, 2016, by and between Northleaf Geothermal Holdings LLC and Ormat Nevada Inc., incorporated by reference to Exhibit 10.1.13 to Ormat Technologies, Inc.'s Form 10-K filed with the Securities and Exchange Commission on March 1, 2017.   |

- 10.3 Amended and Restated Limited Liability Company Agreement of Opal Geo LLC, dated as of December 16, 2016, by and between OrLeaf LLC and JPM Capital Corporation, incorporated by reference to Exhibit 10.1.14 to Ormat Technologies, Inc.'s Form 10-K filed with the Securities and Exchange Commission on March 1, 2017.
- 10.4 Equity Contribution Agreement, dated as of December 16, 2016, by and among JPM Capital Corporation, Ormat Nevada Inc. and OrLeaf LLC, incorporated by reference to Exhibit 10.1.15 to Ormat Technologies, Inc.'s Form 10-K filed with the Securities and Exchange Commission on March 1, 2017.
- 10.5 Purchase Power Contract, dated March 24, 1986, by and between Hawaii Electric Light Company and Thermal Power Company incorporated by reference to Exhibit 10.3.44 to Ormat Technologies, Inc.'s Registration Statement Amendment No. 1 on Form S-1/A (File No. 333-117527) filed with the Securities and Exchange Commission on September 28, 2004.
- 10.17\* Amended and Restated Ormat Technologies, Inc. 2012 Incentive Compensation Plan, incorporated by reference to Exhibit 10.2 to Ormat Technologies, Inc.'s Current Report on Form 8-K filed with the Securities and Exchange Commission on February 11, 2014.
- 10.18\* Form of Incentive Stock Option Agreement to Ormat Technologies, Inc.'s 2012 Incentive Compensation Plan, incorporated by reference to Exhibit 10.31.2 to Ormat Technologies, Inc.'s Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 28, 2014
- 10.19\* Form of Freestanding Stock Appreciation Right Agreement to Amended and Restated Ormat Technologies, Inc.'s 2012 Incentive Compensation Plan, , incorporated by reference to Exhibit 10.31.3 to Ormat Technologies, Inc.'s Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 28, 2014.
- 10.20\* Ormat Technologies, Inc.'s Annual Management Incentive Plan, incorporated by reference to Exhibit 10.1 to Ormat Technologies, Inc.'s Current Report on Form 8-K filed with the Securities and Exchange Commission on February 29, 2016.
- 10.21\* Form of Restricted Stock Unit Agreement under the Amended and Restated Ormat Technologies, Inc. 2012 Incentive Compensation Plan, incorporated by reference to Exhibit 10.1 to Ormat Technologies, Inc.'s Current Report on Form 8-K filed with the Securities Exchange Commission on November 9, 2017.
- 10.22\* Ormat Technologies, Inc. 2018 Incentive Compensation Plan, incorporated by reference to Appendix A to Ormat Technologies, Inc.'s Definitive Proxy Statement on Schedule 14A filed on March 27, 2018.
- 10.24\* Form of Restricted Stock Unit Agreement under the Company's 2018 Incentive Compensation Plan for restricted stock units awarded to Mr. Isaac Angel, incorporated by reference to Exhibit 10.2 to Ormat Technologies, Inc.'s Current Report on Form 8-K filed on May 9, 2018.
- 10.25\* Form of Restricted Stock Unit Grant Notice and Terms and Conditions (Employees-Time Based Units), incorporated by reference to Exhibit 10.5 to Ormat Technologies, Inc.'s Quarterly Report on Form 10-Q filed on August 8, 2018.
- 10.26\* Form of Stock Appreciation Right Grant Notice and Terms and Conditions (Employees), incorporated by reference to Exhibit 10.6 to Ormat Technologies, Inc.'s Quarterly Report on Form 10-Q filed on August 8, 2018.

