

ORMAT TECHNOLOGIES, INC.

Form 10-K

March 02, 2009

**Table of Contents**

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549  
FORM 10-K**

- x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**  
For the fiscal year ended December 31, 2008
- or
- o 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**  
(State or other jurisdiction of  
incorporation or organization)

**88-0326081**  
(I.R.S. Employer  
Identification Number)

**6225 Neil Road, Reno, Nevada 89511-1136**  
(Address of principal executive offices)

**Registrant's telephone number, including area code: (775) 356-9029**

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

<b>Title of each class</b>	<b>Name of each exchange on which registered</b>
Ormat Technologies, Inc. Common Stock \$0.001 Par Value	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 o No x

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 o No x

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

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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 if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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

Large accelerated filer

Accelerated filer

Non-accelerated filer  (Do not check if a smaller reporting company)

Smaller reporting

company

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, 2008, the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was \$977,767,006 based on the closing price as reported on the New York Stock Exchange.

The number of outstanding shares of common stock of the registrant, as of February 24, 2009, was 45,353,120.

Documents Incorporated by Reference: Part III (Items 10, 11, 12, 13 and 14) incorporates by reference portions of the Registrant's Proxy Statement for its Annual Meeting of Stockholders, which will be filed not later than 120 days after December 31, 2008.

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**ORMAT TECHNOLOGIES, INC.**

**FORM 10-K FOR THE YEAR ENDED DECEMBER 31, 2008**

**TABLE OF CONTENTS**

	<b>Page No.</b>
<b><u>PART I</u></b>	
<b><u>ITEM 1. BUSINESS</u></b>	5
<b><u>ITEM 1A. RISK FACTORS</u></b>	44
<b><u>ITEM 1B. UNRESOLVED STAFF COMMENTS</u></b>	61
<b><u>ITEM 2. PROPERTIES</u></b>	61
<b><u>ITEM 3. LEGAL PROCEEDINGS</u></b>	61
<b><u>ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS</u></b>	62
 <b><u>PART II</u></b>	
<b><u>ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES</u></b>	63
<b><u>ITEM 6. SELECTED FINANCIAL DATA</u></b>	66
<b><u>ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS</u></b>	68
<b><u>ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK</u></b>	97
<b><u>ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA</u></b>	98
<b><u>ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE</u></b>	148
<b><u>ITEM 9A. CONTROLS AND PROCEDURES</u></b>	148
<b><u>ITEM 9B. OTHER INFORMATION</u></b>	148
 <b><u>PART III</u></b>	
<b><u>ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT AND CORPORATE GOVERNANCE</u></b>	149
<b><u>ITEM 11. EXECUTIVE COMPENSATION</u></b>	152
<b><u>ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS</u></b>	153
<b><u>ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE</u></b>	153
<b><u>ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES</u></b>	153
 <b><u>PART IV</u></b>	
<b><u>ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES</u></b>	154
<b><u>SIGNATURES</u></b>	166
<b><u>EX-10.18.3: COMMON TERMS AGREEMENT</u></b>	
<b><u>EX-10.18.4: DEG A FACILITY LOAN AGREEMENT</u></b>	
<b><u>EX-10.18.5: DEG B FACILITY LOAN AGREEMENT</u></b>	

EX-10.18.6: DEG C FACILITY LOAN AGREEMENT

EX-10.18.7: PROPARCO A FACILITY LOAN AGREEMENT

EX-23.1: CONSENT OF PRICEWATERHOUSECOOPERS LLP

EX-31.1: CERTIFICATION

EX-31.2: CERTIFICATION

EX-32.1: CERTIFICATION

EX-32.2: CERTIFICATION

**Table of Contents**

**Cautionary Note Regarding Forward-Looking Statements**

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, 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 report are primarily located in the material set forth under the headings Management's Discussion and Analysis of Financial Condition and Results of Operations contained in Part II, Item 7, Risk Factors contained in Part I, Item IA, and Notes to Financial Statements contained in Part II, Item 8 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 due to a number of risks and uncertainties, many of which are beyond our control. We will not update forward-looking statements even though our situation may change in the future.

Specific factors that might cause actual results to differ from our expectations include, but are not limited to:

significant considerations, risks and uncertainties discussed in this annual report;

operating risks, including equipment failures and the amounts and timing of revenues and expenses;

geothermal resource risk (such as the heat content of the reservoir, useful life and geological formation);

financial market conditions and the results of financing efforts;

environmental constraints on operations and environmental liabilities arising out of past or present operations, including the risk that we may not have, and in the future may be unable to procure, any necessary permits or other environmental authorization;

construction or other project delays or cancellations;

political, legal, regulatory, governmental, administrative and economic conditions and developments in the United States and other countries in which we operate;

the enforceability of the long-term power purchase agreements for our projects;

contract counterparty risk;

weather and other natural phenomena;

the impact of recent and future federal, state and local regulatory proceedings and changes, including legislative and regulatory initiatives regarding deregulation and restructuring of the electric utility industry

and incentives for the production of renewable energy in the United States and elsewhere;

changes in environmental and other laws and regulations to which our company is subject, as well as changes in the application of existing laws and regulations;

current and future litigation;

our ability to successfully identify, integrate and complete acquisitions;

**Table of Contents**

competition from other similar geothermal energy projects, including any such new geothermal energy projects developed in the future, and from alternative electricity producing technologies;

the effect of and changes in economic conditions in the areas in which we operate;

market or business conditions and fluctuations in demand for energy or capacity in the markets in which we operate;

the direct or indirect impact on our company's business resulting from terrorist incidents or responses to such incidents, including the effect on the availability of and premiums on insurance;

the effect of and changes in current and future land use and zoning regulations, residential, commercial and industrial development and urbanization in the areas in which we operate; and

other uncertainties which are difficult to predict or beyond our control and the risk that we incorrectly analyze these risks and forces or that the strategies we develop to address them could be unsuccessful.



**Table of Contents**

**PART I**

**ITEM 1. BUSINESS**

**Certain Definitions**

Unless the context otherwise requires, all references in this annual report to Ormat , the Company , we , us , our company , Ormat Technologies or our refer to Ormat Technologies, Inc. and its consolidated subsidiaries. The OFC Senior Secured Notes refers to the 8 1/4% Senior Secured Notes due 2020 that were issued in February 2004 by our subsidiary, Ormat Funding Corp. The OrCal Senior Secured Notes refers to the 6.21% Senior Secured Notes due 2020 that were issued in December 2005 by our subsidiary, OrCal Geothermal Inc. OPC Tax Monetization Transaction refers to a financing transaction involving four of our Nevada power plants in which institutional equity investors purchased an interest in our special purpose subsidiary that owns such plants, with a view to obtaining certain tax benefits.

**Overview**

We are a leading vertically integrated company engaged in the geothermal and recovered energy power business. We design, develop, build, own and operate clean, environmentally friendly geothermal and recovered energy-based power plants, usually using equipment that we design and manufacture. Our geothermal power plants include both power plants that we have built and power plants that we have acquired, while all of our recovered energy-based plants have been constructed by us. We conduct our business activities in two business segments, which we refer to as our Electricity Segment and Products Segment. In our Electricity Segment, we develop, build, own and operate geothermal 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 our Products Segment, we design, manufacture and sell equipment for geothermal and recovered energy-based electricity generation, remote power units and other power generating units and provide services relating to the engineering, procurement, construction, operation and maintenance of geothermal and recovered energy power plants. Both our Electricity Segment and Products Segment operations are conducted in the United States and throughout the world. Our current generating portfolio includes geothermal plants in the United States, Guatemala, Kenya, Nicaragua and New Zealand, as well as recovered energy generation (REG) plants in the United States.

The charts below show the relative contributions of the Electricity Segment and the Products Segment to our consolidated revenues and the geographical breakdown of our segment revenues for our fiscal year ended December 31, 2008. Additional information concerning our segment operations, including year-to-year comparisons of revenues, the geographical breakdown of revenues, cost of revenues, results of operations, and trends and uncertainties is provided below in Item 7 Management's Discussion and Analysis of Financial Condition and Results of Operations and Item 8 Financial Statements and Supplementary Data .

**Table of Contents**

The following chart sets forth a breakdown of revenues for the year ended December 31, 2008:

The following chart sets forth the geographical breakdown of the revenues attributable to our Electricity Segment for the year ended December 31, 2008:

## **Table of Contents**

The following chart sets forth the geographical breakdown of the revenues attributable to our Products Segment for the year ended December 31, 2008:

Most of the projects 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. Therefore, electricity produced from geothermal energy sources contributes significantly less to local and regional incidences of acid rain and global warming than energy produced by burning fossil fuels. Geothermal energy is also an attractive alternative to other sources of energy as part of a national diversification strategy to avoid dependence on any one energy source or politically sensitive supply sources.

In addition to our geothermal energy business, we manufacture products that produce electricity from recovered energy or so-called "waste heat". We also construct, own, and operate recovered energy projects. Recovered energy represents residual heat that is generated as a by-product of gas turbine-driven compressor stations and a variety of industrial processes, such as cement manufacturing. Such residual heat, that 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.

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

We file annual, quarterly and periodic reports, proxy statements and other information with the Securities and Exchange Commission, which we refer to as the SEC. You may obtain and copy any document we file with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Room 1580, Washington D.C. 20549. You may obtain information on the operation of the SEC's Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains an internet website at <http://www.sec.gov> that contains reports, proxy and other information statements, and other information regarding issuers that file electronically with the SEC. Our SEC filings are accessible via the Internet at that website.

On May 14, 2008, we submitted to the New York Stock Exchange (NYSE) an Annual Written Affirmation, in the prescribed form and with no qualifications, regarding our compliance with the NYSE's Corporate Governance listing standards. In addition, our reports on Form 10-K, 10-Q and 8-K, and amendments to those reports are available at our website [www.ormat.com](http://www.ormat.com) for downloading, free of charge, as

**Table of Contents**

soon as reasonably practicable after these reports are filed with the SEC. Our Code of Business Conduct and Ethics, Code of Ethics Applicable to Senior Executives, Audit Committee Charter, Corporate Governance Guidelines, Nominating and Corporate Governance Committee Charter, Compensation Committee Charter, and Insider Trading Policy, as amended, are also available at our website address mentioned above. The content of our website, however, is not part of this annual report.

You may request a copy of our SEC filings, as well as the foregoing corporate documents, at no cost to you, by writing to the Company address appearing in this annual report or by calling us at (775) 356-9029.

**Our Power Generation Business**

We own or control, and operate geothermal and recovered energy projects in the United States. We also own or control, and operate geothermal projects in Guatemala, Kenya, Nicaragua and New Zealand. We continue to pursue opportunities to acquire and develop similar projects throughout the world. Most of our projects are located in regions where there is, or is expected to be, demand for additional generating capacity. During the year ended December 31, 2008, we substantially completed the construction of power plants that added an additional capacity of approximately 109 megawatts (MW). This increase in our owned generating capacity is primarily attributable to the following:

The 10 MW Heber South plant at the Heber Complex in California, which commenced operation in April 2008.

The 8 MW GDL project in New Zealand, which commenced commercial operation in September 2008.

An increase of 35 MW, attributable to Phase II of Olkaria III in Kenya. The construction and testing was substantially completed in December 2008 and the project commenced commercial operation in January 2009.

A 5.5 MW recovered energy generation unit at the OREG 2 project in North Dakota, which commenced commercial operation in December 2008.

The 50 MW North Brawley project in California. The construction was substantially completed in December 2008 and we expect to reach commercial operation and sale of power in commercial quantities in the second quarter of 2009.

Offset by:

A 2 MW decrease in the Momotombo project as a result of a decline in the geothermal reservoir.

A 1 MW decrease in the Brady project as a result of decline in the geothermal reservoir.

**Table of Contents****Projects in Operation**

The table below summarizes certain key non-financial information relating to our projects that are in operation and, in the case of North Brawley, start-up phase, as of December 31, 2008:

<b>Project</b>	<b>Location</b>	<b>Ownership<sup>(1)</sup></b>	<b>Ormat Share in Generating Capacity (in MW)<sup>(2)</sup></b>	<b>Power Purchaser</b>	<b>Contracts Expiration</b>
<b>Domestic</b>					
Ormesa Complex	East Mesa, California	100%	57	Southern California Edison Company	2018
Heber Complex <sup>(3)</sup>	Heber, California	100%		Southern California Edison Company and Southern California Power Public Authority	2015/2023/2031
Steamboat Complex <sup>(5)</sup>	Steamboat, Nevada	100%	92 <sup>(4)</sup>	NV Energy, Inc.	2018/2022/2026/2028
Mammoth Complex	Mammoth Lakes, California	50%	84	Southern California Edison Company	2014/2020
Puna	Puna, Hawaii	100%	14.5	Hawaii Electric Light Company	2027
Brady Complex	Churchill County, Nevada	100%	30	NV Energy, Inc.	2022/2027
North Brawley <sup>(6)</sup>	Imperial County, California	100%	22	Southern California Edison Company	2029
OREG 1	North and South Dakota	100%	50	Basin Electric Power Cooperative	2031
OREG 2	North Dakota	100%	22	Basin Electric Power Cooperative	2033
			5.5 <sup>(7)</sup>		
<b>Total For Domestic Projects under Ownership</b>			377		
<b>Foreign</b>					
Momotombo	Nicaragua	100%	28	DISNORTE/DISSUR	2014
Zunil	Guatemala	100%	24	Instituto Nacional de Electricidad	2019
Olkaria III Complex <sup>(8)</sup>	Kenya	100%	48	Kenya Power and Lighting Co. Ltd.	2029

Amatitlan	Guatemala	100%		Instituto Nacional De	2026
			20	(9) Electricidad	
GDL	New Zealand	100%		Norske Skog Tasman	2015
			8	Ltd.	
<b>Total For Foreign Projects under Ownership</b>			128		
<b>Total For Projects under Ownership:</b>			505		

- (1) We own and operate all but three of our projects. Those exceptions are: the Momotombo project in Nicaragua, which we do not own but which we control and operate through a concession arrangement with the Nicaraguan government; the GDL project in New Zealand, which we own but is operated by a third party under an operating and maintenance (O&M) agreement; and the Mammoth project, in which we have a 50% ownership interest. Two financial institutions hold equity interests in one of our subsidiaries that owns the Desert Peak 2, Steamboat Hills, Galena 2 and Galena 3 projects. In this chart, we show these projects as being 100% owned because all of the generating capacity is owned by our consolidated subsidiaries and we control the operation of the projects. The

**Table of Contents**

nature of the equity interests held by the financial institutions is described in Item 7 under the heading OPC Tax Monetization Transaction .

- (2) References to generating capacity refers to the gross capacity less auxiliary power, in the case of all of our existing domestic projects and the Momotombo, Amatitlan, Olkaria III and GDL projects (four of our foreign projects), and to the generating capacity that is subject to the take or pay power purchase agreements in the case of the Zunil project (one of our foreign projects). We determine the generating capacity figures in any given year from available historical operational data of our operating projects taking into account resource capabilities. This column represents our net ownership in such generating capacity.

In any given year, the actual power generation of a particular project may differ from that project's generating capacity due to variations in ambient temperature and operational issues affecting performance during that year. In 2008, the total actual power generation of the projects we operate in the U.S. was approximately 234,000 MWh lower than the energy potential commensurate with our generating capacity due to operational factors discussed elsewhere in this annual report.

- (3) The Heber complex includes the Heber 1 and 2 projects and the Heber South project.
- (4) Subject to drilling of an additional well for the Heber South project.
- (5) The Steamboat complex includes the Steamboat 1A project, the Steamboat 2 and 3 projects, the Burdette project, the Steamboat Hills project, the Galena 2 project, and the Galena 3 project.
- (6) We substantially completed the construction of the North Brawley project in December 2008 and expect to reach commercial operation and sale of power in commercial quantities during the second quarter of 2009. Until then the plant is expected to run at partial load.
- (7) One out of four units of the OREG 2 project reached commercial operation in December 2008 and an additional unit came on line in January 2009. The remaining two units of the project are expected to come on line by the end of 2009.
- (8) The Olkaria Complex includes 13 MW Phase I and the 35 MW Phase II, which reached commercial operation in January 2009.
- (9) Currently the project operates at 17 MW and we are in the process of drilling another well.

**Projects under Construction**

The table below summarizes certain key non-financial information relating to projects that were under construction as of December 31, 2008:

<b>Project</b>	<b>Location</b>	<b>Ownership</b>	<b>Projected Commercial Operation Date</b>	<b>Ormat Share in Projected Generating Capacity (in MW)</b>	<b>Power Purchaser</b>	<b>Contract Expiration</b>
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OREG II	North Dakota, Montana and Minnesota	100%	2009 <sup>(1)</sup>	16.5	Basin Electric Power Cooperative	25 years from January 1st, following commissioning of the project
Peetz	Denver, Colorado	100%	Early 2009	4	Highline Electric Association	20 years following commercial operation date <sup>(2)</sup>
Puna	Puna, Hawaii	100%	End 2009	8	Hawaii Electric Light Company <sup>(3)</sup>	N/A
GRE <sup>(4)</sup>	Minnesota	100%	End 2009	5.3	Great River Energy	20 years following commercial operation date
East Brawley	Imperial County, California	100%	2010	30	Southern California Power Public Authority <sup>(5)</sup>	N/A
Jersey Valley	Nevada	100%	2010/2011	18-30	NV Energy, Inc.	20 years following commercial operation date
<b>Total</b>				<b>82-94</b>		

(1) One unit out of the four units of the OREG 2 project reached commercial operation in December, 2008 and an additional unit came on line in January, 2009. The remaining two units of the project are expected to come on line by the end of 2009.

(2) The power purchase agreement for the Peetz project will expire the earlier of 20 years from the commercial operation date or the end of 2029.

(3) The power purchase agreement is currently under negotiation with Hawaii Electric Light Company.

(4) The GRE project is a recovered energy generation power plant.

(5) The power purchase agreement is currently under negotiation with Southern California Power Public Authority.



**Table of Contents****Projects under Development**

The table below summarizes certain key non-financial information relating to projects that are under development, which, if implemented, will come on line after 2009:

<b>Project</b>	<b>Location</b>	<b>Ownership</b>	<b>Ormat Share in Projected Generating Capacity (in MW)</b>	<b>Power Purchaser</b>	<b>Contract Expiration</b>
Carson Lake <sup>(1)</sup>	Nevada	100%	18-30	NV Energy, Inc.	20 years following commercial operation date
Mammoth	Mammoth Lakes, California	50%	10-15	Southern California <sup>(2)</sup> Edison Company	NA
Imperial Valley	Imperial County, California	100%	50	Southern California Edison Company	20 years following commercial operation date
Sarulla	Indonesia	12.75%	43	PT Perusahaan Listrik Negara	NA <sup>(3)</sup>
McGinness Hills	Nevada	100%	30	NA	NA
<b>Total</b>			<b>151-168</b>		

<sup>(1)</sup> The recent exploration results show that the deep resource cannot support a commercial project. We are currently evaluating the shallow resource at this location.

<sup>(2)</sup> We are currently negotiating a power purchase agreement with Southern California Edison Company.

<sup>(3)</sup> The contract will expire 360 months after completion of the last stage of the project, and in all cases, 504 months after the effective date of the contract, which is subject to financing closing.

In addition to the projects listed above, we have other projects in early development.

Substantially all of the revenues that we currently derive from the sale of electricity are pursuant to long-term power purchase agreements. Approximately 74.0% of our total revenues in the year ended December 31, 2008 from the sale of electricity by our domestic projects were derived from power purchasers that currently have investment grade credit ratings. The purchasers of electricity from our foreign projects are either state-owned or private entities. We have obtained political risk insurance from the Multilateral Investment Guarantee Agency of the World Bank Group (MIGA) or from Zurich Re, a private sector political risk insurer, for all of our foreign projects (with the exception of

a portion of the Zunil project for which we are currently negotiating insurance coverage) in order to cover a portion of any loss that we may suffer upon the occurrence of certain political events covered by such insurance.

*Development, Construction and Acquisition.* We have experienced significant growth in recent years, principally through development and construction of new power plants and the expansion and enhancement of our existing projects. We currently expect to continue growing our power generation business through:

the development and construction of new geothermal and recovered energy-based power plants;

acquiring geothermal leases for future development and exploration;

entering into new host agreements for development of recovered energy generation projects;

the expansion and enhancement of our existing projects; and

the acquisition of additional geothermal assets from third parties.

As part of these efforts, we regularly monitor requests for proposals from, and submit bids to, investor-owned and other electric utilities in the United States to provide additional generating capacity, primarily in the western United States where geothermal resources are generally concentrated. During 2008, we responded to several requests for proposals issued by different utilities interested in purchasing renewable energy. There can be no assurance, however, that we will succeed in negotiating power purchase agreements with the various utilities. We also respond to international tenders issued by foreign state-owned electric utilities for the

## **Table of Contents**

development, construction and operation of new geothermal power plants. In addition, we apply our technological expertise to upgrade the facilities of our existing geothermal power plants and to continuously monitor and manage our existing geothermal resources in order to increase the efficiency and generating capacity of such facilities.

We are currently in various stages of development of new projects and construction of new and existing projects. Based on our current development and construction schedule, which is subject to change at any time and which may not be met in its entirety, in 2009 and 2010 we expect to bring on line between 82 MW and 94 MW in generating capacity from recovered energy power plants and from geothermal power plants in the United States.

The total of owned generating capacity that we have under construction and under development is between 233 MW and 262 MW.

We are a member in a consortium which is in the process of developing a geothermal power project in Indonesia of approximately 340 MW. The consortium is currently negotiating a power purchase agreement with a local utility. We estimate that our minority interest in the project will be equivalent to 43 MW, taking into account our 12.75% ownership in the consortium. The project is currently expected to come on line in phases between 2011 and 2013, without taking into account any additional delays associated with either the negotiation of the power purchase agreement or the financing of the project.

## **Our Products Business**

We design, manufacture and sell products for electricity generation and provide the related services described below. Generally, we manufacture products only against customer orders and do not manufacture products for our own inventory.

*Power Units for Geothermal Power Plants.* We design, manufacture and sell power units for geothermal electricity generation, which we refer to as Ormat Energy Converters or OECs. Our customers include contractors and geothermal plant 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. That heat is generated as a residual by-product of gas turbine-driven compressor stations 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.

*Remote Power Units and Other Generators.* We design, manufacture and sell fossil fuel powered turbo-generators with a capacity ranging between 200 watts and 5,000 watts, which operate unattended in extreme climate conditions, whether hot or cold. Our customers include contractors installing gas pipelines in remote areas. In addition, we design, manufacture and sell generators for various other uses, including heavy duty direct-current generators.

*Engineering, Procurement and Construction (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 the same customers described above that we target for the sale of our power units for recovered energy-based power generation. Unlike many other companies that provide EPC services, we have an advantage in that we are using our own manufactured equipment and thus have better control over the timing and delivery of required equipment and its costs.

## **History**

We were formed by Ormat Industries Ltd. (also referred to in this annual report as the Parent , Ormat Industries , the parent company or our parent ) in 1994 in the State of Delaware for the purpose of investing and holding ownership interests in power projects, as well as constructing and operating power plants

## **Table of Contents**

owned by us and by third parties. Ormat Industries, which is based in Israel, is an international power systems company whose predecessor, Ormat Turbines Ltd., was founded in 1965 by Lucien and Dita Bronicki for the principal purpose of developing equipment for the production of a clean, renewable and generally sustainable form of energy. Ormat Industries sold to us its business relating to the manufacturing and sale of energy-related equipment and services. Following this sale, we now hold all of Ormat Industries' power generation products business. Ormat Industries owns approximately 56.1% of our outstanding common stock.

## **Industry Background**

### ***Geothermal Energy***

Most of our projects in operation produce electricity from geothermal energy. Geothermal energy is a clean and generally renewable energy source that, because it does not utilize combustion of fossil fuels in the production of electricity, releases significantly lower levels of emissions than those that result from energy generation based on the burning of fossil fuels.

