

### Ormat Technologies, Inc.

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Ormat Technologies, Inc. Sustainability Report





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### About This Report

### Ormat is, at its core, a sustainable company.

Our geothermal and recovered energy generation provide electricity at near zero emission. We are committed to open and transparent communication about our sustainability progress, our practices and the policies and processes guiding the actions of our employees.

This report is the fourth sustainability document Ormat has published and covers the calendar years 2012 and 2013. The content for this publication is based on the disclosure Ormat has made in our 2013 10K report filed with the Securities and Exchange Commission on February 28 2014.

Ormat continually provides updates on our sustainability activities on our corporate website www.ormat.com.

We have referenced the Global Reporting Index's G3 guidelines during the preparation of this report. The GRI is a non-profit organization promoting economic, environmental and social sustainability through a comprehensive reporting framework that is widely used and provides an objective reporting baseline enabling companies to compare their sustainability performance.

Ormat has not self-declared a level of GRI disclosure for this report. Continued work to develop robust internal processes to enhance future reporting is underway. All financial and operational data in this report has been verified for corporate financial disclosure purposes in alignment with U.S. Sarbanes-Oxley (SOX) regulations but specific sustainability reporting content has not been externally verified.

In addition, we value and consider the regular input we gather from our stakeholders to help shape our sustainability report content. Ormat's stakeholders are diverse and include governments, municipal, state and federal bodies, our customers, local community members and leaders, regulatory officials and environmental and community-based organizations.

Ormat Technologies, Inc. or Ormat refers to the entire company and its subsidiaries. Dollar amounts are presented in U.S. currency unless otherwise stated.

We welcome your questions or comments about our sustainability performance and our sustainability report. Please direct them to sustainability@ormat.com.



### To our stakeholders.

Sustainability is an essential and deeply embedded facet of Ormat and has been since the company was created five decades ago.

In this, our fourth bi-annual sustainability report, we are pleased to review key highlights of our sustainability performance from 2012 and 2013 and the strategic framework that will carry our company forward as we provide clean energy solutions the world needs.

#### Thriving in Sustainable Energy Markets

I recently joined Ormat as its Chief Executive Officer, following the retirement of Mrs. Dita Bronicki in July 2014. Please see the section following this letter for a look at the many milestones the Bronicki family has contributed as founders, leaders and stewards of Ormat and its innovations. One of the key reasons I accepted this significant challenge is that I see a number of exciting opportunities for Ormat to continue to thrive in the sustainable energy markets we serve.

#### **Clean Energy Systems Expertise**

Ormat adds value to our client's businesses through the clean energy systems expertise and products we design, manufacture and operate, and through the clean electricity we generate from geothermal sources. This two-segment, vertically integrated business model has provided a solid foundation for profitable growth, enabling Ormat to establish market leading positions in both sectors and a strong presence in more than 29 countries.

### Preventing CO<sub>2</sub> Emissions

Meaningful, long-term environmental benefits continue to accrue as a result of Ormat's clean energy focus and this is becoming more important every day. Our expertise in developing geothermal resources and unlocking this natural, prolific power source has annually saved millions of tonnes of carbon dioxide from being released into the atmosphere. We've drilled over 200 geothermal wells since 2000 and own and operate 626 MW of geothermal and REG capacity across 18 complexes and power plants.

#### Broadening Geothermal Development

In addition, Ormat's proprietary expertise in exploration and enhanced drilling and geothermal production technologies have advanced the availability of zero-emission geothermal electricity. Reliable base-load electricity from non-fossil fuel sources is becoming more vital to our customers, both in the US and around the world. Ormat is responsible for approximately 80% of all geothermal capacity installed in the United States since 2000 and we currently occupy approximately 90% of the world wide binary geothermal market.