- 10.27\* Form of Restricted Stock Unit Grant Notice and Terms and Conditions (Directors) to Ormat Technologies, Inc.'s 2018 Incentive Compensation Plan, incorporated by reference to Exhibit 10.4.11 to Ormat Technologies, Inc.'s Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 01, 2019
- 10.28\* Form of Stock Appreciation Right Grant Notice and Terms and Conditions (Directors) to Ormat Technologies, Inc.'s 2018 Incentive Compensation Plan.1, incorporated by reference to Exhibit 10.4.12 to Ormat Technologies, Inc.'s Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 01, 2019
- 10.31\* Form of Performance Stock Unit Grant Notice and Terms and Conditions under the Company's 2018 Incentive Compensation Plan for restricted stock units awarded to NEO's, incorporated by reference to Exhibit 10.4.3 to Ormat Technologies, Inc.'s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on August 6, 2020.
- 10.32\* Form of Indemnification Agreement incorporated by reference to Exhibit 10.11 to Ormat Technologies, Inc.'s Registration Statement Amendment No. 2 on Form S-1 (File No. 333-117527) filed with the Securities and Exchange Commission on October 20, 2004.
- 10.33 Note Purchase Agreement, dated November 29, 2016, among ORNI 47 LLC, MUFG Union Bank, N.A., Munich Reinsurance America, Inc. and Munich American Reassurance Company, incorporated by reference to Exhibit 4.1 to Ormat Technologies Inc.'s Current Report on Form 8-K/A filed with the Securities and Exchange Commission on December 6, 2016.
- 10.34 Third Amended and Restated Power Purchase Agreement for Olkaria III Geothermal Plants, dated November 26, 2014, between OrPower 4 Inc. and The Kenya Power and Lighting Company Limited, incorporated by reference to Exhibit 10.34 to Ormat Technologies, Inc.'s Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 26, 2021.
- 10.35 Amendment of the Third Amended and Restated Power Purchase Agreement and Termination of Amended and Restated Olkaria III Project Security Agreement, dated October 30, 2015, between The Kenya Power and Lighting Company Limited and OrPower 4 Inc., incorporated by reference to Exhibit 10.35 to Ormat Technologies, Inc.'s Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 26, 2021.
- 10.36 Second Amendment of the Third Amended and Restated Power Purchase Agreement, dated December 20, 2016, between The Kenya Power and Lighting Company Limited and OrPower 4 Inc., incorporated by reference to Exhibit 10.36 to Ormat Technologies, Inc.'s Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 26, 2021.
- 10.37+ Third Amendment of the Third Amended and Restated Power Purchase Agreement, dated February 19, 2021, between The Kenya Power and Lighting Company PLC and OrPower 4 Inc.
- 10.38 Note Purchase Agreement, dated September 23, 2011, among OFC 2 LLC, ORNI 15 LLC, ORNI 39 LLC, ORNI 42 LLC, and HSS II, LLC, as Issuers, OFC 2 Noteholder Trust, as Purchaser, John Hancock Life Insurance Company (U.S.A.), as Administrative Agent, and the United States Department of Energy (DOE), as Guarantor, incorporated by reference to Exhibit 10.1 to Ormat Technologies, Inc.'s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 4, 2011.
- 10.39 Finance Agreement, dated as of August 23, 2012, between OrPower 4, Inc., an indirect wholly-owned subsidiary of Ormat Technologies, Inc., and Overseas Private Investment Corporation, incorporated by reference to Exhibit 10.1 to Ormat Technologies, Inc.'s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 8, 2012.