*Hydrothermal geothermal-electricity generation* Hydrothermal geothermal energy is derived from naturally occurring hydrothermal reservoirs that are formed when water comes sufficiently close to hot rock to heat the water to temperatures of 300 degrees Fahrenheit or more. The heated water then ascends toward the surface of the earth where, if geological conditions are suitable for its commercial extraction, it can be extracted by drilling geothermal wells. The energy necessary to operate a geothermal power plant is typically obtained from several such wells which are drilled using established technology that is in some respects similar to that employed in the oil and gas industry. Geothermal production wells are normally located within approximately one to two miles of the power plant as geothermal fluids cannot be transported economically over longer distances due to heat and pressure loss. The geothermal reservoir is a renewable source of energy if natural ground water sources and reinjection of extracted geothermal fluids are adequate over the long-term to replenish the geothermal reservoir following the withdrawal of geothermal fluids and if the well field is properly operated. Geothermal energy projects typically have higher capital costs (primarily as a result of the costs attributable to well field development) but tend to have significantly lower variable operating costs, principally consisting of maintenance expenditures, than fossil fuel-fired power plants that require ongoing fuel expenses. In addition, because geothermal energy projects produce 24hr/day weather independent power, the variable operating costs are lower.

*Enhanced Geothermal Systems (EGS)* An Enhanced Geothermal Systems (or EGS) has been broadly defined as a subsurface system that may be artificially created to extract heat from hot rock where the characteristics required for a hydrothermal system, i.e., permeability and aquifers, are non-existent. A project that uses EGS techniques would recover the thermal energy from the subsurface rocks by creating or accessing a system of open fractures in the rock through which water can be injected, heated through contact with the hot rock, returned to the surface in production wells and transferred to a power unit. Ormat is currently working on two EGS research and development projects where it is testing the myriad of technologies that are required to create such subsurface systems.

*Co-produced Geothermal from Oil and Gas fields, geo-pressurized resources* Another source of geothermal energy is hot water produced from oil and gas production. This application is referred to as Co-produced Fluids. In some oil and gas fields, water is produced as a by-product of the oil and gas extraction. When the wells are deep the fluids are often at high temperatures and if the water volume is significant, the hot water can be used for power generation in equipment similar to a geothermal power plant.

### ***Geothermal Power Plant Technologies***

Geothermal power plants generally employ either binary systems or conventional flash systems, as described below. In our projects, we also employ our proprietary technology of combined geothermal cycle systems. See Our Technology .

**Table of Contents**

***Binary System***

In a plant using a binary system, geothermal fluid, either hot water (also called brine) or steam or both, is extracted from the underground reservoir and flows from the wellhead through a gathering system of insulated steel pipelines to a heat exchanger, which heats a secondary working fluid which has a low boiling point. This is typically an organic fluid, such as isopentane or isobutene, which is vaporized and is used to drive the turbine. The organic fluid is then condensed in a condenser which may be cooled by air or by water from a cooling tower. The condensed fluid is then recycled back to the heat exchanger, closing the cycle within the sealed system. The cooled geothermal fluid is then reinjected back into the reservoir. The binary technology is depicted in the graphic below.

***Flash Design System***

In a plant using flash design, geothermal fluid is extracted from the underground reservoir and flows from the wellhead through a gathering system of insulated steel pipelines to flash tanks and/or separators. There, the steam is separated from the brine and is sent to a demister in the plant, where any remaining water droplets are removed. This produces a stream of dry saturated steam, which drives a turbine generator to produce electricity. In some cases, the brine at the outlet of the separator is flashed a second time (dual flash), providing additional steam at lower pressure used in the low pressure section of the steam turbine to produce additional electricity. Steam exhausted from the steam turbine is condensed in a surface or direct contact condenser cooled by cold water from a cooling tower. The non-condensable gases (such as carbon dioxide) are removed through the removal system in order to optimize the performance of the steam turbines. The condensate is used to provide make-up water for the cooling tower. The hot brine remaining after separation

## **Table of Contents**

of steam is injected back into the geothermal resource through a series of injection wells. The flash technology is depicted in the graphic below.

In some instances, the wells directly produce dry steam (the flashing occurring under ground). In such cases, the steam is fed directly to the steam turbine and the rest of the system is similar to the flash power plant described above.

## **Market Opportunity**

The geothermal energy industry in the United States experienced significant growth in the 1970s and 1980s, followed by a period of consolidation of owners and operators of geothermal assets in the 1990s. The industry, once dominated by large oil companies and investor-owned electric utilities, now includes several independent power producers. During the 1990s, growth and development in the geothermal energy industry occurred primarily in foreign markets, and only minimal growth and development occurred in the United States. Since 2001, there has been renewed interest in geothermal energy in the United States as production costs for electricity generated from geothermal resources have become more competitive relative to fossil fuel-based electricity generation, due to the increasing cost of natural gas, and as legislative and regulatory incentives, such as state renewable portfolio standards, have become more prevalent.

Although electricity generation from geothermal resources is currently concentrated in California, Nevada, Hawaii, Idaho and Utah, there are opportunities for development in other states such as Alaska, Arizona, New Mexico and Oregon due to the availability of geothermal resources and, in some cases, a favorable regulatory environment in such states.

The Western Governors Association (WGA) estimates that 13,000 MW of identified resources will be developed by 2025. Of that amount, 5,600 MW is expected to be added by 2015, assuming geothermal generated electricity remains at competitive prices (taking into account production tax credits).

In January 2007, the Massachusetts Institute of Technology published a study that projects a potential of 100,000 MW of generating capacity from geothermal power plants if the development of enhanced geothermal systems is successful.

An additional factor fueling recent growth in the renewable energy industry is global concern about the environment. Power plants that use fossil fuels generate higher levels of air pollution and their emissions have been linked to acid rain and global warming. In response to an increasing demand for green energy, many countries have adopted legislation requiring, and providing incentives for, electric utilities to sell electricity generated from renewable energy sources. In the United States, Arizona, California, Colorado, Connecticut,



**Table of Contents**

Delaware, Hawaii, Illinois, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, New Hampshire, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Oregon, Ohio, Pennsylvania, Rhode Island, South Dakota, Texas, Utah, Virginia, Vermont, Washington, Wisconsin and the District of Columbia have all adopted renewable portfolio standards (RPS), renewable portfolio goals, or similar laws requiring or encouraging electric utilities in such states to generate or buy a certain percentage of their electricity from renewable energy sources or recovered heat sources. Florida, Indiana, Kentucky, Nebraska and Oklahoma have either proposed or are studying the adoption of RPS or similar laws. Twenty six states (including California, Nevada and Hawaii, where we have been the most active in our geothermal energy development and in which all of our U.S. geothermal projects are located) and the District of Columbia define geothermal resources as renewables. According to the U.S. Environmental Protection Agency (EPA), twelve states have enacted RPS and Alternative Portfolio Standards (APS) that include some form of combined heat and power and/or waste heat recovery. The twelve states are: Colorado, Connecticut, Hawaii, Massachusetts, Nevada, North Carolina, North Dakota, Ohio, Pennsylvania, South Dakota, Utah and Washington. We believe that these legislative measures and initiatives present a significant market opportunity for us. For example, California generally requires that each investor-owned electric utility company operating within the state increase the amount of renewable generation in its resource mix by at least 1% of its retail sales annually so that 20% of its retail sales are procured from eligible renewable energy sources by 2010. In November 2008, California, by executive order, adopted a goal for all retailers of electricity to serve 33% of their load with renewable energy by 2020. California's three large electric utilities collectively served 12.7% of their 2007 electricity retail sales with renewable power. Nevada's renewable portfolio standard requires each Nevada electric utility to obtain 9% of its annual energy requirements from renewable energy sources in 2007-2008, which requirement thereafter increases by 3% every two years until 2015, when 20% of such annual energy requirements must be provided from renewable energy sources or energy efficiency projects. As of December 2007, 9.4% of the electricity retail sales in Nevada were from renewable energy sources. Hawaii's renewable portfolio standard requires each Hawaiian electric utility to obtain 10% of its net electricity sales from renewable energy sources by December 31, 2010, 15% by December 31, 2015; and 20% by December 31, 2020. In 2007, Hawaiian Electric Company and its subsidiaries achieved a consolidated renewable portfolio standard of 15.9%.

Regional Initiatives are also being developed to reduce greenhouse gas emissions and develop trading systems for renewable energy credits. For example, ten Northeast and Mid-Atlantic states are part of the Regional Greenhouse Gas Initiative (RGGI), a regional cap-and-trade system to limit carbon dioxide. RGGI is the first mandatory, market-based carbon dioxide emissions reduction program in the United States. The first-in-the-nation auction of carbon dioxide allowances was held in September 2008. Under RGGI, the ten participating states plan to stabilize power sector carbon emissions at their capped level, and then reduce the cap by 10% at a rate of 2.5% each year between 2015 and 2018.

In addition to RGGI, other states have also established the Midwestern Regional Greenhouse Gas Reduction Accord and the Western Climate Initiative. Although individual and regional programs will take some time to develop, their requirements, particularly the creation of any market-based trading mechanism to achieve compliance with emissions caps, should be advantageous to in-state and in-region (and, in some cases, such as RGGI and the state of California, inter-regional) energy generating sources that have low carbon emissions such as geothermal energy. Although it is currently hard to quantify the direct economic benefit of these efforts to reduce greenhouse gas emissions, we believe they will prove advantageous to us.

The federal government also encourages production of electricity from geothermal resources through certain tax subsidies. Under the recently enacted American Recovery and Reinvestment Act (ARRA), we are permitted to claim 30% of the cost of the equipment of each new geothermal power plant in the United States when such plant is placed in service as an investment tax credit against our federal income taxes. Alternatively, we are permitted to claim a production tax credit, which in 2008 was 2.1 cents per kWh and which is adjusted annually for inflation. The production tax credit may be claimed for ten years on the electricity output from any new geothermal power plants put

into service prior to December 31, 2013. The owner of the project must choose between the production tax credit and the 30% investment tax credit described above. In either case, under current tax rules, any unused tax credit has a one-year carry back and a twenty-year carry forward.

## **Table of Contents**

Another alternative available in 2009 and 2010 is a grant in lieu of investment tax credit, for the amount of the investment tax credit. Whether we claim the production tax credit or the investment tax credit, we are also permitted to depreciate most of 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. If we claim the investment tax credit, our tax base in the plant that we can recover through depreciation must be reduced by half of the tax credit; if we claim a production tax credit, there is no reduction in the tax basis for depreciation.

Collectively, these tax benefits (to the extent fully utilized) have a present value equivalent to approximately 30% to 40% of the capital cost of a new project.

Production of electricity from geothermal resources is also supported under the new Temporary Program For Rapid Deployment of Renewable Energy and Electric Power Transmission Projects established with the U.S. Department of Energy as part of the Department of Energy's existing Innovative Technology Loan Guarantee Program. The new program: (i) extends the scope of the existing federal loan guarantee program to cover renewable energy projects, renewable energy component manufacturing facilities and electricity transmission projects that embody established commercial, as well as innovative, technologies; and (ii) provides an appropriation to cover the credit subsidy costs of such projects (meaning the estimated average costs to the federal government from issuing the loan guarantee, equivalent to a lending bank's loan loss reserve).

To be eligible for a guarantee under the new program, a supported project must break ground, and the guarantee must be issued, by September 30, 2011. A project supported by the federal guarantee under the new program must pay prevailing federal wages.

Based on the appropriation of \$6 billion dollars to pay the credit subsidy costs of guarantees issued under the new program, it is likely that between \$60 billion to \$120 billion of financing (assuming average subsidy requirements between 10% and 5%, respectively) will be available to eligible projects, including geothermal power plants.

On December 15, 2007, delegates from nearly 190 nations, including the U.S., announced in Bali the adoption of a plan that will be negotiated through 2009 and ultimately would succeed the Kyoto Protocol following 2012.

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 and have encouraged 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 countries have also adopted active governmental programs designed to encourage clean renewable energy power generation. Several Latin American countries have rural electrification programs and renewable energy programs. For example, Guatemala, where our Zunil and Amatitlan projects are located, approved in November 2003 a law which creates incentives for power generation from renewable energy sources by, among other things, providing economic and fiscal incentives such as exemptions from taxes on the importation of relevant equipment and various tax exemptions for companies implementing renewable energy projects. Another example is New Zealand, where Ormat has been actively designing and supplying geothermal power solutions since 1986 and where our GDL project is located. The New Zealand government's policies to fight climate change include the establishment of an emissions trading scheme to put a price on greenhouse gas with the goal of increasing renewable electricity generation to ninety per cent of New Zealand's total electricity generation by 2025.

We believe that these developments and governmental plans will create opportunities for us to acquire and develop geothermal power generation facilities internationally as well as create additional opportunities for our Products

Segment.

## **Table of Contents**

In addition to our geothermal power generation activities, we are pursuing recovered energy-based power generation opportunities in North America and the rest of the world. We believe recovered energy-based power generation will benefit from the increased attention to energy efficiency. For example, in the United States, the Federal Energy Regulatory Commission (FERC) has indicated its position that the primary goal of natural gas pipeline design should be the efficient, low-cost transportation of fuel, including the use of waste heat (recovered energy) from combustion turbines or reciprocating engines that drive station compressors to generate electricity for use at compressor stations or for commercial sale. FERC has requested natural gas pipeline operators filing for a certificate of approval for new pipeline construction or expansion projects to discuss opportunities to enhance efficiencies for any energy consumption processes in the development and operation of the new pipeline. We have initially targeted the North American market, where we have begun to build power plants, which generate electricity from waste heat from gas turbine-driven compressor stations along interstate natural gas pipelines, from midstream gas processing facilities, and from processing industries in general.

Further supporting recovered energy-based power generation, several states, as well as the federal government, have recognized the environmental benefits of recovered energy-based power generation. For example, Colorado, Connecticut, Hawaii, Massachusetts, Nevada, North Carolina, North Dakota, Ohio, Pennsylvania, South Dakota, Utah and Washington allow electric utilities to include recovered energy-based power generation in calculating their compliance with renewable portfolio standards. In addition, North Dakota, South Dakota and the U.S. Department of Agriculture (through the Rural Utilities Service) have approved recovered energy-based power generation units as renewable energy resources, which qualifies recovered energy-based power generators (whether in those two states or elsewhere in the United States) for federally funded, low interest loans. We believe that the European market has similar potential and we expect to leverage our early success in North America in order to expand into Europe and other markets worldwide. In North America alone, we estimate the potential total market for recovered energy-based power generation to be over 1,000 MW.

## **Competitive Strengths**

*Competitive Assets.* Our assets are competitive for the following reasons:

*Contracted Generation.* Virtually all of the electricity generated by our geothermal power plants is currently sold pursuant to long-term power purchase agreements, providing generally predictable cash flows.

*Baseload Generation.* All of our geothermal power plants supply all or a part of the baseload capacity of the electric system in their respective markets. This means they supply electric power on an around-the-clock basis. We have a competitive advantage over other renewable energy sources, such as wind power, solar power or hydro-electric power (to the extent dependent on precipitation), which compete with us to meet electric utilities' renewable portfolio requirements but which cannot serve baseload capacity because of their weather dependence and thus intermittent nature of these other renewable energy sources.

*Competitive Pricing.* Geothermal power plants, while site specific, are economically feasible to develop, construct, own and operate in many locations, and the electricity they generate is generally price competitive as compared to electricity generated from fossil fuels or other renewable sources under existing economic conditions and existing tax and regulatory regimes.

*Ability to Finance Our Activities from Internally Generated Cash Flow.* The cash flow generated by our portfolio of operating geothermal and REG power plants provides us with a robust and predictable base for our exploration, development and construction activities, to a certain level without the need to tap into external liquidity sources. We believe that this gives us a competitive advantage over certain competitors whose activities are dependent on external credit and financing sources, particularly in light of the current

global credit and financial crisis.

## **Table of Contents**

*Growing Legislative Demand for Environmentally-Friendly Renewable Resource Assets.* Most of our currently operating projects produce electricity from geothermal energy sources. Geothermal energy is a clean, renewable and generally sustainable energy source. 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. Such clean and sustainable characteristics of geothermal energy give us a competitive advantage over fossil fuel-based electricity generation as countries increasingly seek to balance environmental concerns with demands for reliable sources of electricity.

*High Efficiency from Vertical Integration.* Unlike our competitors in the geothermal industry, we are a fully-integrated geothermal equipment, services and power provider. We design, develop and manufacture most of the equipment we use in our geothermal power plants. Our intimate knowledge of the equipment that we use in our operations allows us to operate and maintain our projects efficiently and to respond to operational issues in a timely and cost-efficient manner. Moreover, given the efficient communications among our subsidiary that designs and manufactures the products we use in our operations and our subsidiaries that own and operate our projects, we are able to quickly and cost effectively identify and repair mechanical issues and to have technical assistance and replacement parts available to us as and when needed.

*Highly Experienced Management Team.* We have a highly qualified senior management team with extensive experience in the geothermal power sector. Key members of our senior management team have worked in the power industry for most of their careers and average over 25 years of industry experience.

*Technological Innovation.* We have been granted 75 U.S. patents relating to various processes and renewable resource technologies. All of our patents are internally developed and therefore costs related thereto are expensed as incurred. Our ability to draw upon internal resources from various disciplines related to the geothermal power sector, such as geological expertise relating to reservoir management, and equipment engineering relating to power units, allows us to be innovative in creating new technologies and technological solutions.

*No Exposure to Fuel Price Risk.* A geothermal power plant does not need to purchase fuel (such as coal, natural gas, or fuel oil) in order to generate electricity. Thus, once the geothermal reservoir has been identified and estimated to be sufficient for use in a geothermal power plant and the drilling of wells is complete, the plant is not exposed to fuel price or fuel delivery risk apart from the impact fuel prices may have on the price at which we sell power under power purchase agreements that are based on the relevant power purchaser's avoided cost.

## **Business Strategy**

Our strategy is to continue building a geographically balanced portfolio of geothermal and recovered energy assets, and to continue to be a leading manufacturer and provider of products and services related to renewable energy. We intend to implement this strategy through:

*Development and Construction of New Projects* continuously seeking out commercially exploitable geothermal resources, developing and constructing new geothermal and recovered energy-based power projects and entering into long-term power purchase agreements providing stable cash flows in jurisdictions where the regulatory, tax and business environments encourage or provide incentives for such development and which meet our investment criteria;

*Developing Recovered Energy Projects* establishing a first-to-market leadership position in recovered energy projects in North America and building on that experience to expand into other markets worldwide;

*Acquisition of New Assets* acquiring from third parties additional geothermal and other renewable assets that meet our investment criteria;



## **Table of Contents**

*Increasing Output from Our Existing Projects* increasing output from our existing geothermal power projects by adding additional generating capacity, upgrading plant technology, and improving geothermal reservoir operations, including improving methods of heat source supply and delivery; and

*Technological Expertise* investing in research and development of renewable energy technologies including in the solar energy field 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.

### **Operations of our Power Generation Segment**

*How We Own Our Power Plants.* We customarily establish a separate subsidiary to own interests in each power plant. Our purpose in establishing a separate subsidiary for each plant is to ensure that the 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 acquisition) of the relevant 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 our project. Our ability to transfer or sell our interest in certain projects may be restricted by certain purchase options or rights of first refusal in favor of our project partners or the project's power purchasers and/or certain change of control and assignment restrictions in the underlying project and financing documents. All of our domestic projects, with the exception of the Puna project, which is an Exempt Wholesale Generator (EWG), are Qualifying Facilities under the Public Utility Regulatory Policies Act of 1978 (PURPA) and are eligible for regulatory exemptions from most provisions of the Federal Power Act (FPA) and certain state laws and regulations.

*How We Obtain Development Sites and Geothermal Resources.* For domestic projects, we either lease or own the sites on which our power plants are located. In our foreign projects, our lease rights for the 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 other agreement granting us the exclusive right to extract geothermal resources from specified areas of land, with the owners (or sublessors) of such land. A geothermal resource lease (or sublease) or a concession or other agreement will usually give us the right to explore, develop, operate and maintain the geothermal field including, among other things, the right to drill wells (and if there are existing wells in the area, to alter them) and build pipelines for transmitting geothermal fluid. In certain cases, the holder of rights in the geothermal resource is a governmental entity and in other cases a private entity. Usually, the terms of the lease (or sublease) and concession agreement correspond to the terms of the relevant power purchase agreement. In certain other cases, we own the land where the geothermal resource is located, in which case there are few restrictions on its utilization. Leasehold interests in federal land in the United States are regulated by the Bureau of Land Management and the Minerals Management Service. These agencies have rules governing the geothermal leasing process. The rules include, among other things, a requirement that geothermal resources be offered through a competitive lease process; rules governing royalty and rental payments and lease terms and extensions; and production incentives for new facilities and qualified expansion facilities that are put into commercial operation by August 8, 2011.

*How We Explore and Evaluate Geothermal Resources.* Historically we have located and developed proven geothermal resources. In 2006, we expanded our activities to include the exploration and identification of geothermal resources. After entering into an appropriate lease we carry out several tests followed by exploratory drilling first to validate and then to quantify the size of the potential geothermal resource. Resource validation and exploratory drilling is a long process that requires substantial capital investment, as it may necessitate the drilling of shallow temperature-gradient wells, slim holes, exploration wells, and production-sized exploration wells. We do not expect to

succeed in developing every resource that undergoes exploration activity and will cease exploration activities on potential geothermal resources that will not support commercial operations.

**Table of Contents**

*How We Sell Electricity.* In the United States, the purchasers of power from our projects are typically investor-owned electric utility companies. Outside of the United States, the purchaser is typically a state-owned utility or a privately-owned entity and we typically operate our facilities pursuant to rights granted to us by a governmental agency pursuant to a concession agreement. In each case, we enter into long-term contracts (typically called power purchase agreements) for the sale of electricity or the conversion of geothermal resources into electricity. A project's revenues under a power purchase agreement usually consist of two payments: energy payments and capacity payments (although our recent power purchase agreements provide for energy payments only). Energy payments are normally based on a project's electrical output actually delivered to the purchaser measured in kilowatt hours, with payment rates either fixed or indexed to the power purchaser's avoided costs (i.e., the costs the power purchaser would have incurred itself had it produced the power it is purchasing from third parties, such as us). Capacity payments are normally calculated based on the generating capacity or the declared capacity of a project available for delivery to the purchaser, regardless of the amount of electrical output actually produced or delivered. In addition, most of our domestic projects located in California are eligible for capacity bonus payments under the respective power purchase agreements upon reaching certain levels of generation.

*How We Operate and Maintain Our Power Plants.* We usually employ one of our subsidiaries, (Ormat Nevada Inc., for our domestic projects) to act as operator of our power plants pursuant to the terms of an operation and maintenance agreement. 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 approach to plant management emphasizes the operational autonomy of our individual plant managers and staff to identify and resolve operations and maintenance issues at their respective projects; however, each project 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 project complex and provided by one operation and maintenance provider. This approach enables us to realize cost savings and enhances our ability to meet our project availability goals.

We currently own 505 MW of generating capacity (See Note (2) on page 9) for an explanation of how we determine the generating capacity of our projects). As a result of our vertical integration, our proprietary technology and our operational and maintenance expertise, we have been successful in increasing the capacity, efficiency and performance of most of our acquired facilities in California, Hawaii and Nevada, and were able to use the staff required to operate these facilities more efficiently. For example, we have been able to increase the output of the Ormesa project by approximately 10 MW following its acquisition in 2002. We have also increased the capacity of the Heber complex by 20 MW.

Safety is a key area of concern to us. We believe that the most efficient and profitable performance of our projects 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 at our projects.