#### **Capturing Waste Heat**

Similarly, our recovered energy generation technologies, also based on the Ormat Energy Converter, operate in countless applications globally, anywhere industrial activities like pipeline operations, cement manufacturing, and other energy-intensive production processes are undertaken. Cost-effective capture of waste More than 1,100 people work for Ormat. Our heat that would otherwise be lost makes strong company is headquartered in Reno, Nevada, in environmental and business sense now and going the United States and we own and operate power forward. facilities in the United States, Central America and Africa. Wherever we work, we strive to give back Solid Sustainable Progress to the community. Education, health care and environmental protection are the areas where we Over the past two years, Ormat has made steady focus our support. progress as a sustainable company. Economically, we've increased revenues from \$501.8 million in 2012 to \$533.2 million in 2013, with product

You'll find more detailed information about Ormat's human resources practices, our corporate revenues contributing an 8.9% increase and community investment initiatives and our electricity revenues growing by 4.7%. New customer environmental standards, policies and performance orders and increased revenue contributions from inside this report. several of our new and existing geothermal plants drove these improvements.

From an environmental perspective, Ormat continued to push forward towards our goal of developing a geographically balanced portfolio of geothermal projects, completing the expansion of the Olkaria III geothermal complex in Kenya, the Don A. Campbell geothermal power plant in Nevada and the acquisition of the Platanares project in Honduras.

#### Working Collaboratively

Much of our success in advancing geothermal development comes from our experience in planning facilities that are ultra-efficient, minimize environmental footprints and optimize the energy value of the geothermal resource.

We also clearly recognize the value of working collaboratively, with local communities, with governments, regulators, environmental groups and other key stakeholders. Bringing new facilities to market with the assurance that all aspects of environmental, employee and public safety have been carefully considered and incorporated into our facilities and operating plans is paramount to our ongoing success. We "earn" our license to operate by being thoughtful, responsible and responsive.



We also invite you to learn more about Ormat by visiting our website at www.ormat.com.

Thank you for your interest in our sustainability journey. We are proud to be delivering clean energy the world needs.

Sincerely,

Isaac Angel Chief Executive Officer Ormat Technologies, Inc.

## **Corporate Profile**

Ormat Technologies, Inc. is a publicly traded company listed on the New York Stock Exchange. Our shares trade under the symbol ORA and our corporate headquarters are in Reno, Nevada in the United States.

As of December 31, 2013. Ormat continued to hold the position of second-largest geothermal power producer in the U.S. In addition, in 2013, Ormat supplied over 70% of all new geothermal power plants worldwide and with our order backlog, we expect to maintain this strong market share position in the near-term. We are confident that our strong track record positions us for continued growth and leadership in the global geothermal energy market.

In 2013, Ormat generated 4.3 million MWh of electricity, a 7.9% increase over 2012 volumes and recorded revenues of \$533.2 million, with net income of \$41.2 million or \$0.91 per share. For 2013 results Ormat distributed dividend of \$6.3 million or 0.14 cent per share to our shareholders.

#### **Our Business**

At Ormat, we have created two business segments to organize and manage our activities: the electricity segment and product segment.

Our electricity segment involves all activities associated with exploration, development, building, ownership and operation of our geothermal and Recovered Energy Generation (REG) power plants. Our company owns and operates 626 MW of installed generating capacity across 18 complexes and power plants in the US and in several other countries. Our biggest concentration of facilities is located in the US, (in the states of California and Nevada), and we also operate geothermal facilities in Guatemala and Kenya.

Ormat's product segment is involved in designing, manufacturing and selling equipment for geothermal and REG-based electricity generation, remote power units and other power generating units. It also provides services for the engineering, procurement, construction, operation and maintenance of such power plants.

Ormat's proprietary power plant technology is the solid base supporting both our electricity and product segments and each offers complementary advantages. Our product and engineering, procurement and construction (EPC) customers enjoy superior products, because we understand their needs from our own experience building, owning and operating our own power plants. Similarly, we apply the extensive experience we've gained through supplying over 100 different customer power plants to those in our worldwide fleet.