- 10.40 Amendment No. 1 to the Finance Agreement, dated as of August 23, 2012, between OrPower 4, Inc., an indirect wholly-owned subsidiary of Ormat Technologies, Inc., and Overseas Private Investment Corporation, incorporated by reference to Exhibit 10.1 to Ormat Technologies, Inc.'s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 8, 2012.
- 10.41 Loan Agreement, dated March 22, 2018, by and among Ormat Technologies, Inc. and Migdal Insurance Company Ltd., Migdal's Makefet Pension and Provident Funds Ltd. and Yozma Pension Fund of Self Employed Ltd., incorporated by reference to Exhibit 10.1 to Ormat Technologies, Inc.'s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on June 19, 2018.
- 10.42 First Addendum to Loan Agreement, dated March 25, 2019, by and among Ormat Technologies, Inc. and Migdal Insurance Company Ltd., Migdal Makefet Pension and Provident Funds Ltd. and Yozma Pension Fund of Self Employed Ltd., incorporated by reference to Exhibit 10.1 to Ormat Technologies, Inc.'s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 8, 2019.
- 10.43 Second Addendum to Loan Agreement, dated April 13, 2020, between and among Ormat Technologies, Inc. and Migdal Insurance Company Ltd., Migdal Makefet Pension and Provident Funds Ltd. And Yozma Pension Fund of Self-Employed Ltd., incorporated by reference to Exhibit 10.2 to Ormat Technologies, Inc.'s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on August 6, 2020.
- 10.44 Finance Agreement, dated April 30, 2018 between Geotermica Platanares, S.A. DE C.V. and Overseas Private Investment Corporation incorporated by reference to Exhibit 10.2 to Ormat Technologies, Inc.'s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on June 19, 2018.
- 10.49\* Amended and Restated Employment Agreement, dated July 2, 2020, between Ormat Technologies, Inc., Ormat Systems, Ltd. and Doron Blachar incorporated by reference to Exhibit 10.1 and to Ormat Technologies, Inc.'s Current Report on Form 8-K filed with the Securities and Exchange Commission on July 6, 2020.
- 10.50\* Retirement Agreement, dated as of December 16, 2020, between Zvi Krieger, and Ormat Systems Ltd., incorporated by reference to Exhibit 10.1 to Ormat Technologies, Inc.'s Quarterly Report on Form 8-K filed with the Securities and Exchange Commission on December 21, 2020.
- 10.52\* Employment Agreement dated as of December 2017 between Ormat Systems Ltd and Hezi Kattan, incorporated by reference to Exhibit 10.1 to Ormat Technologies, Inc.'s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 11, 2020.
- 10.58 Ormat Equity Support Deed, dated March 28, 2014, by and among Ormat International, Inc., Ormat Holding Corp., OrPower 11 Inc., OrSarulla Inc., Sarulla Operations Ltd, Mizuho Bank, Ltd. and Mizuho Bank (USA), dated March 28, 2014, incorporated by reference to Exhibit 10.11 to Ormat Technologies, Inc.'s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 9, 2014.
- 10.59 Commercial Cooperation Agreement, dated May 4, 2017, between Ormat Technologies, Inc. and ORIX Corporation, incorporated by reference to Exhibit 10.1 to Ormat Technologies, Inc.'s Current Report on Form 8-K filed with the Securities and Exchange Commission on May 4, 2017.
- 10.60 Governance Agreement, dated May 4, 2017, between Ormat Technologies, Inc. and ORIX Corporation, incorporated by reference to Exhibit 10.2 to Ormat Technologies, Inc.'s Current Report on Form 8-K filed with the Securities and Exchange Commission on May 4, 2017.
- 10.61 Registration Rights Agreement, dated May 4, 2017, between Ormat Technologies, Inc. and ORIX Corporation, incorporated by reference to Exhibit 10.3 to Ormat Technologies, Inc.'s Current Report on Form 8-K filed with the Securities and Exchange Commission on May 4, 2017.

- 10.62 Governance Amendment Agreement, dated April 14, 2020, by and between Ormat Technologies, Inc. and ORIX Corporation, incorporated by reference to Exhibit 99.1 to Ormat Technologies, Inc.'s Current Report on Form 8-K filed with the Securities and Exchange Commission on April 14, 2020.
- 10.63+ Agreement for Purchase of Membership Interests, dated May 21, 2021, by and between TG Geothermal Portfolio, LLC and Deer Holdings, LLC.
- 21.1+ Subsidiaries of Ormat Technologies, Inc.
- 23.1+ Consent of Kesselman & Kesselman, Certified Public Accountants (Isr.), a member firm of PricewaterhouseCoopers International Limited, Independent Registered Public Accounting Firm.
- 31.1+ Certification of the Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 31.2+ Certification of the Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 32.1+ Certification of the Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 32.2+ Certification of the Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 101.INS+ Inline XBRL Instance Document.
- 101.SCH+ Inline XBRL Taxonomy Extension Schema Document.
- 101.CAL+ Inline XBRL Taxonomy Extension Calculation Linkbase Document.
- 101.DEF+ Inline XBRL Taxonomy Extension Definition Linkbase Document.
- 101.LAB+ Inline XBRL Taxonomy Extension Label Linkbase Document.
- 101.PRE+ Inline XBRL Taxonomy Extension Presentation Linkbase Document.
- 104.1+ Cover Page Interactive Data File (Embedded within the Inline XBRL document and included in Exhibit 101).

\* Management contract or compensatory plan in which directors and/or executive officers are eligible to participate.

+ Filed herewith.

# Furnished herewith.

## **ITEM 16. FORM 10-K SUMMARY**

None.

## SIGNATURES

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

ORMAT TECHNOLOGIES, INC.

By: /s/ Doron Blachar

Name: Doron Blachar

Title: Chief Executive Officer

Date: February 25, 2022

## POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Doron Blachar and Assaf Ginzburg, jointly and severally, his or her attorneys-in-fact, each with the power of substitution, for him or her in any and all capacities, to sign any amendments to this Annual Report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities indicated, on February 25, 2022.