*How We Finance Our Power Plants.* Historically we have funded our projects with a combination of non-recourse or limited recourse debt, lease financing, parent company loans (funds for which are derived from various liquidity sources available to us, as discussed in Item 7 Management's Discussion and Analysis of Financial Condition and Results of Operations under the heading Liquidity and Capital Resources ) and internally generated cash. Such leveraged financing permits the development of projects with a limited amount of equity contributions, but also increases the risk that a reduction in revenues could adversely affect a particular project's ability to meet its debt obligations. Leveraged financing also means that distributions of dividends or other distributions by plant subsidiaries to us are contingent on compliance with financial and other covenants contained in the financing documents.

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

**Table of Contents**

referred to as project financing. Project financing transactions generally are structured so that all revenues of a project are deposited directly with a bank or other financial institution acting as escrow or security deposit agent. These funds then are payable in a specified order of priority set forth in the financing documents to ensure that, to the extent available, they are used first to pay operating expenses, senior debt service (including lease payments) and taxes and to fund reserve accounts. Thereafter, subject to satisfying debt service coverage ratios and certain other conditions, available funds may be disbursed for management fees or dividends or, where there are subordinated lenders, to the payment of subordinated debt service.

In the event of a foreclosure after a default, our project affiliate owning the project would only retain an interest in the assets, if any, remaining after all debts and obligations have been paid in full. In addition, incurrence of debt by a project may reduce the liquidity of our equity interest in that project because the interest is typically subject both to a pledge in favor of the project's lenders securing the project'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 the project affiliate in the form of certain limited obligations and contingent liabilities. These obligations and contingent liabilities take the form of guarantees of certain specified obligations, indemnities, capital infusions and agreements to pay certain debt service deficiencies. To the extent we become liable under such guarantees and other agreements in respect of a particular project, distributions received by us from other projects and other sources of cash available to us may be required to be used to satisfy these obligations. To the extent of these limited recourse obligations, creditors of a project financing of a particular project may have direct recourse to us.

We have also used a financing structure to monetize production tax credits and other favorable tax benefits derived from the financed projects and an operating lease arrangement for one of our projects.

The chart below summarizes the financing arrangements, if any, we are currently using for our operating power plant projects. As used below, corporate funds includes internally generated funds, borrowings under corporate credit lines, proceeds from sales of securities and other sources of liquidity. Additional information about these financing arrangements is in Item 7 Management's Discussion and Analysis of Financial Condition and Results of Operations under the heading Liquidity and Capital Resources and the footnotes of our financial statements.

**Table of Contents**

<b>Name of Project</b>	<b>Financing</b>
Ormesa Complex	OFC Senior Secured Notes
Heber Complex	OrCal Senior Secured Notes
Steamboat Complex	OPC Tax Monetization (Steamboat Hills, Galena 2 and Galena 3), and OFC Senior Secured Notes (Steamboat 1A, Steamboat 2/3 and Burdette)
Mammoth Complex	OFC Senior Secured Notes
Brady Complex	OPC Tax Monetization (Desert Peak 2), and OFC Senior Secured Notes (Brady)
Puna Project	Operating Lease
OREG 1 Project	Corporate Funds
North Brawley	Corporate Funds
OREG 2 Projects	Corporate Funds
Momotombo Project	Project Finance
Olkaria III Project	Corporate Funds expected to be partially refinanced by Committed Senior Secured Project Finance Loan from group of European Development Finance Institutions.
Zunil Project	Senior Secured Project Loan from International Finance Corporation (IFC) Commonwealth Development Corporation (CDC)
Amatitlan Project	Corporate Funds
GDL Project	Corporate Funds

The current economic crisis could adversely affect our ability to obtain the kind of financing arrangements we have used in the past, and even if those arrangements are still available, the pricing and other terms of such arrangements may not be as favorable to us as in the past.

*How We Mitigate International Political Risk.* We generally purchase insurance policies to cover our exposure to certain political risks involved in operating in developing countries, as described below under the heading Insurance. To date, our political risk insurance contracts are with MIGA, a member of the World Bank Group, and Zurich Re, a private insurance and re-insurance company. Such insurance policies generally cover, subject to the limitations and restrictions contained therein, 80% to 90% of our revenue loss derived from a specified governmental act such as confiscation, expropriation, riots, the inability to convert local currency into hard currency, and, in certain cases, the breach of agreements. We have obtained such insurance for all of our foreign projects in operation with the exception of a portion of the Zunil project, for which we are currently negotiating insurance coverage.

**Recent Developments**

In January 2009, we signed a contract with Banco Centroamericano de Integración Económica (BCIE) for the supply, supervision of installation, start-up and testing of the Las Pailas Geothermal Plant, a new geothermal power plant that is to be constructed in the Las Pailas Field, Costa Rica. The plant will be utilized by Instituto Costarricense de Electricidad, the Costa Rican national electricity and telecommunications company. The contract is valued at approximately \$65.0 million and the supply portion of the contract is expected to be completed within 18 months from the contract start date.

In January 2009, our wholly owned subsidiary, OrPower 4 Inc., signed loan documents for project financing of up to \$105 million to refinance its investment in the 48 MW Olkaria III geothermal power plant located in Kenya. The loans are to be provided by a group of European Development Finance Institutions arranged by DEG Deutsche Investitions und Entwicklungsgesellschaft mbH (DEG).

**Table of Contents**

In January 2009, we declared commercial operation of Phase II of the Olkaria III power plant in Kenya, the construction of which was completed in December 2008. The new power plant added 35 MW to the existing 13 MW plant that has been in continuous operation since 2001.

During 2008, we secured geothermal rights for approximately 150,000 acres of land to explore geothermal resources in 12 sites that are located in Alaska, California, Hawaii, Nevada, Oregon and Utah.

In December 2008, we brought on line the first 5.5 MW unit of OREG 2 and in January 2009 we brought on-line the second 5.5 MW unit of OREG 2. Both units are located in North Dakota and sell the electric output to Basin Electric Power Cooperative.

In December 2008, the Executive Board of the United Nations Framework Convention on Climate Change (UNFCCC) officially registered Ormat's Amatitlan Geothermal Project in Guatemala as a Clean Development Mechanism (CDM). The CDM program was designed to provide businesses from developed countries with an economic incentive to help reduce carbon emissions and increase sustainable development in countries that do not have emission reduction targets. The project is expected to offset emissions of approximately 83,000 tons of CO<sub>2</sub> per year. With Amatitlan registered under the CDM, the project will be eligible to receive certified emission reduction credits, each equivalent to one ton of carbon dioxide, which can be traded or sold. The project has a long term contract to sell all of its emission reduction credits to a European buyer.

In December 2008, we exercised an option to acquire for a nominal amount the remaining 51% in the company that owns the GDL power plant located in Kawerau, New Zealand. The project, which was completed in the third quarter of 2008, sells its electrical output under a long term contract with Norske Skog Tasman Ltd., and we expect annual revenues from the project of approximately NZ \$4 million.

On October 29, 2008, Ormat Funding Corp. successfully consummated a consent solicitation, which was launched on October 16, 2008, relating to its Senior Secured Notes. The consent solicitation grants OFC approval: (i) to replace an aging power plant at the Mammoth project with a new larger plant, and/or to construct a new plant while maintaining the existing power plants at the Mammoth project; (ii) for a possible construction and installation of solar power generation equipment to enhance the Brady and Ormesa projects; and (iii) to enter into an equity transaction whereby OFC's parent, Ormat Nevada, will sell a portion of its equity interest in OFC to an institutional investor that is able to utilize certain income tax benefits.

In October 2008, together with the U.S. Department of Energy, we started the testing phase of a geothermal power project at a producing oil well. The project, which was conducted at the Oil Test Center near Caspar, Wyoming, uses OEC to provide power without the use of any sort of fuel.

In October 2008, we successfully completed the Steamboat 2/3 upgrade project. The upgrade included the replacement of the four Rotoflow turbines originally installed at these plants with direct drive gearless 11 MW axial turbines, each designed and manufactured by us specifically for geothermal use.

In the third quarter of 2008, we received from ENAGAS, S.A. of Madrid, Spain, a notice to proceed with the construction of one OEC unit for a REG plant specially designed to use the residual energy from the vaporization process at a liquefied natural gas regasification terminal located in Huelva, Spain.

On September 17, 2008, we filed a universal shelf registration statement on Form S-3, which was declared effective by the SEC on October 2, 2008. The shelf registration statement lets us issue various types of securities in registered offerings from time to time for a period of three years, in one or more offerings up to a

total dollar amount of \$1.5 billion.

In July 2008, the Public Utilities Commission of Nevada (PUCN) approved a Joint Ownership Agreement (JOA) with Nevada Power Company, a subsidiary of NV Energy, Inc. (formerly known as Sierra Pacific Resources), and an amendment to the existing power purchase agreement. The JOA was



**Table of Contents**

signed in March 2008 for the Carson Lake geothermal project located in Churchill County, Nevada, that is currently under development by us. We will develop the project on our own until the resource is sufficiently defined at a level that is capable of supporting at least 30 MW and Nevada Power Company has received regulatory approval to acquire its 50 percent ownership interest. Following Nevada Power Company's acquisition of its 50 percent interest, we will continue to develop the project on behalf of the owners. If the development results in a resource that cannot support at least 30 MW, Nevada Power Company is not obligated to close the acquisition and we may continue to develop the project by ourselves. Under the JOA each party will own a 50 percent undivided interest in the project as tenants-in-common. To acquire its project interest, Nevada Power Company will pay 50 percent of the costs expended through the closing date of the acquisition plus a fee. Drilling, construction, and operating and maintenance (O&M) costs going forward will be governed by the JOA and separate Drilling Services, EPC and O&M agreements. The results of the exploration drilling so far do not support a 30 MW project based on the deep geothermal resources. We are currently evaluating the shallow resource.

In July 2008, PT Perusahaan Listrik Negara, the state owned Indonesian power company, accepted the entry of Kyushu Electric to the Sarulla consortium. As a result, the consortium is currently comprised of a wholly owned subsidiary of ours, a subsidiary of Medco Energi Internasional Tbk, Itochu Corporation of Japan and Kyushu Electric. The entry of Kyushu Electric reduced our ownership interest in the consortium to 12.75%.

In June 2008, two of our subsidiaries entered into an Engineering, Procurement and Construction (EPC) contract with Contact Energy Ltd. of New Zealand for the construction of the Centennial Binary Plant, a new geothermal plant to be constructed in the Tauhara Geothermal field in New Zealand. The contract's value is approximately \$42.0 million and construction of the power plant is expected to be completed within 23 months from the contract date.

In June 2008, we entered into a supply contract with MEGE – Menderes Geothermal Elektrik Uretim, A.S. for the supply of equipment for a new geothermal power plant to be constructed in Turkey. The contract's value is approximately \$16.0 million and delivery is expected to be completed within 16 months from the contract date.

On May 14, 2008, we completed a sale of 3,100,000 shares of common stock to Lehman Brothers Inc. in a block trade at a price of \$48.36 per share (net of underwriting fees and commissions), under our shelf registration statement filed in early 2006. Net proceeds to us, after deducting underwriting fees and commissions and estimated offering expenses associated with the offering, were approximately \$149.7 million.

In April 2008, we entered into an EPC contract with Montana-Dakota Utilities Co. for a 5.3 MW REG power plant to be located on the Northern Border Pipeline compressor station in Morton County, North Dakota. Subject to regulatory approvals, the project is scheduled to be completed in the second half of 2009.

In April 2008, our wholly owned subsidiary, Ormat Nevada, concluded the second closing of a transaction to monetize production tax credits and other favorable tax attributes, such as accelerated depreciation, generated from certain of its geothermal power projects, associated with the Galena 3 geothermal project. We received \$63.0 million, net of transaction costs from the second closing. We will continue to operate and maintain the Galena 3 project.

In March 2008, we signed a new 20-year power purchase agreement with Great River Energy, a Minnesota Cooperative Corporation of Elk River, Minnesota, for the sale of electricity generated from a 5.3 MW Ormat REG facility to be constructed at a compressor station along the Northern Border natural gas pipeline. The

new facility will convert the recovered waste heat from the exhaust of an existing gas turbine into electricity. We have already secured the rights to the waste heat for the new facility. We expect the plant to be commissioned in late 2009 or early 2010.

## **Table of Contents**

In March 2008, we entered into an EPC contract with Nevada Geothermal Power (NGP) for the supply and construction of a 49.5 MW power plant, consisting of three Ormat Energy Converter units at NGP's Blue Mountain geothermal project in Nevada. The total EPC contract value is \$76 million and the project is scheduled to be completed in the fourth quarter of 2009.

In March 2008, we entered into an EPC contract with Nevada Power Company for a 6 MW REG power plant in the Goodsprings area which is scheduled to be completed in 2010.

In March 2008, the California Public Utilities Commission approved a new 20-year power purchase agreement that we entered into in June 2007 with Southern California Edison Company (Southern California Edison) for the sale of 50 MW of energy to be produced from the North Brawley project, which is located in Imperial County, California. The power purchase agreement includes an option to increase the capacity of the plant and the amount of energy to be sold up to 100 MW at our discretion.

In March 2008, the PUCN approved the agreement we reached in May 2007 with Sierra Pacific Power Company and Nevada Power Company (subsidiaries of NV Energy, Inc.), the purchasers of electricity generated by our existing and planned geothermal power projects in Nevada, regarding certain amendments to the power purchase agreements for a number of our existing geothermal projects in operation and some of our geothermal projects under development and construction. These amendments (i) provided for a mechanism to share production tax credits with the relevant purchaser pursuant to a reduction in the price for electricity paid by the power purchaser under the relevant power purchase agreement, bringing additional power purchase agreements in line with the production tax credit sharing arrangements included in other power purchase agreements with these purchasers in Nevada, (ii) revised certain generation thresholds based on a more definitive understanding of the geothermal resource at the respective projects, and (iii) addressed certain delays in meeting contract milestones as a result of ordinary course project construction delays.

In February 2008, we commenced commercial operation of the Galena 3 project at the Steamboat complex in Nevada.

## **Description of Our Projects**

In the year ended December 31, 2008, revenues from the sale of electricity by our domestic geothermal and recovered energy projects were \$206.8 million, constituting 82% of our total revenues from the sale of electricity, and revenues from the sale of electricity by our foreign geothermal projects were \$45.5 million, constituting 18% of our total revenues from the sale of electricity.

### **Domestic Projects**

Our projects in operation in the United States have a generating capacity of approximately 377 MW. Our current domestic projects are located in California, Nevada, Hawaii, North Dakota, and South Dakota. We also have geothermal projects under construction or enhancement in California, Nevada and Hawaii and recovered energy projects under construction in Montana, Minnesota and Colorado.

#### ***The Ormesa Complex***

The Ormesa complex is located in East Mesa, Imperial County, California. The Ormesa complex consists of six plants. The various plants commenced commercial operations between 1987 and 1989. The plants utilize binary and flash systems. The Ormesa complex had a generating capacity of 47 MW, which we successfully increased to 57 MW

in the first quarter of 2007. The Ormesa complex sells its electrical output to Southern California Edison Company (Southern California Edison) under an amended power purchase agreement, which consolidated the previous power purchase agreements dated June 13, 1984 and July 18, 1984, respectively. The amended power purchase agreement, which will expire in 2018, preserved the material terms of the previous agreements; however, the amended agreement provides for the supply of an additional 10MW of electrical output.

## **Table of Contents**

### ***The Heber Complex***

The Heber complex consists of the Heber 1 project, the Heber 2 project and the Heber South project.

*The Heber 1 Project.* The Heber 1 project is located in Heber, Imperial County, California. The Heber 1 project includes one power plant, which commenced commercial operations in 1985, and a geothermal resource field. The plant utilizes a dual flash system and had a generating capacity of approximately 38 MW. An Ormat Integrated Two Level Unit (ITLU) that was added in 2006 (which we formerly referred to as the Gould project) increased the generating capacity to 46 MW. The Heber 1 project sells its electrical output to Southern California Edison under a long-term power purchase agreement, which will expire in 2015. In certain circumstances, Southern California Edison and its affiliated entities have a right of first refusal to acquire the power plant. Upon satisfaction of certain conditions specified in the power purchase agreement and subject to receipt of requisite approvals and negotiations between the parties, our project subsidiary will have the right to demand that Southern California Edison purchase the power plant.

*The Heber 2 Project.* The Heber 2 project is also located in Heber, Imperial County, California. The Heber 2 project includes one power plant which commenced commercial operations in 1993. The plant utilizes a binary system and had a generating capacity of approximately 34 MW. A bottoming-cycle OEC that was added in 2006 (which we formerly referred to as the Gould project) increased the generating capacity to 36 MW. The Heber 2 project sells its electrical output to Southern California Edison under a long-term power purchase agreement, which will expire in 2023.

*The Heber South Project.* The Heber South project is located in Heber, Imperial County, California. The project commenced commercial operation in April 2008. The plant utilizes a binary system and has a generating capacity of 10 MW. The project sells its electrical output under a long-term power purchase agreement with Southern California Public Power Authority. The project is currently performing at a level that is lower than its generation capacity and we plan to drill an additional well in 2009 to bring the generating capacity to the design capacity.

### ***The Steamboat Complex***

The Steamboat complex, located in Washoe County, Nevada, consists of the Steamboat 1A project, the Steamboat 2/3 project, the Burdette project, the Steamboat Hills project, the Galena 2 project and the Galena 3 project.

The complex is comprised of 7 power plants with a combined generating capacity of 84 MW. The Steamboat 1A, Steamboat 2/3, Burdette, Steamboat Hills, and Galena 3 projects sell their electrical output to Sierra Pacific Power Company under separate long-term power purchase agreements, which expire in 2018, 2022, 2026, 2018 and 2028, respectively. The Galena 2 project sells its electrical output to Nevada Power Company under a long-term power purchase agreement which expires in 2027. Except for Steamboat Hills, which utilizes a single flash system, all of the projects in the Steamboat complex utilize a binary system.

The Steamboat Hills, Galena 2 and Galena 3 projects were refinanced with the proceeds from the OPC Tax Monetization transaction. See Item 7 Management's Discussion and Analysis of Financial Condition and Results of Operations for a further description of the OPC Tax Monetization transaction.

We have experienced protracted failures of two of the Steamboat 2/3 project's turbines, which were not manufactured by us. We replaced the four turbines of this project during 2008 and successfully upgraded the project and brought the project back to its original capacity. As a consequence of the failure, Sierra Pacific Power Company raised certain contractual issues that we are addressing with them. We do not expect that these issues will have a material effect on our business or results of operation.

*The Mammoth Complex*

The Mammoth complex is located in Mammoth Lakes, California. The Mammoth complex is comprised of three plants, which commenced commercial operations between 1985 and 1990. The Mammoth complex utilizes a binary system and has a generating capacity of 29 MW, including 4 MW that we added during the

## **Table of Contents**

course of 2006. Our project subsidiary, OrMammoth, Inc., owns a 50% partnership interest in Mammoth-Pacific, L.P., which owns 100% of the Mammoth complex. The other 50% partnership interest is owned by an unrelated third party. The Mammoth complex sells its electrical output to Southern California Edison under three separate power purchase agreements, one of which expires in 2014 and the other two in 2020.

### ***The Brady Complex***

The Brady complex, located in Churchill County, Nevada, consists of the Brady project and the Desert Peak 2 project.

*The Brady Project.* The Brady project utilizes flash and binary systems. It originally had a generating capacity of approximately 19 MW. Following the shutdown of the Desert Peak 1 plant and as a result of cooling that we have experienced in the geothermal reservoir, the Brady project has a generating capacity of 11 MW, and sells its electrical output to Sierra Pacific Power Company under a long-term power purchase agreement that will expire in 2022. We are examining several alternatives to increase the Brady project's generating capacity; however, there is no assurance that we will be successful.

*The Desert Peak 2 Project.* The Desert Peak 2 project includes a water cooled unit and an air cooled unit, utilizing our OEC units. The Desert Peak 2 project has a generating capacity of 11 MW. The project commenced commercial operation in the first quarter of 2007. The Desert Peak 2 project sells its electrical output to Nevada Power Company under a power purchase agreement that has a 20-year term ending on December 31, 2027.

### ***The Puna Project***

The Puna project is located in the Puna district, Big Island, Hawaii. The Puna plant commenced commercial operations in 1993. The Puna plant utilizes an Ormat geothermal combined cycle system, and has a generating capacity of 30 MW. The Ormat geothermal combined cycle system consists of a back pressure steam turbine, in which the lower pressure steam exhausted from the turbine is condensed in a binary system. This system assures a higher efficiency of geothermal steam, with a resulting lower steam rate, in resources producing steam above 150psi (10 bar), or even 100psi if the steam has a high non-condensable gas content. The Puna project sells its electrical output to Hawaii Electric Light Company under two power purchase agreements, which expire in 2027. Although the Puna project has significant geothermal resources, because of existing geological conditions, these resources are difficult to manage. In the past, the Puna project required extensive levels of investment mainly to address problems with the production and injection wells related to the geothermal resources.

### ***The OREG 1 Project***

The OREG 1 project is a REG project that consists of four power plants constructed on gas compressor stations along a natural gas pipeline in North and South Dakota. The project came on line during the third quarter of 2006 and has a generating capacity of 22 MW. Our project subsidiary has entered into a 25-year power purchase agreement with Basin Electric Power Cooperative (Basin Electric) pursuant to which the project sells the electrical output to Basin Electric.

### ***The North Brawley Project***

The North Brawley project is located in the Brawley KGRA in Imperial County, California. The project utilizes a binary system and has a generating capacity of 50 MW. The binary system consists of five identical OEC units, which utilize water cooled condensers. The project will sell its electrical output to Southern California Edison under a 20-year power purchase agreement.

Construction of the project was substantially completed in December 2008. During the start-up testing we have encountered larger quantities of sand in the geothermal reservoir than initially expected, which required modification of the power plant. As a result, commercial operation of the power plant and sale of power in



## **Table of Contents**

commercial quantities is currently expected in the second quarter of 2009. Until then the plant is expected to run at partial load.

### ***The OREG 2 Projects***

We have entered into four power purchase agreements with Basin Electric Power Cooperative (Basin Electric) regarding four new REG power plants, with a total generating capacity of 22 MW, along the Northern Border Pipeline. Under these agreements, we will sell electricity that will be produced by four new Ormat REG facilities that will have a net capacity of 5.5 MW each. These facilities will convert the recovered waste heat from the exhaust of existing gas turbines at compressor sites located on the Northern Border natural gas pipeline into clean energy. We brought on line two of the four units and the project is currently generating a total of approximately 11 MW. The remaining two units are expected to be commissioned by the end of 2009. We have secured the rights to the waste heat for all four new facilities.

### **Foreign Projects**

Our projects in operation outside of the United States have a generating capacity of approximately 128 MW.

#### ***The Momotombo Project (Nicaragua)***

The Momotombo project is located in Momotombo, Nicaragua. The Momotombo project is comprised of one plant and a geothermal field. The plant was already in existence when we signed the concession agreement for the project in March 1999, and had commenced commercial operations in the mid-1980s utilizing a dual flash system. The concession expires in 2014. During 2006 we increased the output of the Momotombo project by 3 MW through a work-over of the project's existing wells, bringing the generating capacity to approximately 30 MW. During 2008, the project experienced a decline in the geothermal reservoir and as a result, its generating capacity was reduced by 2 MW to 28 MW. The Momotombo project has a power purchase agreement with Empresa Distribuidora de Electricidad del Norte (DISNORTE) and Empresa Distribuidora de Electricidad del Sur (DISSUR), two corporations which own the power distribution rights in Nicaragua. Our project subsidiary, which operates the Momotombo project, has an outstanding loan from Bank Hapoalim B.M.