### Vertical Integration

Involvement in all facets of the green energy value chain has been a key strategy for Ormat from the start. Ormat continues to be the only vertically integrated geothermal power company that plays a role in every stage of the energy development process - from geothermal exploration and development through manufacturing, ownership and operation of our geothermal facility fleet. We also design, manufacture and sell geothermal power units and other power-generating equipment and related services.

Ormat currently holds over 77 U.S. patents protecting the proprietary innovation we've brought to the design of turbines, pumps, heat exchangers and the formulation of non-ozone depleting organic motive fluids.





## Our Power Generation Portfolio

• Brady, 18 MW

• Tuscarora, 18 MW

• Don A. Campbell, 16 MW

• McGinness Hills Phase II, 30 MW

• Jersey Valley , 12 MW

Under construction

### Geothermal in the US:

- Heber Complex, 92 MW
- Steamboat Complex, 78 MW
- Ormesa Complex, 54 MW
- McGinness Hills, 38 MW
- Puna Complex, 38 MW
- Mammoth Complex, 29 MW
- North Brawley, 27 MW

### REG in the US:

- OREG I, 22 MW
- OREG II, 22 MW
- OREG III GRE, 5.5 MW
- OREG IV Peetz, 3.5 MW
- Geothermal in Indonesia: Geothermal in Guatemala: Geothermal in Honduras: Geothermal in Kenya: • Zunil, 23 MW • Platanares- Phase I, 18 MW • Olkaria III Complex, • Sarulla, 330 MW Under development Under construction • Amatitlan, 20 MW 110 MW

# Corporate Membership

Ormat is an active participant in a number of organizations that advance geothermal development, economic growth and conservation initiatives:

- Geothermal Energy Association
- Nevada Mining Association
- Geothermal Resources Council
- Economic Development Authority of Western Nevada
- Northern Nevada Network
- Nevada Conservation League
- Utah Clean Energy Projects
- Canadian Heavy Oil Association
- Renewable Energy Alaska Project
- Imperial Valley Stockmen's Club
- Alliance for Industrial Efficiency
- Hawaii Leeward Planning Conference
- Hawaii Island Economic Development Board
- Hawaii Island Chamber of Commerce

# Sustainability Indexes Participation

Ormat is included in a number of leading sustainability and renewable energy indexes, including:

- The Cleantech IndexTM www.cleantechindex.com
- NEX WilderHill New Energy Global Innovation Index www.nexindex.com
- The Wilderhill Clean Energy Index ECO www.wildershaes.com/stock.php
- RENIXX® Renewable Energy Industrial Index www.renewable-energy-industry.com/stocks
- MSCI KLD 400 Social Index www.mscibarra.com
- MSCI Global Climate Index www.mscibarra.com
- MSCI Global Alternative Energy Index www.mscibarra.com
- MSCI Global Environment Index www.mscibarra.com

• Geothermal • Recovered Energy Generation

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O Under construction / development



# ORMAT 🀝

## Ormat History and Founders

In 1965, Lucien and Dita Bronicki together cofounded a company called Ormat Turbines Ltd., in order to commercialize production of electricity using the Organic Rankine Cycle. This proprietary process, which Lucien co-developed with Harry Zvi Tabor, became the basis for the company's steady, sustainable growth.

By 1972, Ormat had successfully commercialized the Organic Rankin Cycle technology for application in remote power solutions and continued to expand the number of operating opportunities for these innovative units.

In the early 1980s, Ormat began successfully integrating the Organic Rankin Cycle technology into geothermal power plants, an important milestone that has contributed significantly to the growth of the geothermal power industry. It did so chiefly because it enabled the use of resources that the existing steam technologies could not utilize. Ormat's product line continued to expand to include offshore power solutions and waste heat recovery for power generation.