<u>Signature</u>	<u>Capacity</u>
<u>/s/ Doron Blachar</u> Doron Blachar	Chief Executive Officer (Principal Executive Officer)
<u>/s/ Assaf Ginzburg</u> Assaf Ginzburg	Chief Financial Officer (Principal Financial and Accounting Officer)
<u>/s/ Isaac Angel</u> Isaac Angel	Chairman of the Board of Directors
<u>/s/ Dan Falk</u> Dan Falk	Director
<u>/s/ David Granot</u> David Granot	Director
<u>/s/ Mike Nikkel</u> Mike Nikkel	Director
<u>/s/ Hidetake Takahashi</u> Hidetake Takahashi	Director
<u>/s/ Dafna Sharir</u> Dafna Sharir	Director
<u>/s/ Stanley B. Stern</u> Stanley B. Stern	Director
<u>/s/ Byron Wong</u> Byron Wong	Director
<u>/s/ Albertus "Bert" Bruggink</u> Albertus "Bert" Bruggink	Director

<u>Name of Significant Subsidiary*</u>	<u>State or Jurisdiction of Incorporation</u>
Ormat Nevada Inc.	Delaware
Ormat International Inc.	Delaware
Ormat Systems Ltd.	Israel
OFC 2, LLC	Delaware
ORNI 39, LLC	Delaware
ORNI 41, LLC	Delaware
Orpd, LLC	Delaware
Opal Geo, LLC	Delaware
OrLeaf, LLC	Delaware
Ormat Holding Corporation	Cayman Islands
Orpower 4 Inc.	Cayman Islands

\* A number of these entities have subsidiaries below them

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (No. 333-250110) and Form S-8 (No. 333-181509, and 333-224752) of Ormat Technologies, Inc. of our report dated February 25, 2022 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ Kesselman & Kesselman  
Certified Public Accountants (Isr.)  
A member firm of PricewaterhouseCoopers International Limited  
Tel Aviv, Israel  
February 25, 2022



**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO  
SECURITIES EXCHANGE ACT RULES 13a-14(a) AND 15(d)-14(a), AS ADOPTED PURSUANT TO  
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Doron Blachar, certify that:

1. I have reviewed this Annual Report on Form 10-K of Ormat Technologies, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an Annual Report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ Doron Blachar  
Name: Doron Blachar  
Title: Chief Executive Officer

Date: February 25, 2022

**CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT TO  
SECURITIES EXCHANGE ACT RULES 13a-14(a) AND 15(d)-14(a), AS ADOPTED PURSUANT TO  
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Assaf Ginzburg, certify that:

1. I have reviewed this Annual Report on Form 10-K of Ormat Technologies, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an Annual Report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ Assaf Ginzburg  
Name: Assaf Ginzburg  
Title: Chief Financial Officer

Date: February 25, 2022

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER  
PURSUANT TO  
18 U.S.C. SECTION 1350,  
AS ADOPTED PURSUANT TO  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

I, Doron Blachar, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge, the Annual Report of Ormat Technologies, Inc. on Form 10-K for the year ended December 31, 2021 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and that information contained in such Annual Report on Form 10-K fairly presents in all material respects the financial condition, results of operations and cash flows of Ormat Technologies, Inc. as of and for the periods presented in such Annual Report on Form 10-K. This written statement is being furnished to the Securities and Exchange Commission as an exhibit accompanying such Annual Report and shall not be deemed filed pursuant to the Securities Exchange Act of 1934.

By: /s/ Doron Blachar  
Name: Doron Blachar  
Title: Chief Executive Officer

Date: February 25, 2022

**CERTIFICATION OF CHIEF FINANCIAL OFFICER  
PURSUANT TO  
18 U.S.C. SECTION 1350,  
AS ADOPTED PURSUANT TO  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

I, Assaf Ginzburg, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to the best of my knowledge, that the Annual Report of Ormat Technologies, Inc. on Form 10-K for the year ended December 31, 2021 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and that information contained in such Annual Report on Form 10-K fairly presents in all material respects the financial condition, results of operations and cash flows of Ormat Technologies, Inc. as of and for the periods presented in such Annual Report on Form 10-K. This written statement is being furnished to the Securities and Exchange Commission as an exhibit accompanying such Annual Report and shall not be deemed filed pursuant to the Securities Exchange Act of 1934.

By: /s/ Assaf Ginzburg  
Name: Assaf Ginzburg  
Title: Chief Financial Officer

Date: February 25, 2022







ORMAT TECHNOLOGIES, INC.  
**2021 ANNUAL REPORT**



**ORMAT**

**ORMAT TECHNOLOGIES, INC.**

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# FORMAT TECHNOLOGIES, INC. 2021 ANNUAL REPORT