#### ***The Olkaria III Project (Kenya)***

The Olkaria III project is located in Naivasha, Kenya. The 48 MW Olkaria III project is comprised of binary OEC units and a geothermal field. Phase I commenced commercial operation in August 2000 with three units with a generating capacity of 13 MW. Phase II added three units with a generating capacity of 35 MW and commenced commercial operation in January 2009. The Olkaria III project has a power purchase agreement with the Kenya Power and Lighting Co. Ltd. (KPLC), the Kenyan parastatal electricity transmission and distribution company, which will expire in 2029. Our project subsidiary leases the site on which the geothermal resources and the plant facilities are located from the Kenyan government, pursuant to an agreement which will expire in 2040. The Kenyan government granted our project subsidiary a license giving it exclusive rights of use and possession of the relevant geothermal resources for an initial period of 30 years, expiring in 2029, which initial period may be extended by us for two additional five-year terms. The Kenyan Minister of Energy has the right to terminate or revoke the license in the event our project subsidiary ceases work in or under the license area during a period of six months, or has failed to comply with the terms of the license or the provisions of the law relating to geothermal resources. Our project subsidiary is obligated to pay the Kenyan government monthly royalties based on the amount of power supplied to KPLC.

#### ***The Zunil Project (Guatemala)***

The Zunil project is located in Zunil, Guatemala. The Zunil project is comprised of one plant which commenced commercial operations in 1999. The plant utilizes a binary system consisting of Ormat Energy Converters and has a generating capacity of 24 MW. The project is owned by Orzunil I de Electricidad,

## **Table of Contents**

Limitada, which owns 100% of the Zunil project. Another of our subsidiaries provides operation and maintenance services to the project. The Zunil project sells its generating capacity to Instituto Nacional de Electrificación pursuant to a power supply agreement, which expires in 2019.

### ***The Amatitlan Project (Guatemala)***

Our project subsidiary has completed the construction and owns a geothermal power plant in Amatitlan, Guatemala on a build, own and operate or BOO basis. The project is comprised of one power plant, with a generating capacity of 20 MW, and rights to various geothermal production and reinjection wells. The Amatitlan plant uses our Ormat Energy Converters. During 2007, we commenced commercial operation of the project, which currently generates approximately 17 MW. We are in the process of drilling additional wells to bring the project up to its 20 MW generating capacity and to explore the potential of the resource for future expansion.

The term of the power purchase agreement expires in 2028. At any time prior to the third quarter of 2009, subject to the results of a reservoir and economic evaluation, our project subsidiary may continue further developments to increase the power generating capacity of the Amatitlan Geothermal Field by up to 30 MW through the drilling of additional wells. We currently sell approximately 10 MW to Instituto Nacional de Electrificación according to the rate under the power purchase agreement and approximately 4 MW to a local purchaser at the same rate. The remaining 3 MW is sold on the spot market at prevailing market rates.

### ***The GDL project (New Zealand)***

The GDL project is located in Kawerau, New Zealand. The project utilizes a binary system and has a generating capacity of 8 MW. The binary system consists of one OEC and one production well. The project sells the electricity produced to Norske Skog Tasman Ltd. under a seven-year power purchase agreement. During 2009, we plan to drill another well as a backup to ensure the sufficient availability of the resource.

The former shareholder of GDL has a call option to purchase from us our shares in GDL. The option is exercisable annually within a period of 91 days, commencing the date of project completion under the agreement (September 15, 2008) and on the anniversary of that date in each subsequent year. The option price is set in the agreement for each annual exercise period, and the agreement requires that prior to the exercise of the option, the option holder will repay any obligation of GDL to us. We and the former shareholder (following the exercise of the option), may not transfer or sell the shares of GDL to a third party without a written consent of the other party, which may exercise a right of first refusal for any such sale.

## **Projects under Construction**

We are in varying stages of construction or enhancement of projects, both domestic and foreign. Based on our current construction schedule, we expect to add new generating capacity of between 82 MW and 94 MW by the end of 2010. The following is a description of the projects currently undergoing construction:

### ***The Puna Project (U.S.)***

We are currently pursuing enhancement activity in the Puna project. We plan to add 8 MW through the construction of OEC units in 2009. We are in discussions with Hawaii Electric Light Company for the sale of additional electrical power from the Puna project.

### ***The Peetz Project (U.S.)***

We are in final completion of the Peetz REG plant, which is expected to have a generating capacity of 4 MW. Our project subsidiary has entered into a 20-year power purchase agreement with Highline Electric Association, a consumer-owned cooperative serving load in Colorado and Nebraska, pursuant to which the project will sell its electrical output to Highline Electric Association. The power plant is being constructed on a gas compressor station along a natural gas pipeline near Denver, Colorado. The facility will convert the

## **Table of Contents**

recovered waste heat from the exhaust of existing gas turbines into clean energy, and is expected to be commissioned in the first quarter of 2009.

### ***The East Brawley Project (U.S.)***

We plan to construct a 30 MW power plant in the Brawley known geothermal resource area in Imperial County, California, adjacent to the North Brawley project, and have begun manufacturing equipment and exploration drilling. Completion of the project was initially projected for the end of 2009. We are still awaiting the required construction permits and therefore the project's completion will be delayed until 2010.

### ***The GRE project (U.S.)***

We are developing the 5.5 MW recovered energy generation GRE project, which will be located along the Northern Boarder pipeline in Martin County, Minnesota. We recently signed a 20-year power purchase agreement with Great River Energy. We expect this facility to be commissioned in late 2009 or early 2010.

### ***The Jersey Valley Project (U.S.)***

We are currently developing the Jersey Valley project on Bureau of Land Management leases located in Nevada. The project will deliver between 18 MW to 30 MW of power generation under a 20-year power purchase agreement with Nevada Power Company.

## **Projects under Development and Future Projects**

We also have projects under development in the United States and Indonesia. 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. The following is a description of the projects currently under various stages of development that are expected to come on-line beyond 2010:

### ***The Carson Lake Project (U.S.)***

We are currently developing the Carson Lake project, located in Churchill County, Nevada. If completed, the project is expected to deliver between 18 MW to 30 MW of power generation under a 20-year power purchase agreement with Nevada Power Company. We have obtained some of the leases through an agreement with the U.S. Department of the Navy and the remaining leases (on federal land) through an agreement with the Bureau of Land Management.

We recently completed the drilling of two wells to reach the deep resource. The results of the drilling showed high temperature but no brine was found. We are now evaluating the feasibility of utilizing the shallow reservoir.

As described in *Recent Developments*, in March 2008, we signed a JOA with Nevada Power Company (a subsidiary of NV Energy, Inc.) for this project. Under the agreement, Nevada Power Company has the right to acquire a 50% ownership interest in the Carson Lake project if the development results indicate that the reservoir will support at least a 30 MW project. The recent exploration results show that the deep geothermal reservoir cannot support a 30 MW project, as noted above.

### ***The Imperial Valley Project (U.S.)***

We are conducting exploration activities as part of the development of the Imperial Valley project on private leases located in Imperial County, California. If completed, the project is expected to deliver 50 MW of power generation

under a 20-year power purchase agreement with Southern California Edison. We are in the process of obtaining drill permits to continue the exploration activity in this project.

## **Table of Contents**

### ***Mammoth Phase II (U.S.)***

We are currently developing Phase II of the Mammoth project located in Mammoth Lakes, California. If completed, Phase II of the project is expected to deliver between 20 MW to 30 MW of power generation under a long term contract that we are negotiating with Southern California Edison Company. We have a 50% ownership interest in the project and the other 50% is owned by an unrelated third party.

### ***The McGinness Hills Project (U.S.)***

We are currently developing and conducting exploration activity on the McGinness Hills project on Bureau of Land Management leases located in Nevada. If completed, we expect the project to deliver approximately 30 MW of power generation.

### ***The Sarulla Project (Indonesia)***

We are a member of a consortium which is in the process of developing a geothermal power project in Indonesia of approximately 340 MW. We own 12.75% of the Indonesian special purpose company that will operate the project.

The project, located in Tapanuli Utara, North Sumatra, represents the largest single-contract geothermal power project to date, and reflects the large scale, high productivity and potential of Indonesian geothermal resources. The project will be owned and operated by the consortium members under the framework of the Joint Operating Contract with PT Pertamina Geothermal Energy PGE, and is to be constructed in three phases over five years, with each phase utilizing Ormat designed and supplied power generation units of 110 to 120 MW. The consortium is currently negotiating certain amendments to the power purchase agreement, including an adjustment of commercial terms, and intends to proceed with the project after those amendments have become effective.

## **Exploration Activity**

In addition to the geothermal projects under construction, advanced exploration and development, we have various leases for geothermal resources, in which we have started exploration activity. These geothermal resources include the following:

Gabbs Valley Nevada

Dead Horse Nevada;

Smith Creek Nevada;

Glass Mountain Oregon; and

Drum Mountain Utah.

As described under *How We Explore and Evaluate Geothermal Resources* section on page 20, we carry out exploration activity first to validate and then to quantify the size of the potential geothermal resources. The foregoing development inventories are in various stages of evaluation, permitting and/or cancelation for lack of viable geothermal resources. The North Brawley project is our first project that has advanced from exploration activities to project construction phase. We began our exploration activity in 2006 and have increased these efforts in 2007 and 2008. In 2009, we plan to carry out parallel exploratory drilling, which we believe will enable us to increase the rate of evaluation and development of new commercially viable projects. We do not expect, however, that our exploration

activities will lead to a commercially viable project in each case and some of the geothermal leases that we explore have been, and will be, abandoned.

### **Development Inventory**

In addition to the geothermal projects under construction, development or exploration, we have various geothermal leases for future development in the United States and other development rights outside of the United States. These geothermal leases and rights cover approximately 220,000 acres, approximately



## **Table of Contents**

120,000 acres of which were secured during 2008. The geothermal leases in the United States are located in California, Nevada, Hawaii, Oregon, Idaho and Utah. Outside the United States we have leases in Guatemala.

### **Operations of our Products Segment**

*Power Units for Geothermal Power Plants.* We design, manufacture and sell power units for geothermal electricity generation, which we refer to as Ormat Energy Converters or OECs. Our customers include contractors and geothermal plant owners and operators.

The consideration for the power units is usually paid in installments, in accordance with milestones set in the supply agreement. Sometimes we agree to provide the purchaser with spare parts (or alternatively, with a non-exclusive license to manufacture such parts). We provide the purchaser with at least a 12-month warranty for such products. We usually also provide the purchaser (often, upon receipt of advances made by the purchaser) with a guarantee, which expires in part upon delivery of the equipment to the site and fully expires at the termination of the warranty period. The guarantees are at times covered by letters of credit. We have not received any claims under the performance guarantees to date.

*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. That heat is generated as a residual by-product of gas turbine-driven compressor stations 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. We view recovered energy generation as a significant market opportunity for us, and plan to utilize two different business models in connection with such business opportunity.

The first business model, which is similar to the model utilized in our geothermal power generation business, consists of the development, construction, ownership and operation of recovered energy-based generation power plants. In this case, we will enter into agreements to purchase industrial waste heat, and enter into long-term power purchase agreements with off-takers to sell the electricity generated by the recovered energy generation unit that utilizes such industrial waste heat. The power purchasers in such cases generally are investor-owned electric utilities or local electrical cooperatives, such as our power purchase agreement with Great River Energy for power from our REG facility on the Northern Border natural gas pipeline. Pursuant to the second business model, we construct and sell the power units for recovered energy-based power generation to third parties for use in inside-the-fence installations or otherwise. Our customers include gas processing plant owners and operators, cement plant owners and operators and companies in the process industry. The Neptune recovered energy project is an example of such a model. There, we installed one of our recovered energy-based generation units at Enterprise Product's Neptune gas processing plant in Louisiana. The unit utilizes exhaust gas from two gas turbines at the plant and is providing electrical power that is consumed internally by the facility (although a portion of the generated electricity is also sold to the local electric utility). Our recovered energy generation units, if structured properly, may be eligible for favorable tax treatment, such as the seven-year modified accelerated cost recovery under relevant U.S. federal tax rules.

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

*Engineering, Procurement and Construction (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 the same customers described above that we target for the sale of our power units for recovered energy-based power

**Table of Contents**

generation. Unlike many other companies that provide EPC services, we have an advantage in that we are using our own manufactured equipment and thus have better control over the timing and delivery of required equipment and its costs. The consideration for such services is usually paid in installments, in accordance with milestones set in the EPC contract and related documents. We usually provide performance guarantees or letters of credit securing our obligations under the contract. Upon delivery of the plant to its owner, such guarantees are replaced with a warranty guarantee, usually for a period ranging from 12 months to 36 months. The EPC contract usually places a cap on our liabilities for failure to meet our obligations thereunder. We also design and construct the recovered energy generation units on a turnkey basis, and may provide a long-term agreement to supply non-routine maintenance for such units. Our customers are interstate natural gas pipeline owners and operators, gas processing plant owners and operators, cement plant owners and operators, and companies engaged in the process industry.

In connection with the sale of our power units for geothermal power plants, power units for recovered energy-based power generation and remote power units and other generators, we, from time to time, enter into sales agreements 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, ASME, and TÜV, and we are an approved supplier to many electric utilities around the world.

**Backlog**

We have a products backlog of \$194.0 million as of February 24, 2009, which includes revenues for the period between January 1, 2009 and February 24, 2009, compared to \$64.2 million as of February 26, 2008. The following is a breakdown of the Products Segment backlog:

	Expected Completion of the Contract	Sales Expected to be Recognized in 2009 (in millions)	Sales Expected to be Recognized in the Years following 2009 (in millions)	Expected Sales until the End of the Contract (in millions)
Geothermal	2009 2010	\$99.5	\$55.3	\$154.8
Recovered Energy	2009 2010	13.7	15.6	29.3
Remote Power Units	2009	3.0		3.0
Other	2009 2010	3.9	3.0	6.9
<b>Total Products Backlog</b>		<b>\$120.1</b>	<b>\$73.9</b>	<b>\$194.0</b>

We expect that our revenues from electricity for the 2009 fiscal year will be between \$280 million and \$290 million from our wholly owned projects and approximately \$9 million from our subsidiary accounted for by the equity method.

**Our Technology**

Our proprietary technology covers power plants operating according to the Organic Rankine Cycle only or in combination with the Steam Rankine Cycle and Brayton Cycle, as well as integration of power plants with energy sources such as geothermal, recovered energy, biomass, solar energy and fossil fuels. Specifically, our technology involves original designs of turbines, pumps, and heat exchangers, as well as formulation of organic motive fluids. All of our motive fluids are non-ozone-depleting substances. Using advanced computerized fluid dynamics and other computer aided design, or CAD, 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. In particular, we are examining ways to increase the output of our plants by utilizing evaporative cooling, cold reinjection, performance simulation programs, and topping turbines. In the geothermal as well as the recovered energy (waste heat) areas, we are examining two-level recovered energy systems and new motive fluids.

**Table of Contents**

We also construct combined cycle geothermal 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.

In the conversion of geothermal energy into electricity, our technology has a number of advantages compared with conventional geothermal steam turbine plants. A conventional geothermal steam turbine plant consumes significant quantities of water, causing depletion of the aquifer, and also requires cooling water treatment with chemicals and thus a need for the disposition 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 tower during cold weather. By contrast, our binary and combined cycle geothermal power plants have a low profile with minimum 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 easy maintenance, low RPM, temperature and pressure in the Ormat Energy Converter, a high efficiency turbine and the fact that there is no contact between the turbine itself and often corrosive geothermal fluids.

We use the same elements of our technology in our recovered energy products. The heat source could be exhaust gases from a simple cycle gas turbine, low pressure steam or, medium temperature liquid found in the process industry. In most cases, we attach an additional heat exchanger in which we circulate thermal oil to transfer the heat into the Ormat Energy Converter'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 the Ormat Energy Converter used in our geothermal power plants. The same advantages of using the Organic Rankine Cycle apply here as well. In addition, our technology allows for better load following than a

**Table of Contents**

conventional steam turbine can exhibit, requires no water treatment as it is air cooled, and does not require the continuous presence of a steam licensed operator on site.

More than 75 United States patents (and about 14 pending patents) cover our products (mainly power units based on the Organic Rankine Cycle) and systems (mainly geothermal power plants and industrial waste heat recovery for electricity production). The systems-related patents cover not only a particular component but also the overall effectiveness of the plant's systems from the fuel (i.e. geothermal fluid, waste heat, biomass or solar) to generated electricity. The duration of such patents ranges from one year to 14 years. No single patent on its own is material to our business.

The products-related patents cover components such as turbines, heat exchanges, seals and controls. The system patents cover subjects such as disposal of non-condensable gases present in geothermal fluids, power plants for very high pressure geothermal resources and use of two-phase fluids. A number of patents cover the 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.

We are also involved in developing new technology (Enhanced Geothermal Systems or EGS) to extract heat from the earth by circulating fluid through an enhanced or man-made reservoir created in naturally low permeable rocks as well as from co-produced hot water from oil and gas fields. We are undertaking this development in cooperation with GeothermEx Inc., the University of Utah, Energy & Geoscience Institute, the University of Nevada-Reno and the Great Basin Center for Geothermal Energy, with funding support from the

**Table of Contents**

United States Department of Energy. The projects are being developed at our Desert Peak 2 and the Brady plants in Nevada.

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

In our Products Segment, we face competition from power plant equipment manufacturers and suppliers.

***Electricity Segment***

Our main competitors among geothermal power plant owners and developers in the United States are CalEnergy, Calpine, Terra-Gen Power LLC, ENEL SpA and other smaller-sized developers such as U.S. Geothermal Inc., Nevada Geothermal Power Corp., Raser Technologies Inc., and Vulcan Power. Some of these companies are also active outside of the United States. Other competitors outside of the United States, aside from these companies, include affiliates of Chevron Corporation. We may also face competition from national electric utilities or state-owned oil companies.

Our competitors among renewable energy providers include companies engaged in the power generation business from renewable energy sources other than geothermal energy, such as wind power, biomass, solar power and hydro-electric power. In the last few years, competition from the wind and solar power generation industries has increased significantly. However, current demand for renewable energy is large enough that this increased competition has not materially impacted our ability to obtain new power purchase agreements. We cannot ascertain at this time whether the competition from wind and solar energy will have an impact on electricity prices for new renewable projects.

In the recovered energy generation business, our competitors are Siemens AG of Germany, as well as other manufacturers of conventional steam turbines; although we believe that our recovered energy generation system has technological and economical advantages over the Siemens/Kalina technology and, under certain conditions, conventional steam technology.

**Table of Contents**

***Products Segment***

Our main competitors among power plant equipment suppliers are Mitsubishi, Fuji and Toshiba of Japan, GE/Nuovo Pignone, Ansaldo Energia and Turboden s.r.l. of Italy, Siemens AG of Germany, Alstom S.A. of France, OAO Kaluga Energo of Russia and United Technology Company for small units.

In the recovered energy generation business, our competitors are Siemens AG of Germany, as well as other manufacturers of conventional steam turbines as described above for our Electricity Segment.

In the remote power unit business, we face competition from Global Thermoelectric, as well as from manufacturers of diesel generator sets.

None of our competitors competes with us both in the sale of electricity and in the products business.

**Customers**

Most of our revenues from the sale of electricity in the year ended December 31, 2008 were derived from fully-contracted energy and/or capacity payments under long-term power purchase agreements with governmental and private utility companies. Southern California Edison, Hawaii Electric Light Company, Sierra Pacific Power Company and Nevada Power Company, and Southern California Power Public Authority accounted for 27.6%, 16.7%, 12.6% and 1.3% of revenues, respectively, for the year ended December 31, 2008. Based on publicly available information, as of December 31, 2008, the issuer ratings of Southern California Edison, Hawaii Electric Light Company, Sierra Pacific Power Company, Nevada Power Company and Southern California Power Public Authority were as set forth below:

<b>Issuer</b>	<b>Standard &amp; Poor's Ratings Services</b>	<b>Moody's Investors Service Inc.</b>
Southern California Edison	BBB+ (stable outlook)	A3 (stable outlook)
Hawaii Electric Light Company	BBB (stable outlook)	Baa1 (stable outlook)
Sierra Pacific Power Company	BB (stable outlook)	Ba3 (stable outlook)
Nevada Power Company	BB (stable outlook)	Ba3 (stable outlook)
Southern California Power Public Authority	A+ (stable outlook)	A1 (stable outlook)

The credit ratings of any power purchaser may decrease from time to time. There is no publicly available information with respect to the credit rating or stability of the power purchasers under the power purchase agreements for our foreign power projects.

Our revenues from the products business were derived from contractors or owners or operators of power plants, process companies and pipelines.

**Raw Materials, Suppliers and Subcontractors**

In connection with our manufacturing activities, we use raw materials such as steel and aluminum. We do not rely on any one supplier for the raw materials used in our manufacturing activities, as all of such raw materials are readily available from various suppliers.



Since 2005 we have increased the volume of work ordered from subcontractors for some of the manufacturing for our products components and for construction activities of our power plants, which allowed us to expand our construction and development capacity on an as-needed basis. We are not dependent on any one subcontractor and expect to be able to replace any subcontractor, or assume such manufacturing and construction activities of our projects ourselves without adverse effect to our operations.

**Employees**

As of December 31, 2008, we employed 1,069 employees, of which 454 were located in the United States, 467 were located in Israel and 148 were located in other countries. We expect that future growth in the number of our employees will be mainly attributable to the purchase and/or development of new power plants.

## **Table of Contents**

None of our employees (other than the Momotombo project employees) are represented by a labor union, and we have never experienced any labor dispute, strike or work stoppage. We consider our relations with our employees to be satisfactory. We believe our future success will depend on our continuing ability to hire, integrate and retain qualified personnel.

We have no collective bargaining agreements with respect to our Israeli employees. However, by order of the Israeli Ministry of Industry, Trade and Labor 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 non-managerial, finance and administrative, and sales and marketing personnel. This collective bargaining agreement principally concerns cost of living increases, length of the workday, minimum wages, insurance for work-related accidents, procedures for dismissing employees, annual and other vacation, sick pay, 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.

## **Insurance**

We maintain business interruption insurance, casualty insurance, including flood and earthquake coverage, and primary and excess liability insurance, as well as customary worker's compensation and automobile insurance and such other insurance, if any, as is generally carried by companies engaged in similar businesses and owning similar properties in the same general areas or as may be required by any lease, financing arrangement or other contract. To the extent any such casualty insurance covers both us and/or our projects, on the one hand, and any other person and/or plants, on the other hand, we generally have specifically designated as applicable solely to us and our projects all risk property insurance coverage in an amount based upon the estimated full replacement value of our projects (provided that earthquake and flood coverage may be subject to annual aggregate limits depending on the type and location of the project) and business interruption insurance in an amount that also varies from project to project.

We generally purchase insurance policies to cover our exposure to certain political risks involved in operating in developing countries. Political risk insurance policies are generally issued by entities which specialize in such policies, such as the Multilateral Investment Guarantee Agency (a member of the World Bank Group), and from private sector providers, such as Zurich Re and other such companies. To date all of our political risk insurance contracts are with the Multilateral Investment Guarantee Agency and with Zurich Re. We have obtained such insurance for all of our foreign projects with the exception of a portion of the Zunil project for which we are currently negotiating insurance coverage. Such insurance policies generally cover, subject to the limitations and restrictions contained therein, 80% to 90% of our revenue loss derived from a specified governmental act, such as confiscation, expropriation, riots, and the inability to convert local currency into hard currency and, in certain cases, the breach of agreements.

## **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 provides certain benefits described below, if a project is a Qualifying Facility. A small power production facility is a Qualifying Facility if (i) the facility does not exceed 80 megawatts, (ii) the primary energy source of the facility is biomass, waste, renewable resources, or any combination thereof, and 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 has filed with

FERC a notice of self-certification of qualifying status, or has filed with FERC an application for FERC certification of qualifying status, that has been granted. 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

**Table of Contents**

a notice of self-certification of qualifying status of the facility was submitted to the FERC prior to December 21, 1994, and construction of the facility commenced prior to December 31, 1999.