In 1996, Ormat made the critical decision to enlarge its focus from that of an equipment supplier to embrace that of a total power solutions provider, which included operating and owning power plants that generate revenue through electricity sales. This vertically integrated model marked the beginning of a new era for Ormat, paving the way for transformation of the company from a modest, privately owned entity to a multinational geothermal powerhouse that today is publically traded on the New York Stock Exchange with a market capitalization of more than \$ 1.2 billion dollars.

Over the past five decades Lucien Bronicki has served as the Co-Founder, Chairman and Chief



Technology Officer for Ormat and his wife Dita has served as Co-Founder, Treasurer, Secretary and, since, 1991, Chief Executive Officer. Their son Yoram Bronicki served as President and Chief Operating Officer since 2007. After more than two decades as CEO, Dita Bronicki retired in mid-2014, while transitioning the company's helm to new CEO Isaac Angel. Currently, Dita serve as a Director of Ormat. Yoram Bronicki relinguished his position as president and chief operating officer of the company in mid-2014 and assume the position of Chairman of the Board of Directors. The strong and accomplished board of directors with its extensive experience and industry expertise will continue to be an asset to the company and a resource for management going forward.

Lucien, Dita, and Yoram have proven themselves exemplary, hardworking and visionary leaders



Ormat's Board of Directors, management and employees deeply appreciate and value the considerable contributions made by the Bronicki family, which has laid a solid foundation for the company's continued leadership and growth in the geothermal and renewable energy sectors.



who have thoughtfully stewarded a company that continues to resonate in the sustainable energy sector.

Throughout this journey, the Bronickis have earned strong recognition for their many achievements. Lucien Bronicki received the Pioneers Award from the Geothermal Research Council for the more than 25 years of service he provided, particularly in the foundation-setting stages of the Council's development. In addition, he has authored and coauthored over 30 professional articles and holds 40 patents surrounding his design of thermodynamic devices, turbines and controls.

Dita Bronicki also received the Pioneers Award from the Geothermal Research Council and has served as a director for several major industrial and banking organizations.

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### Corporate Governance

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Ormat's Corporate Governance Guidelines and our Code of Business Conduct and Ethics summarize our corporate governance practices. Our company has adhered to these principles since Ormat began and formalized them in 2004 when the company registered for trading on the New York Stock Exchange (NYSE). Each document provides a framework that reflects both regulatory requirements and industry best practices.

In January 2013, Ormat introduced a new Code of Business Conduct and Ethics, after a lengthy review process. The updated Code of Business Conduct was designed to align with current corporate governance best practices.

Ormat established and maintains adequate internal control over financial reporting and complies with the Sarbanes-Oxley Act (SOX). Ormat has a dividend policy that is designed to distribute at least 20% of annual profits, and an equivalent amount may distributed in the form of employee bonuses. PricewaterhouseCoopers LLP, a registered global professional services firm, has independently verified the effectiveness of Ormat's internal financial control systems.

Ormat is a publicly traded company managed by an eight-member Board of Directors, four of whom are independent members. In 2012 and 2013, Ormat's Board of Directors met a total of eight and six times respectively, to review the business affairs of the company.

Key Committees of the Board of Directors include Audit, Compensation and Nominations and Corporate Governance.

All of Ormat's directors, officers and employees are responsible for familiarizing themselves with our Code of Business Conduct and Ethics and Corporate Governance Guidelines. As a condition of engagement, each individual must sign a compliance certificate affirming their intent to adhere to these standards.

Ormat has appointed a Code of Ethics contact person, which is the individual serving as Secretary to the Board of Directors. Shareholders and employees are invited to participate in Ormat's Annual General Meetings, where we review our plans, progress and operating results and provide a forum for questions from stakeholders. We also regularly host internal meetings where our employees are invited to learn more about our operations and ask questions, share concerns or provide input. Employees are also regularly informed of the tools they may use should they wish to report unethical behavior or file an anonymous complaint. Ormat provides a letterbox, a dedicated and confidential telephone line and the website www.ethicspoint.com, an online portal that provide corporate reporting management.



### **Board Committee Mandates**

### Audit Committee

- Assist the Board with Ormat's accounting policies and internal controls, financial reporting process and legal and regulatory compliance
- Open lines of communications between the Board and Ormat's financial management, internal auditors and independent auditors
- Review and discuss Ormat's annual audited financial statements and disclosures

### **Compensation Committee**

- Review and approve corporate goals and objectives relevant to CEO compensation • Evaluate CEO performance against goals and objectives, determine and approve CEO compensation
- and senior executive compensation
- Provide recommendations to the Board for non-CEO compensation, incentive compensation plans and equity-based plans

### Nominating and Corporate Governance Committee

- Identify and recommend suitable candidates to serve as members of Ormat's Board of Directors • Oversee the evaluation of Board and CEO performance
- Provide leadership for the ongoing evolution and continuous improvement of Ormat's corporate governance practices

website at www.ormat.com/governance.



Corporate documents and the charters for each committee of the Board are available on Ormat's

## Environmental and Technological Leadership

Ormat has developed and manufactured over 1,750 MW of geothermal and Recovered Energy Generation (REG) power plants since our company was established 50 years ago. All operate without fossil fuel consumption and create virtually no air emissions. We are proud of the sustainable focus of our energy generation technologies and the advances we have helped pioneer in the geothermal industry.

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Ormat's vertically integrated structure enables our company to supply complete geothermal energy solutions across the entire project spectrum, from the acquisition of land, permitting, geological exploration and drilling to equipment design, manufacturing, construction, and commissioning. The ability to leverage our experience in owning and operating our own geothermal power plants contributes to the overall quality and precision of the solutions we devise on behalf of clients.

### Geothermal Energy - Harnessing the Earth's Heat

Geothermal energy is heat energy derived from the earth's molten interior and is transported to the surface by movements of the earth's crustal plates, intrusion of molten magma and deep circulation of groundwater. Reservoirs of hot water under pressure are the result of these actions - and it is these underground reservoirs that Ormat targets. Drilling wells into geothermal reservoirs enables the steam and high-pressure hot water to be captured and directed to drive turbines in power plants. This converts earth-bound energy into electrical energy. Geothermal energy offers numerous benefits for a world seeking alternatives to fossil fuels. Geothermal is a natural and locally available resource. It provides firm, flexible and reliable base-load electricity. Geothermal is a low carbon alternative that consumes less land, water and exerts much lower impacts on the environment. compared with conventional fossil fuel combustion.

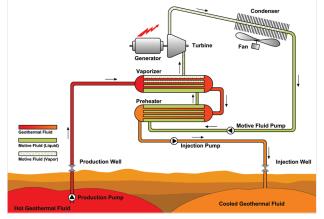
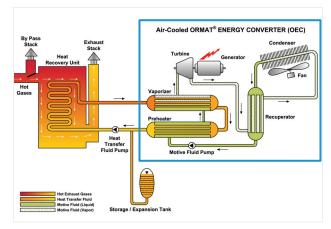


Diagram of an Air-Cooled Binary Geothermal Power Plant

### Recovered Energy Generation -Added Energy Value

Ormat has developed unique expertise in the production of electricity from recovered energy - waste heat sources that result as a by-product of many common industrial processes. Cement manufacturing and gas pipeline compression stations are two such examples of processes and equipment that generate residual heat that has value. When captured, it can be used to generate electricity without burning additional fuel or generating GHG emissions.



Recovered Energy Generation (REG) System

## Geothermal and Recovered Energy vs. Fossil Fuel-Based Electricity Generation

In 2013, Ormat-owned facilities generated approximately 4.3 million MWh of electricity. When compared with other baseload electricity generation methods, all of which are fossil fuel-based, and eliminating the minute emissions generated in a few our own plants, the following is the renewable electricity offset<sup>1</sup> that Ormat recorded.