PURPA exempts Qualifying Facilities from regulation under the Public Utility Holding Company Act of 2005 (PUHCA) and exempts Qualifying Facilities from most provisions of the Federal Power Act (FPA) and state laws relating to the financial, organization and rate regulation of electric utilities. In addition, FERC's regulations promulgated under PURPA require that electric utilities offer to purchase electricity generated by Qualifying Facilities at a rate based on the purchasing utility's incremental cost of purchasing or producing energy (also known as avoided cost).

Following passage of the Energy Policy Act of 2005, FERC issued a final rule that requires Qualifying Facilities to obtain market-based rate authority pursuant to the FPA for sales of energy or capacity (i) from facilities larger than 20 MW in size; (ii) pursuant to a contract executed after March 17, 2006 that is not a contract made pursuant to a state regulatory authority's implementation of PURPA; or (iii) not pursuant to another provision of a state regulatory authority's implementation of PURPA. The practical effect of this final rule is to require Qualifying Facilities that are larger than 20 MW in size that seek to engage in non-PURPA sales of power (i.e. power that is sold in a manner that is not pursuant to a pre-existing contract or state implementation of PURPA) to obtain market-based rate authority from FERC for these non-PURPA sales. However, the rule protects a Qualifying Facility's rights under any contract or obligation for the sale of energy in effect or pending approval before the appropriate state regulatory authority or non-regulated electric utility on August 8, 2005. Until that contract expires, the Qualifying Facility will not be required to file for market based rates.

The Energy Policy Act of 2005 also allows FERC to terminate a utility's obligation to purchase energy from Qualifying Facilities upon a finding that Qualifying Facilities have nondiscriminatory access to either (i) independently administered, auction-based day ahead and real time markets for energy and wholesale markets for long-term sales of capacity; (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 and energy, including long and short term sales; or (iii) wholesale markets for the sale of capacity and energy that are at a minimum of comparable competitive quality as markets described in (i) and (ii) above. FERC issued a rule to implement these provisions of the Energy Policy Act of 2005. This rule gives utilities the right to apply to eliminate the mandatory purchase obligation. The rule also creates a rebuttable presumption that a utility provides nondiscriminatory access if it has an open access transmission tariff in compliance with FERC's pro forma open access transmission tariff. Further, the rule provides a procedure for utilities that are not members of the four named regional transmission organizations to file to obtain relief from the mandatory purchase obligation on a service territory-wide basis, and establishes procedures for affected Qualifying Facilities to seek reinstatement of the purchase obligation. The rule protects 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.

In addition, the Energy Policy Act of 2005 eliminated the restriction on utility ownership of a Qualifying Facility. Prior to the Energy Policy Act of 2005, electric utilities or electric utility holding companies could not own more than a 50% equity interest in a Qualifying Facility. Under the Energy Policy Act of 2005, electric utilities or holding companies may own up to 100% of the equity interest in a Qualifying Facility.

We expect that our projects in the United States will continue to meet all of the criteria required for Qualifying Facilities under PURPA. However, since the Heber Projects have power purchase agreements 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 Projects loses its Qualifying Facility status our operations could be

adversely affected. Loss of Qualifying Facility status would eliminate the Heber Project's exemption from the FPA and thus, among other things, the rates charged by the Heber Projects in the power purchase agreements with Southern California Edison and SCPPA would become subject to FERC regulation. Further, it is possible that the utilities that purchase power from the projects could successfully obtain an

## **Table of Contents**

elimination of the mandatory-purchase obligation in their service territories. If this occurs, the Project's existing power purchase agreements will not be affected, but the utilities will not be obligated under PURPA to renew these power purchase agreements or execute new power purchase agreements upon the existing power purchase agreements expiration.

### ***PUHCA***

The Public Utility Act of 1935, (PUHCA) was repealed, effective February 8, 2006, pursuant to the Energy Policy Act of 2005. Although PUHCA was repealed, the Energy Policy Act of 2005 created a new Public Utility Holding Company Act of 2005 (PUHCA 2005). 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. 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 that make only wholesale sales of electricity are not subject to state commissions' rate, financial and organizational 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.

### ***FPA***

Pursuant to the FPA, the FERC has exclusive rate-making jurisdiction over wholesale sales of electricity and transmission 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. Qualifying Facilities are exempt from most provisions of the FPA. If any of the projects were to lose its Qualifying Facility status, such project could become subject to the full scope of the FPA and applicable state regulations. The application of the FPA and other applicable state regulations to the projects could require our projects to comply with an increasingly complex regulatory regime that may be costly and greatly reduce our operational flexibility. Even if a project does not lose Qualifying Facility status, if a power purchase agreement with a project is terminated or otherwise expires, the project will become subject to rate regulation under the Federal Power Act.

If a project in the United States was to become subject to FERC's ratemaking jurisdiction under the FPA as a result of loss of Qualifying Facility status and the power purchase agreement remains in effect, the FERC may determine that the rates currently set forth in the power purchase agreement are not appropriate and may set rates that are lower than the rates currently charged. In addition, the FERC may require that the project refund a portion of amounts previously paid by the relevant power purchaser to such project. Such events would likely result in a decrease in our future revenues or in an obligation to disgorge revenues previously received from the project, either of which would have an adverse effect on our revenues.

Moreover, the loss of the Qualifying Facility status of any of our projects selling energy to Southern California Edison could also permit Southern California Edison, pursuant to the terms of its power purchase agreement, to cease taking and paying for electricity from the relevant project and to seek refunds for past amounts paid. In addition, the loss of any such status would result in the occurrence of an event of default under the indenture for the OFC Senior Secured Notes and the OrCal Senior Secured Notes and hence would give the indenture trustee the right to exercise remedies pursuant to the indenture and the other financing documents.

### ***State Regulation***

Our projects in California and Nevada, 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 projects each sell or will sell their electrical output under power purchase agreements to electric utilities (Sierra Pacific Power Company, Nevada Power Company, Southern California Edison or Southern California Public Power Authority). All of the utilities except Southern California Public

## **Table of Contents**

Power Authority are regulated by their respective state public utility commissions. Sierra Pacific Power Company and Nevada Power Company are regulated by the Public Utility Commission of Nevada. Southern California Edison and a small portion of Sierra Pacific Power Company in the Lake Tahoe area are regulated by the California Public Utility Commission.

Under Hawaii law, non-fossil generators are not subject to regulation as public utilities. Hawaii 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 Hawaii Public Utility Commission 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 project in Hawaii are established under a long-term power purchase agreement with Hawaii Electric Light Company.

### **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 project and should not be considered a full statement of the laws in such countries or all of the issues pertaining thereto.

*Nicaragua.* In 1998 two laws were approved by Nicaraguan authorities, Law No. 272-98 and Law No. 271-98, which define the structure of the energy sector in the country. Law No. 272-98 provides for the establishment of a National Energy Commission, which we refer to as CNE, responsible for setting policies, strategies and objectives as well as approving indicative plans for the energy sector. Law No. 271-98 formally assigned regulatory, supervisory, inspection and oversight functions to the Nicaraguan Institute of Energy, which we refer to as INE.

In 2002, the National Congress enacted Law No. 443 to regulate the granting of exploration and exploitation concessions for geothermal fields. The INE adopted this law.

In 2007, Nicaragua passed Law No. 612 amending Law No. 290, which governs the organization of the executive branch. Among other matters, the new law established a new ministry of energy and mining, which has assumed all of the functions and responsibilities of the National Energy Commission (CNE). The new ministry of energy and mining is responsible for administering Law No. 443 described above, and is also responsible for granting concessions and permits relating to the exploration or exploitation of any energy source, as well as concessions and licensing for generation, transmission and distribution of energy.

The Nicaraguan energy sector has been restructured and partially privatized. Following such restructuring and privatization, the government retained title and control of the transmission assets and created the Empresa Nicaraguense de Transmision (ENATREL), which is in charge of the operation of the transmission system in the country and of the new wholesale market. As part of the restructuring, most of the distribution facilities previously owned by the Nicaraguan Electricity Company, the government-owned vertically-integrated monopoly, were transferred to two companies, Empresa Distribuidora de Electricidad del Norte (DISNORTE) and Empresa Distribuidora de Electricidad del Sur (DISSUR), which in turn were privatized and acquired by an affiliate of Union Fenosa, a large Spanish utility. Following such privatization, the power purchase agreement for our Momotombo project was assigned by the Nicaraguan Electricity Company to DISNORTE and DISSUR. In addition, a National Dispatch Center was created to work with ENATREL and provide for dispatch and wholesale market administration.

*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 National Electric Energy Commission (CNEE), and a new wholesale power market administrator, the Administrator of the Wholesale Market (AMM), for the regulation 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-

## **Table of Contents**

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 Projects, Decree 52-2003, in order to promote the development of renewable energy projects 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.

*Kenya.* Kenya's Electric Power Act of 1997 restructured the electricity sector in the country. Among other things, the Act provides for the licensing of electricity power producers and public electricity suppliers or distributors. Kenya Power and Lighting Co. Ltd. (KPLC) is the only licensed public electricity supplier and has a monopoly in the transmission and distribution of electricity in the country. The Act permitted independent power producers (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 two other IPPs in addition to our Olkaria III project. The Act also created the Electricity Regulation Board, as an independent regulator for the electricity sector. KPLC's retail electricity rates are subject to approval by the Electricity Regulation Board. The Electric Power Act of 1997 has now been repealed by the Energy Act of 2006, which came into effect on July 7, 2007. One of the main changes introduced by the Energy Act was the reconstitution of the Electricity Regulatory Board as the Energy Regulatory Commission (ERC), with an expanded mandate to regulate not just the electric power sector but the entire energy sector in Kenya. Further re-organization of KPLC is now underway with the formation of a new company known as Kenya Electricity Transmission Company Limited to undertake power transmission. This re-organization is in accordance with the National Energy Policy (Sessional Paper No. 4 of 2004), one highlight of which is the unbundling of KPLC into two entities, one for transmission, which will be 100% state owned, and the other for distribution, which will be privately owned. No announcement has been made as to whether KPLC's transmission assets will be transferred to the new company.

*New Zealand.* The electricity industry in New Zealand has four main components: (i) generation; (ii) transmission (the high voltage network known as the national grid); (iii) distribution (local lines companies); and (iv) retail (electricity retail companies which buy wholesale electricity and compete to sell it to consumers). The Electricity Act of 1992 created a new regulatory commission, the Electricity Commission, to oversee New Zealand's electricity industry and markets. The Electricity Commission, which began operating in September 2003, has exclusive authority to regulate the operation of the electricity industry and markets (wholesale and retail) in accordance with the terms of the Electricity Act 1992 and government energy policy. The Electricity Commission's principal objective, as set out in the Electricity Act of 1992, is to ensure that electricity is produced and delivered to all classes of consumers in an efficient, fair, reliable and environmentally sustainable manner. The Electricity Commission's regulatory framework for participants in the electricity industry is set out in the Electricity Governance Rules, which became effective on March 1, 2004. Electricity generators are obliged to register with the Electricity Commission as market participants and to comply with the Electricity Governance Rules.

The Electricity Industry Reform Act 1998 requires full ownership separation between electricity lines (distribution) businesses, and electricity generation and retail businesses. Since the introduction of the Act, however, amendments have allowed lines businesses to own some generation and to sell the output from those generation plants directly to consumers.

## **Permit Status**

Our projects are required to comply with numerous domestic and foreign federal, regional, state and local statutory and regulatory environmental standards and to maintain numerous environmental permits and governmental approvals that are required for their operation. Some of the environmental permits and governmental approvals that have been issued to the projects contain conditions and restrictions, including restrictions or limits on emissions and discharges of pollutants and contaminants, or may have limited terms.

For example, while our power generation operations produce electricity without emissions of certain pollutants such as nitrogen oxide, and with far lower emissions of other pollutants such as carbon dioxide,

## **Table of Contents**

some of our projects do emit air pollutants in quantities that are subject to regulation under applicable environmental air pollution laws. Such operations typically require air permits. Especially critical to our geothermal operations are those permits and standards applicable to the construction and operation of geothermal wells and brine reinjection wells. In the United States, injection wells are regulated under the federal Safe Drinking Water Act Underground Injection Control, which we refer to as UIC, program. Because fluids are reinjected to enhance utilization of the geothermal resource, our injection wells typically fall into UIC Class V, one of the least regulated categories.

Our operations are designed and conducted to comply with applicable permit requirements. Non-compliance with any such requirements could result in fines or other penalties. We are not aware of any non-compliance with such requirements that would be likely to result in material fines or penalties. However, the Heber 1 and 2 projects received a notice from the California Division of Oil, Gas and Geothermal Resources that the pressure levels at some of the geothermal fluid injection wells were too high.

As of the date of this annual report, all of the material permits and approvals currently required to operate our projects have been obtained and are currently valid. As of the date of this annual report, we have obtained and are in compliance with all of the material permits and approvals currently required for our projects that are under construction or enhancement. There are some permits that need to be obtained in the future. We believe we will be able to obtain those permits and approvals without material delay and without incurring additional material costs.

## **Environmental Laws and Regulations**

Geothermal operations can produce significant quantities of brine and scale, which builds up on metal surfaces in our equipment with which the brine comes into contact. These waste materials, some of which are currently reinjected into the subsurface, can contain materials (such as arsenic, 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. Hazardous materials are also used and generated in connection with our equipment manufacturing operations in Israel. As a result, our projects are subject to numerous domestic and foreign federal, state and local statutory and regulatory standards relating to the use, storage, fugitive emissions and disposal of hazardous substances. The cost of any investigation, remediation and/or cleanup activities in connection with a spill or other release of such contaminants could be significant.

Although we are not aware of any mismanagement of these materials, including any mismanagement prior to the acquisition of some of our projects, that has materially impaired any of the project sites, any disposal or release of these materials onto project 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. We believe that at one time there may have been a gas station located on the Mammoth project site (which we lease), but because of significant surface disturbance and construction since that time further physical evaluation of the environmental condition of the former gas station site has been impractical. We believe that, given the subsequent surface disturbance and construction activity in the vicinity of the suspected location of the service station, it is likely that environmental contamination, if any, associated with the former facilities and any associated underground storage tanks would have already been encountered if they still existed.

## **ITEM 1A. RISK FACTORS**

Because of the following factors, as well as other variables affecting our business, operating results or financial condition, past financial performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods.



**Table of Contents**

*Our financial performance depends on the successful operation of our geothermal power and recovered energy generation plants, which is subject to various operational risks.*

Our financial performance depends on the successful operation of our subsidiaries' geothermal and recovered energy generation power plants. In connection with such operations, we derived approximately 73.2% of our total revenues for the year ended December 31, 2008 from the sale of electricity. The cost of operation and maintenance and the operating performance of our subsidiaries' geothermal power and recovered energy generation plants may be adversely affected by a variety of factors, including some that are discussed elsewhere in these risk factors and the following:

regular and unexpected maintenance and replacement expenditures;

shutdowns due to the breakdown or failure of our equipment or the equipment of the transmission serving utility;

labor disputes;

the presence of hazardous materials on our project sites;

catastrophic events such as fires, explosions, earthquakes, landslides, floods, releases of hazardous materials, severe storms or similar occurrences affecting our projects or any of the power purchasers or other third parties providing services to our projects; and

the aging of power plants may reduce their availability and increase the cost of their maintenance.

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

As mentioned above, the aging of our power plants may reduce their availability and increase maintenance costs due to the need to repair or replace our equipment. For example, in 2008, we experienced protracted failures of two of the Steamboat 2/3 project's turbines, which were not manufactured by us. We replaced the turbines and successfully upgraded the project. Such major maintenance activities impact both the capacity factor of the affected power plant and its operating costs.

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

Our business involves the exploration, development and operation of geothermal energy resources. These activities are subject to uncertainties, which vary among different geothermal reservoirs and are in some respects similar to those typically associated with oil and gas exploration, development and exploitation, such as dry holes, uncontrolled releases and pressure and temperature decline, all of which can increase our operating costs and capital expenditures or reduce the efficiency of our power plants. Prior to our acquisition of the Steamboat Hills project, one of the wells related to the project experienced an uncontrolled release. In addition, the high temperature and high pressure in the Puna project's geothermal energy resource requires special reservoir management and monitoring. Further, since the commencement of their operations, several of our projects have experienced geothermal resource cooling in the normal course of operations such as in the case of the Brady and Momotombo projects. Because geothermal reservoirs are complex geological structures, we can only estimate their geographic area and sustainable output. The viability of geothermal projects depends on different factors directly related to the geothermal resource, such as the heat content

(the relevant composition of temperature and pressure) of the geothermal reservoir, the useful life (commercially exploitable life) of the reservoir and operational factors relating to the extraction of geothermal fluids. Our geothermal energy projects may 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. In addition, we may fail to find commercially viable geothermal resources in the expected quantities and temperatures, which would adversely affect our development of geothermal power projects.

## **Table of Contents**

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 subsidence. In the case of the geothermal resource supplying the Heber complex, pressure drawdown in the center of the well field has caused some localized ground subsidence, while pressure in the peripheral areas has caused localized ground inflation. Inflation and subsidence, if not controlled, can adversely affect farming operations and other infrastructure at or near the land surface. Potential costs, which cannot be estimated and may be significant, of failing to stabilize site pressures in the Heber complex area include repair and modification of gravity-based farm irrigation systems and municipal sewer piping and possible repair or replacement of a local road bridge spanning an irrigation canal.

Additionally, active geothermal areas, such as the areas in which our projects are located, are subject to frequent low-level seismic disturbances. Serious seismic disturbances are possible and could result in damage to our projects or equipment or degrade the quality of our geothermal resources to such an extent that we could not perform under the power purchase agreement for the affected project, 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, 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.

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

Our recovered energy generation 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 may not commence operation as scheduled.*

We are currently in the process of developing and constructing a number of new power plants. Our success in developing a particular project is contingent upon, among other things, negotiation of satisfactory engineering and construction agreements and power purchase agreements, receipt of required governmental permits, obtaining adequate financing, and the timely implementation and satisfactory completion of construction. We may be unsuccessful in accomplishing any of these matters or doing so on a timely basis. Although we may attempt to minimize the financial risks attributable to the development of a project by securing a favorable power purchase agreement, obtaining all required governmental permits and approvals and arranging 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 power plants under development or construction in the United States and Indonesia, and we intend to pursue the expansion of some of our existing plants and the development of other new plants. Our completion of these facilities is subject to substantial risks, including:

unanticipated cost increases;

shortages and inconsistent qualities of equipment, material and labor;



work stoppages;

inability to obtain permits and other regulatory matters;

failure by key contractors and vendors to timely and properly perform;

adverse environmental and geological conditions (including inclement weather conditions); and

**Table of Contents**

our attention to other projects.

Any one of which 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.

*A global recession and continued credit constraints could adversely affect us.*

Recent disruption in the global credit markets, failures or material business deterioration of investment banks, commercial banks, and other financial institutions and intermediaries in the United States and elsewhere around the world, and significant reductions in asset values across businesses, households and individuals, combined with other financial and economic indicators, have combined to indicate a global recession. If these conditions continue or worsen, they may result in reduced worldwide demand for energy and difficulties in obtaining financing, which may adversely affect both our Electricity and Products Segments. Among other things, we might face:

potential adverse impacts on our ability to access credit and other financing sources (and the cost thereof) beyond the approved credit lines we have. This may impact our ability to finance future acquisitions or significant capital expenditures relating to new projects or refinancing existing projects to recover our cash invested;

potential adverse impacts on our ability to negotiate with existing lenders, waivers or modifications of the terms of existing financing arrangements if and when that might be necessary;

potential declines in revenues in our Products Segment due to reduced or postponed orders or other factors caused by economic challenges faced by our customers and prospective customers;

potential declines in revenues from some of our existing geothermal power projects as a result of curtailed electricity demand and low oil and gas prices; and

potential adverse impacts on our customers' ability to pay, when due, amounts payable to us and related increases in our cost of capital associated with any increased working capital or borrowing needs we may have if this occurs, or to collect amounts payable to us in full (or at all) if any of our customers fail or seek protection under applicable bankruptcy or insolvency laws.

Any of these things could adversely affect our business, financial condition, operating results and cash flow.

*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.*

Our geothermal power plants generally have been financed using leveraged financing structures, consisting of non-recourse or limited recourse debt obligations. As of December 31, 2008, we had approximately \$412.8 million of total consolidated indebtedness (including indebtedness to our parent company in the amount of \$26.2 million), of which approximately \$286.6 million represented non-recourse debt and limited recourse debt held by our subsidiaries. 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 with acceptable terms is necessary for the success of our growth strategy. Our attempts to obtain future financings may not be successful or on favorable terms.

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 (as discussed above), investor confidence, the continued success of current projects, the credit quality of the projects being financed, the political situation in the country where the project is located, and the continued existence of tax and securities laws which are conducive to raising capital. If we are not able to obtain

**Table of Contents**

financing for our projects on a substantially non-recourse or limited-recourse basis, we may have to finance them using recourse capital such as direct equity investments, parent company loans 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.

*Our foreign projects expose us to risks related to the application of foreign laws, taxes, economic conditions, labor supply and relations, political conditions, and policies of foreign governments, any of which risks may delay or reduce our ability to profit from such projects.*

We have substantial operations outside of the United States that generated revenues in the amount of \$96.2 million for the year ended December 31, 2008, which represented 27.9% of our total revenues for such twelve-month period. Our foreign operations are subject to regulation by various foreign governments and regulatory authorities and are subject to the application of foreign laws. Such foreign laws or regulations may not provide for the same type of legal certainty and rights, in connection with our contractual relationships in such countries, as are afforded to our projects in the United States, which may adversely affect our ability to receive revenues or enforce our rights in connection with our foreign 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 projects that we may develop or acquire, thus limiting our ability to control the development, construction and operation of such projects. Our foreign operations are also subject 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;

changes in labor relations;

political instability and civil unrest;

changes in the local electricity market;

breach or repudiation of important contractual undertakings by governmental entities; and

expropriation and confiscation of assets and facilities.

In particular, 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 projects if, for example, they result in changes to the prevailing tariff regime or in the identity and creditworthiness of our power purchasers. In Nicaragua, subsidiaries of Union Fenosa, which are the off-takers of our Momotombo project, have been experiencing difficulties adjusting the tariffs charged to their customers, thus affecting their ability to pay for electricity they purchase from power generators. This may adversely affect our Momotombo project. In addition, recent sentiment in the country suggests increased opposition to the presence of foreign investors generally, including in the electricity sector. In Kenya, the government is continuing to make an effort to deliver on campaign promises to reduce the price of electricity and is applying pressure on independent power producers to lower their tariffs. In addition, further re-organization of KPLC is now underway with the formation of a new company known as Kenya Electricity

Transmission Company Limited to undertake power transmission. This re-organization is in accordance with the National Energy Policy (Sessional Paper No. 4 of 2004), one highlight of which is the unbundling of KPLC into two entities, one for transmission, which will be 100% state owned, and the other for distribution, which will be privately owned. Any break-up and potential privatization of Kenya Power and Lighting Co. Ltd. may adversely affect our Olkaria III project. Although we generally obtain political risk insurance in connection with our foreign projects, such political risk insurance does not mitigate all of the above-mentioned risks. In addition, insurance

**Table of Contents**

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 project 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.

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

Risks attributable to fluctuations in currency exchange rates can arise when 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 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 projects and foreign manufacturing operations, and may limit or diminish the amount of cash and income that we receive from such foreign projects and operations.

*A significant portion of our net revenue is attributed to payments made by power purchasers under power purchase agreements. The failure of any such power purchaser to perform its obligations under the relevant power purchase agreement or the loss of a power purchase agreement due to a default would reduce our net income and could materially and adversely affect our business, financial condition, future results and cash flow.*

A significant portion of our net revenue is attributed to revenues derived from power purchasers under the relevant power purchase agreements. Southern California Edison, Hawaii Electric Light Company, and Sierra Pacific Power Company and Nevada Power Company have accounted for 27.6%, 16.7% and 12.6%, respectively, of our revenues for the year ended December 31, 2008. Neither we nor any of our affiliates make any representations as to the financial condition or creditworthiness of any purchaser under a power purchase agreement, and nothing in this annual report should be construed as such a representation.