All of Ormat's operating activities, including our power plants, manufacturing facilities, offices, corporate automobile fleet, employee flights, and other contributors created CO2 emissions of approximately 0.15 million tons in 2013, 0.14 million tons of which are from the power plants. This year, for the first time, we did not calculate the emissions from our plants based on the estimation of emission from geothermal plants available in literature, but actually calculated the emission

4.07 3.38 1.92 0.14 5  $\bigcirc$  $\bigcirc$ ORMAT COAL Oil Gas

from each of our plants. As expected, based on our advanced technology, the figure was less than the average geothermal power plant would have produced. In addition, these figures represent only what Ormat's owned power plants mitigated in 2013. The amount of CO<sub>2</sub> mitigated by the more than 1,000 MW in power plants Ormat has supplied to other power producers would result in a substantially higher offset figure. Ormat has two power plants registered as a Clean Development Mechanism (CDM) by the Executive Board of the United Nations Framework Convention on Climate Change (UNFCCC). Our Amatilan Geothermal Project in Guatemala has been registered as a CDM since December 2008 and is expected to offset approximately 83,000 tons of CO<sub>2</sub> emissions annually. Ormat's Olkaria III power plant has been registered as a CDM since 2010. \* All figures in million tons of CO2



With a recent expansion now completed earlier in 2014, Olkaria III is expected to offset approximately 360,000 tons of CO<sub>2</sub> emissions per year. Ormat is working to commercialize the certified emission reduction credits earned by both facilities. We hope future power plants will also be registered to such mechanisms.

Ormat's CO<sub>2</sub> emissions from the 4.3 million MWh of electricity it generated in 2013 compared to the emission other base load electricity sources would have generated.

## Geothermal Technology Pillars

Four key pillars support Ormat's responsible development of geothermal technology and contribute to the substantively lower environmental footprint this renewable energy source delivers.

### Reinjection

A key sustainability driver for geothermal power generation is the conservation and recycling of the water that conveys the heat from deep underground to geothermal power plants on the earth's surface. Ormat, through its unique designs and operating processes, makes strong efforts to ensure that this precious resource is not depleted.

The geothermal resources Ormat develops involve 100% reinjection and recirculation of the geothermal fluids back into their respective reservoirs, in what is referred to as "closed loop" systems. This is considered a highly efficient method to continuously recharge geothermal systems, by maintaining consistent water flow and pressures. Reinjection of geothermal fluids, which are often referred to as "brines", as they contain water, salts and other minerals, serve as a measure to reduce production-related pressure drawdown and promote enhanced thermal energy extraction from the heated rocks within the reservoir.

Importantly, reinjection also avoids the need for disposal of wastewater into nearby surface water bodies and minimizes the amount of make-up water required to keep a geothermal reservoir viable.

Ormat emphasizes resource management and almost all of our plants are air-cooled without requiring make-up water. Our company is known for our pioneering advances, which achieve 100% recirculation of the exploited geothermal fluid (condensate and brine) back into geothermal reservoirs.

### Visibility

Finding the right location for energy generating facilities in a manner that reduces their visual prominence on the surrounding environment is an important aspect of minimizing the footprint associated with geothermal energy generation. The visible plumes geothermal power plants emit consist of water vapor emissions in the form of steam. No harmful emissions such as carbon dioxide, sulphur dioxide or nitrous oxides are released because geothermal power plants do not combust fossil fuels.

Even so, the visual disturbance caused by a steam plume can be further reduced by thoughtful design. Ormat designs and sites geothermal facilities to blend into the surrounding landscape, through the actual physical locale of each facility, the configuration of units that are used to build it, landscaping, paint and other surface finishes. All are important factors in limiting the visual impact of a facility and ensuring the surrounding land remains suitable for other land uses.

Interestingly, studies show that over a typical 30year lifespan of a power plant, a geothermal facility consumes 404 square meters of land per gigawatt hour, while a coal facility consumes 3,632 square meters per gigawatt hour <sup>2</sup>.