There is a risk that any one or more of the power purchasers may not fulfill their respective payment obligations under their power purchase agreements. For example, as a result of the energy crisis in California in the early 2000s, Southern California Edison withheld payments it owed under various of its power purchase agreements with a number of power generators (such as the Ormesa, Heber, and Mammoth projects) payable for certain energy delivered between November 2000 and March 2001 under such power purchase agreements until March 2002. If any of the power purchasers fails to meet its payment obligations under its power purchase agreements, it could materially and adversely affect our business, financial condition, future results and cash flow.

*Seasonal variations may cause significant fluctuations in our cash flows, which may cause the market price of our common stock to fall in certain periods.*

Our results of operations are subject to seasonal variations. This is primarily because some of our domestic projects receive higher capacity payments under the relevant power purchase agreements during the summer months, and due to the generally higher short run avoided costs in effect during the summer months. Some of our other projects may experience reduced generation during warm periods due to the lower heat differential between the geothermal fluid and the ambient surroundings. Such seasonal variations could materially and adversely affect our business, financial condition, future results and cash flow. If our operating results fall below the public's or analysts' expectations in some future period or periods, the market price of our common stock will likely fall in such period or periods.



**Table of Contents**

*Pursuant to the terms of some of our power purchase agreements with investor-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.*

Under the Burdette, Desert Peak 2, Galena 2, Galena 3, Carson Lake, Jersey Valley, Grass Valley, North Brawley, and Imperial Valley power purchase agreements, we may be required to make payments to the relevant power purchaser in an amount equal to such purchaser's replacement costs for renewable energy relating to any shortfall amount of renewable energy that we do not provide as required under the power purchase agreement and which such power purchaser is forced to obtain from an alternate source. Four of the seven power purchase agreements were in commercial operation in 2008 and to date the shortfall amount has not been material. In addition, we may be required to make payments to the relevant power purchaser in an amount equal to its replacement costs relating to any renewable energy credits we do not provide as required under the relevant power purchase agreement. We may be subject to certain penalties, and we may also be required to pay liquidated damages if certain minimum performance requirements are not met under certain of our power purchase agreements. With respect to certain of our power purchase agreements, we may also be required to pay liquidated damages to our power purchaser if the relevant project does not maintain availability of at least 85% during applicable peak periods. The maximum aggregate amount of such liquidated damages for the Steamboat 2 and Steamboat 3 power purchase agreements would be approximately \$1.5 million for each project. Any or all of these could materially and adversely affect our business, financial condition, future results and cash flow.

*The short run avoided costs for our power purchasers may decline, which would reduce our project revenues and could materially and adversely affect our business, financial condition, future results and cash flow.*

Under the power purchase agreements for our projects in California, the price that Southern California Edison pays for energy is based upon its short run avoided costs, which are the incremental costs that it would have incurred had it generated the relevant electrical energy itself or purchased such energy from others. Under settlement agreements between Southern California Edison and a number of power generators in California that are Qualifying Facilities, including our subsidiaries, the energy price component payable by Southern California Edison has been fixed through April 2012 and thereafter will be based on Southern California Edison's short run avoided costs, as determined by the California Public Utilities Commission. These short run avoided costs may vary substantially on a monthly basis, and are expected to be based primarily on natural gas prices for gas delivered to California as well as other factors. The levels of short run avoided cost prices paid by Southern California Edison may decline following the expiration date of the settlement agreements, which in turn would reduce our project revenues derived from Southern California Edison under our power purchase agreements and could materially and adversely affect our business, financial condition, future results and cash flow.

*If any of our domestic projects 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 projects are Qualifying Facilities pursuant to the PURPA, which largely exempts the projects from the Federal Power Act, which we refer to as FPA, and certain state and local laws and regulations regarding rates and financial and organizational requirements for electric utilities.

If any of our domestic projects were to lose its Qualifying Facility status, such project 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 projects could require our operations to comply with an increasingly complex regulatory regime that may be costly and greatly reduce our operational flexibility.



In addition, pursuant to the FPA, FERC has exclusive rate-making jurisdiction over wholesale sales of electricity and transmission of public utilities 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. Qualifying Facilities are largely exempt from the FPA. If a domestic project were to lose its Qualifying

**Table of Contents**

Facility status, it would become a public utility under the FPA, and the rates charged by such project pursuant to its power purchase agreements would be subject to the review and approval of FERC. FERC, upon such review, may determine that the rates currently set forth in such power purchase agreements are not appropriate and may set rates that are lower than the rates currently charged. In addition, FERC may require that some or all of our domestic projects refund amounts previously paid by the relevant power purchaser to such project. Such events would likely result in a decrease in our future revenues or in an obligation to disgorge revenues previously received from our domestic projects, either of which would have an adverse effect on our revenues. Even if a project does not lose its Qualifying Facility status, pursuant to a final rule issued by FERC for projects above 20 MW, if a project's power purchase agreement is terminated or otherwise expires, and the subsequent sales are not made pursuant to a state's implementation of PURPA, that project 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 power purchase agreement, to cease taking and paying for electricity from the relevant project 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 power purchase agreements, result in significant liability for refunds of past amounts paid, or otherwise impair the value of our projects. 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 project 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 projects, which would enable the lenders to exercise their remedies and enforce the liens on the relevant project.

Pursuant to the Energy Policy Act of 2005, FERC was also given 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. Existing power purchase agreements between a Qualifying Facility and a utility are not affected. If the utilities in the regions in which our domestic projects operate were to be relieved of the mandatory purchase obligation, they would not be required to purchase energy from the project in the region under Federal law upon termination of the existing power purchase agreement or with respect to new projects, which could materially and adversely affect our business, financial condition, future results and cash flow.

*Our financial performance is significantly dependent on the successful operation of our projects, which is subject to changes in the legal and regulatory environment affecting our projects.*

All of our projects 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 projects. The structure of domestic and foreign federal, state and local energy regulation currently is, and may continue to be, subject to challenges, modifications, the imposition of additional regulatory requirements, and restructuring proposals. Our power purchasers or we 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 could significantly increase the regulatory-related compliance and other expenses incurred by the projects and could significantly reduce or entirely eliminate the revenues generated by one or more of the projects, which in turn would reduce our net income and could materially and adversely affect our business, financial condition, future results and cash flow.

*The costs of compliance with environmental laws and of obtaining and maintaining environmental permits and governmental approvals required for construction and/or operation, which currently are significant, may increase in*

*the future and could materially and adversely affect our business, financial condition, future results*

**Table of Contents**

*and cash flow; any non-compliance with such laws or regulations may result in the imposition of liabilities which could materially and adversely affect our business, financial condition, future results and cash flow.*

Our projects are required to comply with numerous domestic and foreign federal, regional, state and local statutory and regulatory environmental standards and to maintain numerous environmental permits and governmental approvals required for construction and/or operation. Some of the environmental permits and governmental approvals that have been issued to the projects 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 projects could be adversely affected or be subject to fines, penalties or additional costs. In addition, we may not be able to renew, maintain or obtain all environmental permits and governmental approvals required for the continued operation or further development of the projects. As of the date of this report, we have not yet obtained certain permits and government approvals required for the completion and successful operation of projects under construction or enhancement. In addition, a nearby municipality has informed our Amatitlan project that an additional building permit should be obtained from such municipality before construction commences. Our failure to renew, maintain or obtain required permits or governmental approvals, including the permits and approvals necessary for operating projects under construction or enhancement, could cause our operations to be limited or suspended. Environmental laws, ordinances and regulations affecting us 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.

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

Our projects are subject to numerous domestic and foreign federal, regional, state and local statutory and regulatory standards relating to the use, storage and disposal of hazardous substances. We use isobutane, isopentane, industrial lubricants and other substances at our projects 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 projects 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 large expenditures to bring the projects into compliance. Furthermore, in the United States, we can be held liable for the cleanup of releases of hazardous substances at other locations where we arranged for disposal of those substances, even if we did not cause the release at that location. The cost of any remediation activities in connection with a spill or other release of such substances could be significant.

We believe that at one time there may have been a gas station located on the Mammoth project site, but because of significant surface disturbance and construction since that time, further physical evaluation of the environmental condition of the former gas station site has been impractical. There may be soil or groundwater contamination and related potential liabilities of which we are unaware related to this site, which may be significant and could materially and adversely affect our business, financial condition, future results and cash flow.

*We may not be able to successfully integrate companies which we 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. 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. 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;

**Table of Contents**

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, the same 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.

*The power generation industry is characterized by intense competition, and we encounter competition from electric utilities, other power producers, and power marketers 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 U.S. 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 power purchase agreements and the price paid for electricity by the relevant power purchasers. There is also increasing competition between electric utilities. This competition 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.

*The existence of a prolonged force majeure event or a forced outage affecting a project 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 discussed elsewhere in these risk factors, including events such as fires, explosions, earthquakes, landslides, floods, severe storms or other similar events.

If a project experiences an occurrence resulting in a force majeure event, our subsidiary that owns that project would be excused from its obligations under the relevant power purchase agreement. However, the relevant power purchaser may not be required to make any capacity and/or energy payments with respect to the affected project or plant so long as the force majeure event continues and, pursuant to certain of our power purchase agreements, will have the right to prematurely terminate the power purchase agreement. Additionally, to the extent that a forced outage has occurred, the relevant power purchaser may not be required to make any capacity and/or energy payments to the affected project, and if, as a result the project fails to attain certain performance requirements under certain of our power purchase agreements, the 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 power purchase agreement. As a consequence, we may not receive any net revenues from the affected project or 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. Accordingly, our business, financial condition, future results and cash flows could be materially and adversely affected.

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

If the transmission system of the Imperial Irrigation District experiences a force majeure event or a forced outage which prevents it from transmitting the electricity from the Heber complex, the Ormesa complex or the North Brawley project to the relevant power purchaser, the relevant power purchaser would not be required to

## **Table of Contents**

make energy payments for such non-delivered electricity and may not be required to make any capacity payments with respect to the affected project so long as such force majeure event or forced outage continues. Our revenues for the year ended December 31, 2008, from the projects utilizing the Imperial Irrigation District transmission system, were approximately \$99.9 million. The impact of such force majeure would depend on the duration thereof, with longer outages resulting in greater revenue loss.

*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.*

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 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, will terminate. In the event that a lease is terminated and we determine that we will need that lease once the applicable project 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.

*Our Bureau of Land Management leases may be terminated if we fail to comply with any of the provisions of the Geothermal Steam Act of 1970 or if we fail to comply with the terms or stipulations of such leases, which may materially and adversely affect our business, financial condition, future results and cash flow.*

Pursuant to the terms of our Bureau of Land Management (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. Additionally, 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 plants or animals, the payment of royalties for timber and the imposition of certain restrictions on residential development on the leased land. 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 of 1970 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.

*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.*

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 project located on the relevant property and/or terminate our right of access to the underlying geothermal resources required for our operations.



In addition, a default by a sublessor under its lease with the owner of the property that is the subject of our sublease could result in the termination of such lease and thereby terminate our sublease interest and our right to access the underlying geothermal resources required for our operations.

**Table of Contents**

*Current and future urbanizing activities and related residential, commercial and industrial developments may encroach on or limit geothermal activities in the areas of our projects, thereby affecting our ability to utilize access, inject and/or transport geothermal resources on or underneath the affected surface areas.*

Current and future urbanizing activities and related residential, commercial and industrial development may encroach on or limit geothermal activities in the areas of our projects, thereby affecting our ability to utilize, access, inject, and/or transport geothermal resources on or underneath the affected surface areas. In particular, the Heber projects rely on an area, which we refer to as the Heber Known Geothermal Resource Area or Heber KGRA, for the geothermal resource necessary to generate electricity at the Heber projects. Imperial County has adopted a specific plan area that covers the Heber KGRA, which we refer to as the Heber Specific Plan Area. The Heber Specific Plan Area allows commercial, residential, industrial and other employment oriented development in a mixed-use orientation, which currently includes geothermal uses. Several of the landowners from whom we hold geothermal leases have expressed an interest in developing their land for residential, commercial, industrial or other surface uses in accordance with the parameters of the Heber Specific Plan Area. Currently, Imperial County's Heber Specific Plan Area is coordinated with the cities of El Centro and Calexico. There has been ongoing underlying interest since the early 1990s to incorporate the community of Heber. While any incorporation process would likely take several years, if Heber were to be incorporated, the City of Heber could replace Imperial County as the governing land use authority, which, depending on its policies, could have a significant effect on land use and availability of geothermal resources.

Current and future development proposals within Imperial County and the City of Calexico, applications for annexations to the City of Calexico, and plans to expand public infrastructure may affect surface areas within the Heber KGRA, thereby limiting our ability to utilize, access, inject and/or transport the geothermal resource on or underneath the affected surface area that is necessary for the operation of our Heber projects, which could adversely affect our operations and reduce our revenues.

Current transportation construction works and urban developments in the vicinity of our Steamboat complex of projects in Nevada may also affect future permitting for geothermal operations relating to those projects. Such works and developments include the extension of an interstate highway (to be named U.S. 580) by the Nevada Department of Transportation, the construction of a new casino hotel and other commercial or industrial developments on land in the vicinity of our Steamboat complex.

*We depend on key personnel for the success of our business.*

Our success is largely dependent on the skills, experience and efforts of our senior management team and other key personnel. In particular, our success depends on the continued efforts of Lucien Bronicki, Dita Bronicki, Nadav Amir, Yoram Bronicki and other key employees. The loss of the services of any key employee could materially harm our business, financial condition, future results and cash flow. Although to date we have been successful in retaining the services of senior management and have entered into employment agreements with Lucien Bronicki, Dita Bronicki and Yoram Bronicki, such members of our senior management may terminate their employment agreements without cause and with notice periods ranging from 90 to 180 days. We may also not be able to locate or employ on acceptable terms qualified replacements for our senior management or key employees if their services were no longer available.

*Our projects have generally been financed through a combination of parent company loans 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 projects.*

Our projects have generally been financed using a combination of parent company loans and limited- or non-recourse project finance debt or lease financing. Non-recourse project finance debt or lease financing refers to financing arrangements that are repaid solely from the project's revenues and are secured by the project's physical assets, major contracts, cash accounts and, in many cases, our ownership interest in the project subsidiary. Limited-recourse project finance debt refers to our additional agreement, as part of the

## **Table of Contents**

financing of a project, to provide limited financial support for the project subsidiary in the form of limited guarantees, indemnities, capital contributions and agreements to pay certain debt service deficiencies. 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 projects, 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 projects) 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 project would only retain an interest in the physical assets, if any, remaining after all debts and obligations were paid in full.

*Changes in costs and technology may significantly impact our business by making our power plants and products less competitive.*

A basic premise of our business model is that generating baseload power at geothermal power plants achieves economies of scale and 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, most notably fossil fuel power systems, hydroelectric systems, fuel cells, microturbines, windmills and photovoltaic (solar) cells. Some of these alternative technologies currently produce electricity at a higher average price than our geothermal plants; however, research and development activities are ongoing to seek improvements in such alternate technologies and their cost of producing electricity is gradually declining. It is possible that advances will further reduce the cost of alternate methods of power generation to a level that is equal to or below that of most geothermal power generation technologies. If this were to happen, the competitive advantage of our projects may be significantly impaired.

*Our expectations regarding the market potential for the development of recovered energy-based power generation may not materialize, and as a result we may not derive any significant revenues from this line of business.*

We have identified recovered energy-based power generation as a significant market opportunity for us. Demand for our recovered energy-based power generation units may not materialize or grow at the levels that we expect. We currently face competition in this market from manufacturers of conventional steam turbines and may face competition from other related technologies in the future. If this market does not materialize at the levels that we expect, such failure may materially and adversely affect our business, financial condition, future results and cash flow.

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

Our intellectual property rights may not be adequate to protect our business. While we occasionally file patent applications, patents may not be issued on the basis of such applications or, if patents are issued, they may not be sufficiently broad to protect our technology. In addition, any patents issued to us or for which we have use rights may be challenged, invalidated or circumvented.

In order to safeguard our unpatented proprietary know-how, trade secrets and technology, we rely primarily upon trade secret protection and non-disclosure provisions in agreements with employees and others having access to confidential information. These measures may not adequately protect us from disclosure or misappropriation of our 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. Also, while we have attempted to ensure that our technology and the operation of our business do not infringe other parties' patents and

proprietary rights, our competitors or other parties may assert that certain aspects of our business or technology may be covered by patents held by them. Infringement or other intellectual property claims, regardless of merit or ultimate outcome, can be expensive and time-consuming and can divert management's attention from our core business.

**Table of Contents**

*We are subject to risks associated with a changing economic and political environment, which may adversely affect our financial stability or the financial stability of our counterparties.*

The risk of terrorist attacks in the United States or elsewhere continues to remain a potential source of disruption to the nation's economy and financial markets in general. The availability and cost of capital for our business and that of our competitors has been adversely affected by the bankruptcy of Enron Corp. and events related to the California electric market crisis. Additionally, the recent rise in fuel costs may make it more expensive for our customers to operate their businesses. These events could constrain the capital available to our industry and could adversely affect our financial stability and the financial stability of our transaction counterparties.

*Possible fluctuations in the cost of construction, raw materials 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, and on the supply of various industrial equipment components that we use. We currently obtain all such materials 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. Future cost increases of such raw materials and equipment, to the extent not otherwise passed along to our customers, could adversely affect our profit margins.

*Conditions in Israel, where the majority of our senior management and all of our 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 projects.*

Operations in Israel accounted for approximately 28.6%, 26.4% and 24.1% of our operating expenses in the years ended December 31, 2008, 2007 and 2006, respectively. Political, economic and security conditions in Israel directly affect our operations. Since the establishment of the State of Israel in 1948, a number of armed conflicts have taken place between Israel and its Arab neighbors, and the continued state of hostility, varying in degree and intensity, has led to security and economic problems for Israel.

Since October 2000, there has been a significant increase in violence, primarily in the West Bank and the Gaza Strip. As a result, negotiations between Israel and representatives of the Palestinian Authority have been sporadic and have failed to result in peace. The establishment in 2006 of a government in the Gaza territory by representatives of the Hamas militant group has created additional unrest and uncertainty in the region. At the end of December 2008, Israel engaged in an armed conflict with Hamas lasting for over three weeks, which involved additional missile strikes from the Gaza Strip into Israel and disrupted most day-to-day civilian activity in the proximity of the border with the Gaza Strip. Our production facilities in Israel are located approximately 26 miles from the border with the Gaza Strip. We could be adversely affected by hostilities involving Israel, 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.

In addition, some of our employees in Israel are subject to being called upon to perform military service in Israel, and their absence may have an adverse effect upon our operations. Generally, unless exempt, male adult citizens of Israel under the age of 41 are obligated to perform up to 36 days of military reserve duty annually. Additionally, all such citizens are subject to being called to active duty at any time under emergency circumstances.

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



**Table of Contents**

*Failure to comply with certain conditions and restrictions associated with tax benefits provided to Ormat Systems Ltd. by the Government of Israel as an approved enterprise may require us to refund such tax benefits and pay future taxes in Israel at higher rates.*

Our subsidiary, Ormat Systems Ltd., which we refer to as Ormat Systems, has received Benefited Enterprise status under Israel's Law for Encouragement of Capital Investments, 1959, with respect to two of its investment programs. As a Benefited Enterprise, our subsidiary was exempt from Israeli income taxes with respect to income derived from the first benefited investment for a period of two years that started in 2004, and thereafter such income is subject to a reduced Israeli income tax rate of 25% for an additional five years. Our subsidiary is also exempt from Israeli income taxes with respect to income derived from the second benefited investment for a period of two years that started in 2007, and thereafter such income is subject to a reduced Israeli income tax rate of 25% for an additional five years. These benefits are subject to certain conditions, including among other things, a requirement that Ormat Systems comply with Israeli intellectual property law, that all transactions between Ormat Systems and our affiliates be at arms length, and that there will be no change in control of, on a cumulative basis, more than 49% of Ormat Systems' capital stock (including by way of a public or private offering) without the prior written approval of the Income Tax Authorities. If Ormat Systems does not comply with these conditions, in whole or in part, it would be required to refund the amount of tax benefits (as adjusted by the Israeli consumer price index and for accrued interest) and would no longer benefit from the reduced Israeli tax rate, which could have an adverse effect on our business, financial condition, future results and cash flow. If Ormat Systems distributes dividends out of revenues derived during the tax exemption period from the benefited investment program, it will be subject, in the year in which such dividend is paid, to Israeli income tax on the distributed dividend.

*If our parent defaults on its lease agreement with the Israel Land Administration, or is involved in a bankruptcy or similar proceeding, our rights and remedies under certain agreements pursuant to which we acquired our products business and pursuant to which we sublease our land and manufacturing facilities from our parent may be adversely affected.*

We acquired our business relating to the manufacture and sale of products for electricity generation and related services from our parent, Ormat Industries. In connection with that acquisition, we entered into a sublease with Ormat Industries for the lease of the land and facilities in Yavne, Israel where our manufacturing and production operations are conducted and where our Israeli offices are located. Under the terms of our parent's lease agreement with the Israel Land Administration, any sublease for a period of more than five years may require the prior approval of the Israel Land Administration. As a result, the initial term of our sublease with Ormat Industries is for a period of four years and eleven months beginning on July 1, 2004, extendable to twenty-five years less one day (which includes the initial term). The consent of the Israel Land Administration was obtained for a period of the shorter of (i) 25 years or (ii) the remaining period of the underlying lease agreement with the Israel Land Administration, which terminates between 2018 and 2047. On December 3, 2007, our Board of Directors approved a new lease transaction whereby we will enter into an additional lease agreement with Ormat Industries for the sublease of additional manufacturing facilities that will be built adjacent to the existing facilities. The agreement will expire on the same date as the abovementioned agreement. If our parent were to breach its obligations to the Israel Land Administration under its lease agreement, the Israel Land Administration could terminate the lease agreement and, consequently, our sublease would terminate as well.

As part of the acquisition described in the preceding paragraph, we also entered into a patent license agreement with Ormat Industries, pursuant to which we were granted an exclusive license for certain patents and trademarks relating to certain technologies that are used in our business. If a bankruptcy case were commenced by or against our parent, it is possible that performance of all or part of the agreements entered into in connection with such acquisition (including the lease of land and facilities described above) could be stayed by the bankruptcy court in Israel or rejected by a liquidator appointed pursuant to the Bankruptcy Ordinance in Israel and thus not be enforceable. Any of



these events could have a material and adverse effect on our business, financial condition, future results and cash flow.

**Table of Contents**

*We are a holding company and our revenues depend substantially on the performance of our subsidiaries and the projects 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 most 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 projects, such as the Mammoth project, there may be certain additional restrictions on dividend distributions pursuant to our agreements with our partners. Further, if we elect to receive distributions of earnings from our foreign operations, we may incur United States taxes on account of such distributions, net of any available foreign tax credits. In all of the foreign countries where our existing projects are located, dividend payments to us are also subject to withholding taxes. Each of the events described above may reduce or eliminate the aggregate amount of revenues we can receive from our subsidiaries.

*Some of our directors and executive officers who also hold positions with our parent may have conflicts of interest with respect to matters involving both companies.*

Three of our seven directors are directors and/or officers of Ormat Industries, namely Lucien Bronicki, Dita Bronicki and Yoram Bronicki. In addition, four of our executive officers are also executive officers of Ormat Industries. Specifically, our Chairman, Director and Chief Technology Officer, Lucien Bronicki, is the Chairman of our parent; our Chief Executive Officer and Director, Dita Bronicki, is the Chief Executive Officer of our parent; our Chief Financial Officer, Joseph Tenne, is the Chief Financial Officer of our parent; and our Senior Vice President - Contract Management and Corporate Secretary, Ety Rosner, is the Corporate Secretary of our parent. These directors and officers owe fiduciary duties to both companies and may have conflicts of interest on matters affecting both us and our parent, and in some circumstances may have interests adverse to our interests.

*Our controlling stockholders may take actions that conflict with your interests.*

Ormat Industries Ltd. holds approximately 56.1% of our common stock. Bronicki Investments Ltd. holds approximately 35.22% of the outstanding shares of common stock of Ormat Industries Ltd. as of February 28, 2008 (35.13% on a fully diluted basis). Bronicki Investments Ltd. is a privately held Israeli company and is controlled by Lucien and Dita Bronicki. Because of these holdings, our parent company will be able to exercise control over all matters requiring stockholder approval, including the election of directors, amendment of our certificate of incorporation and approval of significant corporate transactions, and they will have significant control over our management and policies. The directors elected by these stockholders will be able to significantly influence decisions affecting our capital structure. This control may have the effect of delaying or preventing changes in control or changes in management, or limiting the ability of our other stockholders to approve transactions that they may deem to be in their best interest. For example, our controlling stockholders will be able to control the sale or other disposition of our products business to another entity or the transfer of such business outside of the State of Israel; as such action requires the affirmative vote of at least 75% of our outstanding shares.

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

The market price of our common stock is likely to 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-based revenues;

variance in our financial performance from the expectations of market analysts;

**Table of Contents**

conditions and trends in the end markets we serve and changes in the estimation of the size and growth rate of these markets;

announcements of significant contracts by us or our competitors;

changes in our pricing policies or the pricing policies of our competitors;

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; and

general economic conditions.

In addition, the stock market in general, and the New York Stock Exchange 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.

*Future sales of common stock by some of our existing stockholders could cause our stock price to decline.*

As of the date of this report, our parent, Ormat Industries Ltd., holds approximately 56.1% of our outstanding common stock and some of our directors, officers and employees also hold shares of our outstanding common stock. Sales of such shares in the public market, as well as shares we may issue upon exercise of outstanding options, could cause the market price of our common stock to decline. On November 10, 2004, we entered into a registration rights agreement with Ormat Industries whereby Ormat Industries may require us to register our common stock held by it or its directors, officers and employees with the Securities and Exchange Commission or to include our common stock held by it or its directors, officers and employees in an offering and sale by us.

*Provisions in our charter documents and Delaware law may delay or prevent acquisition of us, which could adversely affect the value of our common stock.*

Our restated certificate of incorporation and our bylaws contain provisions that could make it harder for a third party to acquire us without the consent of our Board of Directors. These provisions do not permit actions by our stockholders by written consent. In addition, these provisions include procedural requirements relating to stockholder meetings and stockholder proposals that could make stockholder actions more difficult. Our Board of Directors is classified into three classes of directors serving staggered, three-year terms and may be removed only for cause. Any vacancy on the Board of Directors may be filled only by the vote of the majority of directors then in office. Our Board of Directors has the right to issue preferred stock without stockholder approval, which could be used to institute a poison pill that would work to dilute the stock ownership of a potential hostile acquirer, effectively preventing acquisitions that have not been approved by our Board of Directors. Delaware law also imposes some restrictions on

mergers and other business combinations between us and any holder of 15% or more of our outstanding common stock. Although we believe these provisions provide for an opportunity to receive a higher bid by requiring potential acquirers to negotiate with our Board of Directors, these provisions apply even if the offer may be considered beneficial by some stockholders.

*The Sarbanes-Oxley Act of 2002 imposes significant regulatory, corporate and operational requirements on the Company. Failure to comply with such provisions may have significant adverse consequences to the Company.*

As a public company, we are subject to the Sarbanes-Oxley Act of 2002 (the SOX Act). The SOX Act contains a variety of provisions affecting public companies, including but not limited to, corporate governance

## **Table of Contents**

requirements, our relationship with our auditors, evaluation of our internal disclosure controls and procedures, and evaluation of our internal control over financial reporting. See Management's Report on Internal Control over Financial Reporting and Item 9A. Controls and Procedures .

*Funds we have invested in certain auction rate securities have not been accessible for longer than 12 months and such auction rate securities experienced a decline in value, which has adversely affected our income.*

Our marketable securities portfolio at December 31, 2008 is comprised of auction rate securities with a par value of \$11.2 million. Auction rate securities are securities that are structured with short-term interest rate reset dates of generally less than ninety days, but with contractual maturities that can be well in excess of ten years. At the end of each reset period, which depending on the security can occur on a daily, weekly, or monthly basis, investors can sell or continue to hold the securities at par. In the fourth quarter of 2007 and in 2008, certain auction rate securities held by us with a par value of \$11.2 million failed auction due to sell orders exceeding buy orders. As a result, we changed the way we determine the fair value of some of these investments in our financial statements for the years ended December 31, 2007 and 2008, as described in Note 1 to our consolidated financial statements set forth in Part II Item 8 of this annual report. Among other things, these changes resulted in asset impairment charges and unrealized losses, which adversely affected our income and financial position for 2008.

The funds invested in auction rate securities that have experienced failed auctions will not be accessible until a successful auction occurs, a buyer is found outside of the auction process or the underlying securities have matured.

If the current market conditions deteriorate further, or a recovery in market values does not occur, we may be required to record additional unrealized losses in other comprehensive income or impairment charges in 2009.

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

None.

### **ITEM 2. PROPERTIES**

We currently lease corporate offices at 6225 Neil Road, Reno, Nevada 89511-1136. We also occupy an approximately 66,000 square meter office and manufacturing facility located in the Industrial Park of Yavne, Israel, which we sublease from Ormat Industries. See Item 13 Certain Relationships and Related Transactions . We also lease small offices in each of the countries in which we operate.

We are constructing a new specialized industrial building for our manufacturing activity. We believe that our current facilities and the new facility will be adequate for our operations as currently conducted

Each of our projects 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**

There were no material developments in any legal proceedings to which the Company is a party during the fiscal year 2008, other than as described below.

On November 20, 2008, the Constitutional Chamber of the Supreme Court of Justice ruled in favor of the motion of appeal filed by our Nicaraguan subsidiary, Ormat Momotombo Power Company (OMPC), for protection against an administrative order issued by Nicaragua's Ministry of Natural Resources and Environment of Nicaragua (MARENA) relating to alleged violations of environmental regulations under Nicaraguan law in connection with OMPC's operation of the Momotombo geothermal power plant in that country. The Constitutional Chamber of the Supreme Court of Justice further ruled that all the administrative orders issued

**Table of Contents**

by MARENA during the entire administrative proceeding, both at the territorial level of the City of Leon and at the Ministerial level, shall have no legal effect.

The ruling of the Constitutional Chamber of the Supreme Court of Justice of Nicaragua is of mandatory application from the date of official service of notice, and is final and not subject to any further appeal.

From time to time, we (including our subsidiaries) are a party to various other lawsuits, claims and other legal and regulatory proceedings that arise in the ordinary course of our (and their) 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, we accrue reserves in accordance with U.S. generally accepted accounting principles. We do not believe that any of these proceedings, individually or in the aggregate, would materially and adversely affect our business, financial condition, future results or cash flow.

**ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS**

No matters were submitted to a vote of our security holders during the quarter ended December 31, 2008.



**Table of Contents****PART II****ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES**

Our common stock is traded on the New York Stock Exchange under the symbol "ORA". Public trading of our stock commenced on November 11, 2004. Prior to that, there was no public market for our stock. As of February 24, 2009, there were 15 record holders of the Company's common stock. On February 24, 2009, our stock's closing price as reported on the New York Stock Exchange was \$29.42 per share.

**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 of Directors 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 of Directors would prevent us from meeting such business plan or obligations.

Notwithstanding this policy, dividends will be paid only when, as and if approved by our Board of Directors out of funds legally available therefore. The actual amount and timing of dividend payments will depend upon our financial condition, results of operations, business prospects and such other matters as the board may deem relevant from time to time. Even if profits are available for the payment of dividends, the Board of Directors could determine that such profits should be retained for an extended period of time, used for working capital purposes, expansion or acquisition of businesses or any other appropriate purpose. As a holding company, we are dependent upon the earnings and cash flow of our subsidiaries in order to fund any dividend distributions and, as a result, we may not be able to pay dividends in accordance with our policy. Our Board of Directors may, from time to time, examine our dividend policy and may, in its absolute discretion, change such policy.

We have declared the following dividends over the past two years:

<b>Date Declared</b>	<b>Dividend Amount per Share</b>	<b>Record Date</b>	<b>Payment Date</b>
February 27, 2007	\$ 0.07	March 21, 2007	March 29, 2007
May 8, 2007	\$ 0.05	May 22, 2007	May 29, 2007
August 8, 2007	\$ 0.05	August 22, 2007	August 29, 2007
November 6, 2007	\$ 0.05	November 28, 2007	December 12, 2007
February 26, 2008	\$ 0.05	March 14, 2008	March 27, 2008
May 6, 2008	\$ 0.05	May 20, 2008	May 27, 2008
August 5, 2008	\$ 0.05	August 19, 2008	August 29, 2008
November 5, 2008	\$ 0.05	November 19, 2008	December 1, 2008
February 24, 2009	\$ 0.07	March 16, 2009	March 26, 2009

**High/Low Stock Prices:**

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Ormat Technologies, Inc. (ORA) High and Low Prices for the years ended December 31, 2007 and 2008, and from January 1 until February 24, 2009:

	<b>First Quarter 2007</b>	<b>Second Quarter 2007</b>	<b>Third Quarter 2007</b>	<b>Fourth Quarter 2007</b>	<b>First Quarter 2008</b>	<b>Second Quarter 2008</b>	<b>Third Quarter 2008</b>	<b>Fourth Quarter 2008</b>	<b>January 1 to February 24, 2009</b>
High:	\$ 37.00	\$ 33.72	\$ 46.34	\$ 57.00	\$ 56.12	\$ 54.94	\$ 50.43	\$ 35.00	\$ 35.29
Low:	\$ 44.59	\$ 41.99	\$ 36.33	\$ 46.82	\$ 39.79	\$ 45.15	\$ 36.33	\$ 22.85	\$ 28.22

**Table of Contents****Stock Performance Graph:**

The following performance graph represents the cumulative total shareholder return for the period November 11, 2004 (the date upon which trading of the Company's common stock commenced) through December 31, 2008 for our common stock, as compared to the Standard and Poor's Composite 500 Index, and a peer group.

	11/11/2004	12/31/2004	12/31/2005	12/31/2006	12/31/2007	12/31/2008
Ormat Technologies Inc	\$ 100	\$ 109	\$ 174	\$ 245	\$ 367	\$ 212
Standard & Poor's Composite 500 Index	\$ 100	\$ 108	\$ 111	\$ 126	\$ 131	\$ 80
IPP Peers*	\$ 100	\$ 119	\$ 110	\$ 167	\$ 163	\$ 131
Renewable Peers*	\$ 100	\$ 126	\$ 202	\$ 170	\$ 327	\$ 102

\* Independent Power Producer (IPP) Peers are The AES Corporation, NRG Energy Inc., Calpine Corporation and International Power PLC. Renewable Energy (Renewable) Peers are Acciona S.A., Evergreen Solar Inc., Energy Conversion Devices Inc., Nevada Geothermal Power Corp., Razer Technologies Inc. and U.S. Geothermal Inc.

The above Stock Performance Graph shall not be deemed to be soliciting material or to be filed with the SEC under the Securities Act and the Exchange Act except to the extent that the Company specifically requests that such information be treated as soliciting material or specifically incorporates it by reference into a filing under the Securities Act or the Exchange Act.

**Equity Compensation Plan Information**

For information on our equity compensation plan, refer to Item 12 Security Ownership of Certain Beneficial Owners and Management .

**Table of Contents**

**Unregistered Sales of Equity Securities and Use of Proceeds from Registered Securities**

Previously reported.

**Available Financial Information**

We make available our annual report, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 free of charge on our website at [www.ormat.com](http://www.ormat.com), as soon as reasonably practicable after they are electronically filed or furnished to the SEC. Additionally, copies of materials filed by us with the SEC may be accessed at the SEC's Public Reference Room at 100 F Street, N.E. Washington, D.C. 20549 or at <http://www.sec.gov>. For information about the SEC's Public Reference Room, the public may contact 1-800-SEC-0330. The contents of our website are not incorporated into, or otherwise to be regarded as a part of, this annual report.

**Table of Contents****ITEM 6. SELECTED FINANCIAL DATA**

The following table sets forth our selected consolidated financial data for the years ended and at the dates indicated. We have derived the selected consolidated financial data for the years ended December 31, 2008, 2007 and 2006 and as of December 31, 2008 and 2007 from our audited consolidated financial statements set forth in Part II Item 8 of this annual report. We have derived the selected consolidated financial data for the years ended December 31, 2005 and 2004, and as of December 31, 2006, 2005 and 2004 from our audited consolidated financial statements not included herein.

The information set forth below should be read in conjunction with Item 7 Management's Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements set forth in Part II Item 8 of this annual report.

	<b>Years Ended December 31,</b>				
	<b>2008</b>	<b>2007</b>	<b>2006</b>	<b>2005</b>	<b>2004</b>
	<b>(in thousands, except per share data)</b>				
<b>Statements of Operations Data:</b>					
Revenues:					
Electricity	\$ 252,256	\$ 215,969	\$ 195,483	\$ 177,369	\$ 158,831
Products	92,577	79,950	73,454	60,623	60,399
Total revenues	344,833	295,919	268,937	237,992	219,230
Cost of revenues:					
Electricity	170,053	148,698	124,356	103,615	89,742
Products	72,755	68,036	51,215	45,236	46,336
Total cost revenues	242,808	216,734	175,571	148,851	136,078
Gross margin:	102,025	79,185	93,366	89,141	83,152
Operating expenses (income):					
Research and development expenses	4,595	3,663	2,983	3,036	2,175
Selling and Marketing expenses	10,885	10,645	10,361	7,876	7,769
General and administrative expenses	25,938	21,416	18,094	14,320	11,609
Gain on sale of geothermal resource rights					(845)
Operating income	60,607	43,461	61,928	63,909	62,444
Other income (expense):					
Interest income	3,118	6,565	6,560	4,308	1,316
Interest expense	(7,677)	(26,983)	(30,961)	(55,317)	(42,785)
Foreign currency translation and transaction loss	(7,721)	(1,339)	(704)	(439)	(146)
Impairment of auction rate securities	(4,195)	(2,020)			
Other non-operating income	771	890	694	512	112
	44,903	20,574	37,517	12,973	20,941

Income before income taxes, minority interest and equity in income of investees					
Income tax provision	(7,962)	(1,822)	(6,403)	(4,690)	(6,609)
Minority interest	11,166	3,882	(813)		(108)
Equity in income of investees	1,725	4,742	4,146	6,894	3,567
Net income	\$ 49,832	\$ 27,376	\$ 34,447	\$ 15,177	\$ 17,791

**Table of Contents**

	<b>Years Ended December 31,</b>				
	<b>2008</b>	<b>2007</b>	<b>2006</b>	<b>2005</b>	<b>2004</b>
	<b>(in thousands, except per share data)</b>				
<b>Earnings per share:</b>					
Basic	\$ 1.13	\$ 0.71	\$ 1.00	\$ 0.48	\$ 0.72
Diluted	\$ 1.12	\$ 0.70	\$ 0.99	\$ 0.48	\$ 0.72
<b>Weighted average number of shares used in computation of earnings per share:</b>					
Basic	44,182	38,762	34,593	31,563	24,806
Diluted	44,298	38,880	34,707	31,609	24,806
Cash dividend per share declared during the year	\$ 0.2000	\$ 0.2200	\$ 0.1500	\$ 0.1200	\$ 0.1025
<b>Balance Sheet Data (at end of year):</b>					
Cash and cash equivalents	\$ 34,393	\$ 47,227	\$ 20,254	\$ 26,976	\$ 36,750
Working capital	3,296	22,337	34,429	36,616	50,341
Property, plant and equipment, net (including construction-in process)	1,344,687	977,400	793,164	620,091	527,003
Total Assets	1,637,691	1,274,909	1,160,102	914,480	850,088
Long-term debt (including current portion)	386,635	322,472	372,009	365,539	384,515
Notes payable to Parent (including current portion)	26,200	57,847	140,153	171,805	193,852
Stockholders equity	846,428	618,083	440,794	182,259	167,914

**Table of Contents**

**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***

We are a leading vertically integrated company engaged in the geothermal and recovered energy power business. We design, develop, build, own, and operate clean, environmentally friendly geothermal and recovered energy-based power plants, in most cases using equipment that we design and manufacture.

Our geothermal power plants include both power plants that we have built and power plants that we have acquired, while all of our recovered energy-based plants have been constructed by us. We conduct our business activities in two business segments, which we refer to as our Electricity Segment and Products Segment. In our Electricity Segment, we develop, build, own, and operate geothermal 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 our Products Segment, we design, manufacture and sell equipment for geothermal and recovered energy-based electricity generation, remote power units and other power generating units and provide services relating to the engineering, procurement, construction, operation and maintenance of geothermal and recovered energy power plants. Both our Electricity Segment and Products Segment operations are conducted in the United States and throughout the world. Our current generating portfolio includes geothermal plants in the United States, Guatemala, Kenya, Nicaragua and New Zealand, as well as recovered energy generation (REG) plants in the United States. During the years ended December 31, 2008 and 2007, our U.S. power plants generated 2,266,422 MWh and 1,994,263 MWh, respectively.

For the year ended December 31, 2008, our Electricity Segment represented approximately 73.2% of our total revenues, while our Products Segment represented approximately 26.8% of our total revenues during such year.

For the year ended December 31, 2008, our total revenues increased by 16.5% (from \$296.0 million to \$344.8 million) over the previous year. Revenues from the Electricity Segment increased by 16.8%, while revenues from the Products Segment increased by 15.8%.

For the year ended December 31, 2008, total Electricity Segment revenues from the sale of electricity by our consolidated power plants were \$252.3 million, as compared to \$216.0 for the year ended December 31, 2007. In addition, revenues from our 50% ownership of the Mammoth Project were \$9.6 million for the year ended December 31, 2008. This additional data is a Non-Generally Accepted Accounting Principles (Non-GAAP) financial measure as defined by the SEC. There is no comparable GAAP measure. Management believes that such Non-GAAP data is useful to the readers as it provides a more complete view on the scope of the activities of the power plants that we operate. Our investment in the Mammoth project is accounted for in our consolidated financial statements under the equity method and the revenues are not included in our consolidated revenues for the year ended December 31, 2008.



For the year ended December 31, 2008, revenues attributable to our Products Segment were \$92.6 million, as compared to \$80.0 million during the year ended December 31, 2007, an increase of 15.8%. Most of the increase in revenues was derived from two large geothermal projects, the Blue Mountain project in Nevada and the Centennial Binary Plant in New Zealand.

## **Table of Contents**

In the year ended December 31, 2008, we received new purchase orders for the supply and construction of geothermal and REG plants in a total amount of \$245 million. Purchase orders for geothermal power plants included EPC contracts in the total amount of \$118 million for the Blue Mountain project in Nevada and the Centennial project in New Zealand. In January 2009 we signed a \$65 million supply contract for the Las Pailas project in Costa Rica.

During the year ended December 31, 2008, we recognized revenues in our Products Segment of approximately \$16.1 million from REG compared to \$37.3 million during the year ended December 31, 2007.

Revenues from our Electricity Segment are relatively predictable, as they are derived from sales of electricity generated by our power plants pursuant to long-term power purchase agreements. The price for electricity under all but one of our power purchase agreements is effectively a fixed price at least through May 2012. The exception is the power purchase agreement of the Puna project. It has a variable energy rate based on the local utility's short run avoided costs, which is the incremental cost that the power purchaser avoids by not having to generate such electrical energy itself or purchase it from others. In the year ended December 31, 2008, approximately 74.0% of our electricity revenues were derived from contracts with fixed energy rates, and therefore our electricity revenues were not affected by the fluctuations in energy commodity prices. However, electricity revenues are subject to seasonal variations and can be affected by higher-than-average ambient temperatures, as described below under the heading *Seasonality*. Revenues attributable to our Products Segment are based on the sale of equipment and the provision of various services to our customers. These revenues may vary from period to period because of the timing of our receipt of purchase orders and the progress of our execution of each project.

Our management assesses the performance of our two segments of operation differently. In the case of our Electricity Segment, when making decisions about potential acquisitions or the development of new projects, we typically focus on the internal rate of return of the relevant investment, relevant technical and geological matters and other relevant business considerations. We evaluate our operating projects based on revenues and expenses, and our projects that are under development based on costs attributable to each such project. We evaluate the performance of our Products Segment based on the timely delivery of our products, performance quality of our products and costs actually incurred to complete customer orders as compared to the costs originally budgeted for such orders.

### ***Trends and Uncertainties***

The geothermal industry in the United States has historically experienced significant growth followed by a consolidation of owners and operators of geothermal power plants. During the 1990s, growth and development in the geothermal industry occurred primarily in foreign markets and only minimal growth and development occurred in the United States. Since 2001, there has been increased demand for energy generated from geothermal resources in the United States as production costs for electricity generated from geothermal resources have become more competitive relative to fossil fuel generation. This has been partly due to increasing natural gas and oil prices during much of this period and more recently due to newly enacted legislative and regulatory incentives, such as state renewable portfolio standards and federal tax credits. We see the increasing demand for energy generated from geothermal and other renewable resources in the United States and the further introduction of renewable portfolio standards as the most significant trends affecting our industry today and in the immediate future. Our operations and the trends that from time to time impact our operations are subject to market cycles.

We expect to continue to generate the majority of our revenues from our Electricity Segment through the sale of electricity from our power plants. All of our current revenues from the sale of electricity are derived from fully-contracted payments under long-term power purchase agreements. We also intend to continue to pursue growth in our recovered energy business.



## **Table of Contents**

Although other trends, factors and uncertainties may impact our operations and financial condition, including many that we do not or cannot foresee, we believe that our results of operations and financial condition for the foreseeable future will be affected by the following trends, factors and uncertainties:

The recent worldwide financial and credit crisis has reduced the availability of liquidity and credit to fund the continuation and expansion of industrial business operations worldwide. We have sufficient financial resources to fund our projected activities for 2009. If economic conditions worsen, the cost of obtaining financing for our project needs may increase or such financing may not be available at all. If these conditions continue or worsen, they may result in reduced worldwide demand for energy, which may adversely affect both our Electricity and Products Segments. Among other things, we might face: (i) potential declines in revenues in our Products Segment due to reduced orders or other factors caused by economic challenges faced by our customers and prospective customers; (ii) potential declines in revenues from some of our existing geothermal power projects as a result of curtailed electricity demand and low oil and gas prices; and (iii) potential adverse impacts on our customers' ability to pay, when due, amounts payable to us. In addition, we may experience related increases in our cost of capital associated with any increased working capital or borrowing needs we may have if our customers do not pay, or if we are unable to collect amounts payable to us in full (or at all) if any of our customers fail or seek protection under applicable bankruptcy or insolvency laws.

Our primary focus continues to be the implementation of our organic growth through exploration, development, the construction of new projects and enhancements of existing projects. We expect that this investment in organic growth will increase our total generating capacity, consolidated revenues and operating income attributable to our Electricity Segment year over year. We are also looking at acquisition opportunities that may arise as a result of the current financial crisis.

Until the end of the third quarter of 2008, we experienced increases in the cost of raw materials, labor and transportation costs required for our manufacturing activities and equipment used in our power plants, as well as for sale to third parties. We also experienced an increase in drilling costs and a shortage in drilling equipment. We believe this was the result of the increased drilling activity in the marketplace due to the high oil price environment. The recent decrease in the price of oil and other commodities may reduce such costs in the future, which may serve to partially offset the negative impact of increased financing cost as described above. Also, this decrease in the price of oil will reduce our revenues from the Puna project in 2009, since the energy prices in such project are based on Hawaii Electric Light Company's avoided costs, which are influenced by the price of oil.

In the United States, we expect to continue to benefit from the increasing demand for renewable energy. Thirty-three states and the District of Columbia, including California, Nevada and Hawaii (where we have been most active in geothermal development and in which all of our U.S. geothermal projects are located) have adopted renewable portfolio standards, renewable portfolio goals or other similar laws. These laws require that an increasing percentage of the electricity supplied by electric utility companies operating in such states be derived from renewable energy resources until certain pre-established goals are met. We expect that the additional demand for renewable energy from utilities in such states will outpace a possible reduction in general demand for energy due to the economic slow down and will continue to create opportunities for us to expand existing projects and build new power plants.

On February 17, 2009, President Obama signed into law the American Recovery and Reinvestment Act (ARRA), which extended the existing tax subsidy for companies that use geothermal steam or fluid to generate electricity. The existing tax subsidy is a production tax credit, which in 2008 was 2.1 cents per kWh and is adjusted annually for inflation. The production tax credit may be claimed for ten years on the electricity

output of new geothermal power plants put into service by December 31, 2013. The ARRA also allows companies that generate electricity from certain renewable sources, including geothermal steam or fluid, to forego the production tax credit and elect instead a one-time investment tax credit equal to 30% of the cost of the renewable energy production facility. The investment tax credit is claimed when the qualifying facility is placed in service for federal income tax purposes. Companies that begin construction on, or place in service qualifying renewable energy facilities, during 2009 or

**Table of Contents**

2010 may choose to apply for a cash grant from the Department of Treasury in an amount equal to the investment tax credit. Under the ARRA, the Department of Treasury is instructed to pay the cash grant within 60 days of the application or the date on which the qualifying facility is placed in service. We believe that a number of our new geothermal plants should qualify for the cash grant from the Department of Treasury. Although the implementation and scope of the new subsidies under the ARRA are still uncertain, we expect them to lead to increased sources of capital for our business.

Production of electricity from geothermal resources is also supported under the new Temporary Program For Rapid Deployment of Renewable Energy and Electric Power Transmission Projects established with the U.S. Department of Energy as part of the Department of Energy's existing Innovative Technology Loan Guarantee Program. The new program: (i) extends the scope of the existing federal loan guarantee program to cover renewable energy projects, renewable energy component manufacturing facilities and electricity transmission projects that embody established commercial, as well as innovative, technologies; and (ii) provides an appropriation to cover the credit subsidy costs of such projects (meaning the estimated average costs to the federal government from issuing the loan guarantee, equivalent to a lending bank's loan loss reserve).

To be eligible for a guarantee under the new program, a supported project must break ground, and the guarantee must be issued, by September 30, 2011. A project supported by the federal guarantee under the new program must pay prevailing federal wages.

Based on the appropriation of \$6 billion to pay the credit subsidy costs of guarantees issued under the new program, it is likely that between \$60 billion to \$120 billion of financing (assuming average subsidy requirements between 10% and 5%, respectively) will be available to eligible projects, including geothermal power plants.

Outside of the United States, we expect that a variety of governmental initiatives will create new opportunities for the development of new projects, as well as 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.

We expect that the increased awareness of climate change may result in significant changes in the business and regulatory environments, which may create business opportunities for us going forward. Although federal legislation addressing climate change appears likely, several states and regions are already addressing climate change. For example, the California Global Warming Solutions Act of 2006 (the Act), which was signed into law in September 2006, regulates most sources of greenhouse gas emissions and aims to reduce greenhouse gas emissions to 1990 levels by 2020, representing an approximately 30% reduction in greenhouse gas emissions. Measures for implementing the Act will be in place by 2012. California's long-term climate change goals are reflected in Executive Order S-3-05, which requires an 80% reduction of greenhouse gases from 1990 levels by 2050. In addition to California, eighteen other states have set greenhouse gas emissions targets (Arizona, Connecticut, Florida, Hawaii, Illinois, Massachusetts, Maine, Minnesota, New Hampshire, New Jersey, New Mexico, New York, Oregon, Rhode Island, Utah, Vermont, Virginia and Washington). Regional initiatives, such as the Western Climate Initiative (which includes seven U.S. states and four Canadian provinces) and the Midwest Greenhouse Gas Reduction Accord, are also being developed to reduce greenhouse gas emissions and develop trading systems for renewable energy credits. In September 2008, the first-in-the-nation auction of CO<sub>2</sub> allowances was held under the Regional Greenhouse Gas Initiative (RGGI), a regional cap-and-trade system, which includes ten Northeast and Mid-Atlantic States. Under RGGI, the ten participating states plan to stabilize power sector carbon emissions at their capped level, and then reduce the cap by 10 percent at a rate of 2.5 percent each year between 2015 and 2018. In addition, thirty-three states and

the District of Columbia have all adopted renewable portfolio standards (RPS), renewable portfolio goals, or similar laws requiring or encouraging electric utilities in such states to generate or buy a certain percentage of their electricity from renewable

## **Table of Contents**

energy sources or recovered heat sources. In November 2008, California, by Executive Order, adopted a goal for all retailers of electricity to serve 33% of their load with renewable energy by 2020. Although it is currently difficult to quantify the direct economic benefit of these efforts to reduce greenhouse gas emissions, we believe they will prove advantageous to us.

We expect competition from the wind and solar power generation industry to continue. While the current demand for renewable energy is large enough that this increased competition has not materially impacted our ability to obtain new power purchase agreements, it may contribute to a reduction in electricity prices. Despite increased competition from the wind and solar power generation industry, we believe that baseload electricity, such as geothermal-based energy, will emerge as the preferred source of renewable energy.

We expect increased competition from new entrants to the geothermal industry, both in the power generation space and in the lease of geothermal resources. While the current demand for renewable energy is large enough that increased competition has not impacted our ability to obtain new power purchase agreements and new leases, increased competition in the power generation space may contribute to a reduction in electricity prices, and increased competition in geothermal leasing may contribute to an increase in lease costs.

The viability of our geothermal power plants depends on various factors such as the heat content of the geothermal reservoir, useful life of the reservoir (the term during which such geothermal reservoir has sufficient extractable fluids for our operations) and operational factors relating to the extraction of the geothermal fluids. Our geothermal power plants may experience an unexpected or gradual decline in the capacity of their respective geothermal wells. Such factors, together with the possibility that we may fail to find commercially viable geothermal resources in the future, represent significant uncertainties we face in connection with our operations.

As our power plants age, they may require increased maintenance with a resulting decrease in their availability, potentially leading to the imposition of penalties if we are not able to meet the requirements under our power purchase agreements as a result of such decrease in availability.

Our foreign operations are subject to significant political, economic and financial risks, which vary by country. Those risks include the partial privatization of the electricity sector in Guatemala, labor unrest in Nicaragua and the political uncertainty currently prevailing in some of the countries in which we operate. Although we maintain political risk insurance to mitigate these risks, insurance does not provide complete coverage with respect to all such risks.

The Energy Policy Act of 2005 authorizes FERC to revise PURPA so as to terminate the obligation of electric utilities to purchase the output of a Qualifying Facility if FERC finds that there is an accessible competitive market for energy and capacity from the Qualifying Facility. The legislation does not affect existing power purchase agreements. We do not expect this change in law to affect our U.S. projects significantly, as all of our current contracts are long-term. FERC issued a final rule that makes it easier to eliminate the utilities purchase obligation in four regions of the country. None of those regions includes a state in which our current projects operate. However, FERC has the authority under the Energy Policy Act of 2005 to act, on a case-by-case basis, to eliminate the mandatory purchase obligation in other regions. If the utilities in the regions in which our domestic projects operate were to be relieved of the mandatory purchase obligation, they would not be required to purchase energy from us upon termination of the existing power purchase agreement, which could have an adverse effect on our revenues.

## ***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; and the construction, installation and engineering of power plant equipment.

**Table of Contents**

Revenues attributable to our Electricity Segment are relatively predictable as they are derived from the sale of electricity from our power plants pursuant to long-term power purchase agreements. However, such revenues are subject to seasonal variations, as more fully described below in the section entitled "Seasonality". Electricity Segment revenues may also be affected by higher-than-average ambient temperature, which could cause a decrease in the generating capacity of our power plants, and by unplanned major maintenance activities related to our power plants.

Our power purchase agreements generally provide for the payment of energy or energy and capacity payments. Generally, capacity payments are payments calculated based on the amount of time that our power plants are available to generate electricity. Some of our power purchase agreements provide for bonus payments in the event that we are able to exceed certain target levels and the potential forfeiture of payments if we fail to meet minimum 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. The rates applicable to such payments are either fixed (subject, in certain cases, to certain adjustments) or are based on the relevant power purchaser's short run avoided costs (the incremental costs that the power purchaser avoids by not having to generate such electrical energy itself or purchase it from others). Our more recent power purchase agreements provide generally for energy payments alone with an obligation to compensate the off-taker for its incremental costs as a result of shortfalls in our supply.

Revenues attributable to our Products Segment are generally less predictable than revenues from our Electricity Segment. This is because larger customer orders for our products are typically a result of our participating in, and winning tenders or requests for proposals issued by potential customers in connection with projects they are developing. Such projects often take a long time to design and develop and are often subject to various contingencies such as the customer's ability to raise the necessary financing for a project. As a result, 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, our revenues from our Products Segment fluctuate (and at times, extensively) from period to period. We may experience declines in revenues in our Products Segment due to reduced orders or other factors caused by economic challenges faced by our customers and prospective customers.

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

	<b>Revenues in Thousands</b>			<b>% of Revenues for Period Indicated</b>		
	<b>Year Ended December 31,</b>			<b>Year Ended December 31,</b>		
	<b>2008</b>	<b>2007</b>	<b>2006</b>	<b>2008</b>	<b>2007</b>	<b>2006</b>
Revenues						
Electricity Segment	\$ 252,256	\$ 195,483	\$ 177,369	73.2%	72.7%	74.5%
Products Segment	92,577	73,454	60,623	26.8	27.3	25.5
Total	\$ 344,833	\$ 268,937	\$ 237,992	100.0%	100.0%	100.0%

***Geographical breakdown of revenues***

For the years ended December 31, 2008, 2007 and 2006, 82.0%, 83.3% and 83.3%, respectively, of the revenues attributable to our Electricity Segment were generated in the United States. The following table sets forth the geographic breakdown of the revenues attributable to our Electricity Segment for the years indicated:

	<b>Revenues in Thousands</b>			<b>% of Revenues for Period Indicated</b>		
	<b>Year Ended December 31,</b>			<b>Year Ended December 31,</b>		
	<b>2008</b>	<b>2007</b>	<b>2006</b>	<b>2008</b>	<b>2007</b>	<b>2006</b>
United States	\$ 206,795	\$ 179,999	\$ 162,844	82.0%	83.3%	83.3%
Foreign	45,461	35,970	32,639	18.0	16.7	16.7
Total	\$ 252,256	\$ 215,969	\$ 195,483	100.0%	100.0%	100.0%

In the years ended December 31, 2008, 2007 and 2006, 45.2%, 28.1% and 14.3%, respectively, of the revenues attributable to our Products Segments were generated in the United States.

## **Table of Contents**

### ***Seasonality***

The prices paid for the electricity generated by our domestic projects pursuant to our power purchase agreements are subject to seasonal variations. The prices paid for electricity under the power purchase agreements with Southern California Edison, for the Heber 1 and 2 projects, the Mammoth project and the Ormesa project and the prices that will be paid for the electricity under the power purchase agreement for the North Brawley project are higher in the months of June through September. As a result, we receive, and will receive in the future, higher revenues during such months. The prices paid for electricity pursuant to the power purchase agreements of our projects in Nevada have no significant changes during the year. In the winter, due principally to the lower ambient temperature, our power plants produce more energy and as a result we receive higher energy revenues. However, the higher capacity payments payable by Southern California Edison in California in the summer months have a more significant impact on our revenues than that of the higher energy revenues generally generated in winter due to increased efficiency. As a result, our revenues are generally higher in the summer than in the winter. The prices paid for electricity pursuant to the power purchase agreement of the Puna project are tied to the price of oil. Accordingly, our revenues for that project, which accounted for approximately 16.7% of our total revenues for the year ended December 31, 2008, are volatile.

### **Breakdown of Cost of Revenues**

#### ***Electricity Segment***

The principal cost of revenues attributable to our operating projects include operation and maintenance expenses such as depreciation and amortization, 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, and insurance and, for the California projects, transmission charges, scheduling charges and purchases of sweet water for use in our plant cooling towers. 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 projects from quarter to quarter. Payments made to government agencies and private entities on account of site leases where 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. For the year ended December 31, 2008, royalties constituted approximately 5.1% of the Electricity Segment revenues, compared to approximately 4.3% in the year ended December 31, 2007.

#### ***Products Segment***

The principal cost of revenues attributable to our Products Segment include materials, salaries and related employee benefits, expenses related to subcontracting activities, transportation expenses, and sales commissions to sales representatives. Some of the principal expenses attributable to our Products 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 Products 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.

#### ***Cash, Cash Equivalents and Short-Term Marketable Securities***

Our cash, cash equivalents and short-term marketable securities as of December 31, 2008 decreased to \$34.4 million from \$60.7 million as of December 31, 2007. This decrease is principally due to our use during 2008 of

\$416.6 million of cash resources to fund capital expenditures and \$65.8 million to repay long-term debt to our parent and to third parties. These expenditures were partially offset by the \$149.7 million net proceeds from our sale of 3,100,000 shares of common stock to Lehman Brothers in a block trade in May 2008 at a price of \$48.36 per share (net of underwriting fees and commissions), the \$33.3 million net proceeds from our sale of 693,750 shares to our parent at a price of \$48.02 per share on January 8, 2008, the \$63.0 million net proceeds from the second closing of the OPC tax monetization transaction, the utilization of \$125.0 million

**Table of Contents**

of lines of credit from commercial banks, and the \$116.7 million derived from operating activities in the year ended December 31, 2008. In addition, we have \$2.0 million and \$2.8 million, respectively, of marketable securities as of December 31, 2008 and December 31, 2007 classified as non-current assets. This classification is due to failed auctions in the fourth quarter of 2007 and in 2008 of certain auction rate securities in our portfolio, as described below in the section entitled *Exposure to Market Risks*. Our corporate borrowing capacity has increased to \$347.5 million under committed lines of credit with different commercial banks, as described below in the section entitled *Liquidity and Capital Resources*, of which as of December 31, 2008 we utilized \$125.0 million (including \$25.0 million of letters of credit).

**Critical Accounting Policies**

Our significant accounting policies are more fully described in Note 1 to our audited consolidated financial statements set forth in Part II Item 8 of this annual report. However, certain of our accounting policies are particularly important to the portrayal of our financial position and results of operations. In applying these critical accounting policies, 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 related to the sale of electricity from our geothermal and recovered energy-based power plants and capacity payments paid in connection with such sales (electricity revenues) are recorded based upon output delivered and capacity provided by such power plants at rates specified pursuant to the relevant power purchase agreements. The power purchase agreements are exempt from derivative treatment due to the normal purchase and sale exception. Revenues related to power purchase agreements accounted for as operating leases under Emerging Issues Task Force Issue (EITF) No. 01-8, *Determining whether an Arrangement Contains a Lease*, with minimum lease rentals which vary over time are generally recognized on a straight-line basis over the term of the power purchase agreement. Revenues generated from engineering and operating services and sales of products and parts are recorded once the service is provided or product delivery is made, as applicable.

Revenues generated from the construction of geothermal and recovered energy power plant equipment and other equipment on behalf of third parties (products revenues) are recognized using the percentage of completion method. The percentage of completion method 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 Products Segment are inaccurate, then the percentage of completion is inaccurate resulting in an over- or under-estimate of gross margins. As a result, we review and update our cost estimates on significant contracts on a quarterly basis, and no less than annually 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.

*Property, Plant and Equipment.* All costs associated with the acquisition, development and construction of power plant facilities are capitalized. 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 power purchase agreements, geothermal resources, the location of the assets and

specific project 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.

**Table of Contents**

We capitalize costs incurred in connection with the exploration and development of geothermal resources on an area-of-interest basis. All such costs, which include dry hole costs and the cost of drilling and equipping production wells and other directly attributable costs, are capitalized and amortized over their estimated useful lives when production commences. Although we do not commence exploration activities until feasibility studies have determined that the project is capable of commercial production, it is possible that economically recoverable reserves will not be found in an area of interest and exploration activities will be abandoned. In this case, capitalized exploration costs would be expensed.

*Impairment of Long-Lived Assets and Long-Lived Assets to be Disposed of.* We evaluate long-lived assets, such as property, plant and equipment, exploration and drilling costs, power purchase agreements, and unconsolidated investments 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 acquired assets or our overall business strategy, negative industry or economic trends, a determination that a suspended project is not likely to be completed, 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. 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 project and rates to be received under the respective power purchase agreement; and (ii) projected operating expenses of the relevant project. 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 our 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. 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. If actual results are not consistent with our assumptions used in estimating future cash flows and fair values, we may incur additional losses that could be material to our financial condition or results of operations.

*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. Our liabilities related to the retirement of our assets include our obligation to plug wells upon termination of our operating activities, the dismantling of our geothermal 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 will either settle the obligation for its recorded amount or will 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 project 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.



*Marketable Securities.* Our marketable securities consist of debt securities (mainly auction rate securities and commercial paper). We account for such securities in accordance with SFAS No. 115, *Accounting for Investments in Debt and Equity Securities*. All of our investments in marketable securities (including marketable securities which are part of restricted cash accounts) are treated as available-for-sale under SFAS No. 115. We report marketable securities at fair value with the related unrealized gains and losses included in accumulated other comprehensive income (loss), a component

**Table of Contents**

of stockholders' equity, net of tax. Net realized gains or losses are reported in other income (expense). We evaluate our investments periodically for possible other-than-temporary impairment by reviewing factors such as the length of time and extent to which fair value has been below cost basis, the financial condition of the issuer and our ability and intent to hold the investment for a period of time which may be sufficient for anticipated recovery of market value. An impairment charge is recorded to the extent that the carrying value of available-for-sale securities exceeds the estimated fair market value of the securities and the decline in value is determined to be other-than-temporary.

Auction rate securities are securities that are structured with short-term interest rate reset dates of generally less than ninety days but with contractual maturities that can be well in excess of ten years. At the end of each reset period, which in our case occurs every twenty-eight days, investors can sell or continue to hold the securities at par. These securities are subject to fluctuations in fair value depending on the supply and demand at each auction. In the fourth quarter of 2007 and in 2008, some of the auction rate securities we held failed to sell in the auctions that are held periodically to re-set the interest rate on those securities. As a result, consistent with our policies described above, we recorded asset impairment charges and unrealized losses for certain of the auction rate securities we held, and classified those securities with failed auctions as long-term assets in our consolidated balance sheets as of December 31, 2008 and 2007. These charges and the amounts involved are set forth in Note 6 to our consolidated financial statements for the years ended December 31, 2008 and 2007 set forth in Item 8 of this annual report. Due to current economic conditions, we may continue to incur losses associated with our auction rate securities.

*Accounting for Income Taxes.* Significant estimates are required to arrive at our consolidated income tax provision and other tax balances. This process requires us to estimate our actual current tax exposure and to make an assessment of temporary differences resulting from differing 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 likely, a valuation allowance is recorded.

In assessing the need for a valuation allowance, we estimate future taxable income, considering the feasibility of ongoing tax planning strategies and the realization of 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. Although realization is not assured, management believes it is more likely than not that the deferred tax asset as of December 31, 2008 will be realized. In the event we were to determine that we would not be able to realize all or a portion of our deferred tax assets in the future, we would reduce such amounts through a charge to income in the period in which that determination is made or when tax law changes are enacted.

In the ordinary course of business, there is 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, we have recorded the largest amount of tax benefit with a greater than 50% likelihood of being realized upon ultimate settlement with a taxing authority that has full knowledge of all relevant information. For those income tax positions where it is not more likely than not that a tax benefit will be sustained, no tax benefit has been recognized in the consolidated financial statements. Resolution of these 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.



**Table of Contents****Results of Operations**

Our historical operating results in dollars and as a percentage of total revenues are presented below. A comparison of the different years described below may be of limited utility due to the following: (i) our recent construction of new projects and enhancement of acquired projects; and (ii) fluctuation in revenues from our Products Segment. A number of operational issues in the first quarter of 2007 resulted in both reduced revenues and increased costs for the year ended December 31, 2007.

	<b>Year Ended December 31,</b>		
	<b>2008</b>	<b>2007</b>	<b>2006</b>
	<b>(in thousands, except per share data)</b>		
<b>Statements of Operations Historical Data:</b>			
<b>Revenues:</b>			
Electricity Segment	\$ 252,256	\$ 215,969	\$ 195,483
Products Segment	92,577	79,950	73,454
	344,833	295,919	268,937
<b>Cost of revenues:</b>			
Electricity Segment	170,053	148,698	124,356
Products Segment	72,755	68,036	51,215
	242,808	216,734	175,571
<b>Gross margin:</b>			
Electricity Segment	82,203	67,271	71,127
Products Segment	19,822	11,914	22,239
	102,025	79,185	93,366
<b>Operating expenses:</b>			
Research and development expenses	4,595	3,663	2,983
Selling and marketing expenses	10,885	10,645	10,361
General and administrative expenses	25,938	21,416	18,094
Operating income	60,607	43,461	61,928
<b>Other income (expense):</b>			
Interest income	3,118	6,565	6,560
Interest expense	(7,677)	(26,983)	(30,961)
Foreign currency translation and transaction losses	(7,721)	(1,339)	(704)
Impairment of auction rate securities	(4,195)	(2,020)	
Other non-operating income, net	771	890	694
Income before income taxes, minority interest and equity in income of investees	44,903	20,574	37,517
Income tax provision	(7,962)	(1,822)	(6,403)
Minority interest	11,166	3,882	(813)
Equity in income of investees, net	1,725	4,742	4,146

Net income	\$ 49,832	\$ 27,376	\$ 34,447
Earnings per share basic and diluted			
Basic	\$ 1.13	\$ 0.71	\$ 1.00
Diluted	\$ 1.12	\$ 0.70	\$ 0.99
Weighted average number of shares used in computation of earnings per share:			
Basic	44,182	38,762	34,593
Diluted	44,298	38,880	34,707

**Table of Contents**

	<b>Year Ended December 31,</b>		
	<b>2008</b>	<b>2007</b>	<b>2006</b>
<b>Statements of Operations Percentage Data:</b>			
<b>Revenues:</b>			
Electricity Segment	73.2%	73.0%	72.7%
Products Segment	26.8	27.0	27.3
	100.0	100.0	100.0
<b>Cost of revenues:</b>			
Electricity Segment	67.4	68.9	63.6
Products Segment	78.6	85.1	69.7
	70.4	73.2	65.3
<b>Gross margin:</b>			
Electricity Segment	32.6	31.1	36.4
Products Segment	21.4	14.9	30.3
	29.6	26.8	34.7
<b>Operating expenses:</b>			
Research and development expenses	1.3	1.2	1.1
Selling and marketing expenses	3.2	3.6	3.9
General and administrative expenses	7.5	7.2	6.7
Operating income	17.6	14.7	23.0
<b>Other income (expense):</b>			
Interest income	0.9	2.2	2.4
Interest expense	(2.2)	(9.1)	(11.5)
Foreign currency translation and transaction losses	(2.2)	(0.5)	(0.3)
Impairment of auction rate securities	(1.2)	(0.7)	0.0
Other non-operating income, net	0.2	0.3	0.3
Income before income taxes, minority interest and equity in income of investees	13.0	7.0	14.0
Income tax provision	(2.3)	(0.6)	(2.4)
Minority interest	3.2	1.3	(0.3)
Equity in income of investees, net	0.5	1.6	1.5
Net income	14.5%	9.4%	12.8%