### Phased Development

Ormat applies a phased approach to the development of geothermal fields. This entails first developing a field by beginning with a smaller facility. Once the field has been thoroughly assessed and the viability of the geothermal resource is proven, additional facilities are added to the complex. Phased development also enables Ormat to manage cash flow and facility investment in a prudent, risk-reduced manner and to generate income from an initial facility while other phases are in development.

Ormat's application of this approach is aptly demonstrated by the steady expansion of our Olkaria III geothermal project, which we have developed in phases since 2000, when it first achieved commercial operation with a 13 MW plant. In January 2009 the facility's second phase vaulted the plant's capacity to 52 MW. In 2013 a 36 MW addition was completed and in the beginning of 2014, with the completion of the 3rd plant, Olkaria III achieved a plant capacity of 110 MW; a higher than expected capacity, the result of the geothermal reservoir proving to be more successful than expected.

### Modular Design

Ormat is a strong proponent of modular design and integrates this approach into the geothermal facilities and REG power plants that we build – both for clients and for our company. Modular





components inside a power generation facility significantly reduce operating risk. For example, in Ngatamariki, instead of installing a single 100 MW unit, four identical modular 25 MW units were installed and they generate the same amount of electricity, but provide robust backup, as each can work separately from the other. This means maintenance or operating anomalies don't impede the generating progress of an entire facility, and can be contained and resolved with less impact. It also means that when constructing a large plant, each of the units can be put online one after the other and therefore start generating revenue months earlier.

Together, these four pillars contribute to the safe, low-impact, long-term development of geothermal resources that help offset fossil fuel consumption and exploit a naturally occurring resource in a fiscally and environmentally responsible manner.

Ormat's Olkaria III geothermal power plant at its first phase, when it was just generating 13 MW in 2000

## Environmental and Technology Advances

### World's First Fully Dispatchable Geothermal Facility

Ormat pioneered a new and innovative approach to providing dispatchable power at the Puna Geothermal Venture Geothermal facility in Hawaii, which made its commercial debut in March 2012. The successful advance was the result of Ormat's technical efforts to expand the facility by 8 MW to 38 MW, and enable it to provide "Automatic Generation Control" (AGC). AGC enables the facility to respond quickly to changes in power generation demand, while maintaining stable operation of the geothermal resource. The AGC's remote control capability facilitates communication between Hawaii Electric Light Company (HELCO) and Puna Geothermal Venture (PGV) (the power purchaser in the plant's Power Purchase Agreement (PPA)), enabling remote scrutiny of power demand and load consumption in real time.

Ormat's technical breakthrough was accomplished by adding two Ormat Energy Converter (OEC) bottoming units to the power plant expansion, which improved overall recovery and optimization of the plant's geothermal resource. Ormat's design solution also involved enhancing the geothermal fluid flows from the well field at steady rates while bypassing fluid and/or heat around the generation equipment as necessary, dictated by the power demand from the AGC.

Ormat conducted extensive acceptance testing associated with all aspects of the PPA between Ormat and HELCO, proving the full dispatchability of the project and a world-first for geothermal energy. The new facility increases Hawaii's renewable energy capacity, while decreasing the state's dependence on fossil fuel sources and opens the door for additional base-load applications for geothermal resources.



### Mammoth Pacific **Replacement Project - Completed**

The Mammoth Pacific geothermal power plant in Mono County, California was originally built in 1984 and operated under a PPA with Southern California Edison Company. In March 2013, Ormat announced the termination of this PPA and the signing of a new 20-year PPA with Pacific Gas and Electric Company (PG&E) that allows for hourly energy deliveries of up to 7.5 MW. In order to maximize the value of this operating asset, Ormat commenced plans to refurbish and update the 6 MW plant.

Refurbishing of the power plant took place throughout 2013 and was completed less than eight months from the start of mechanical construction.

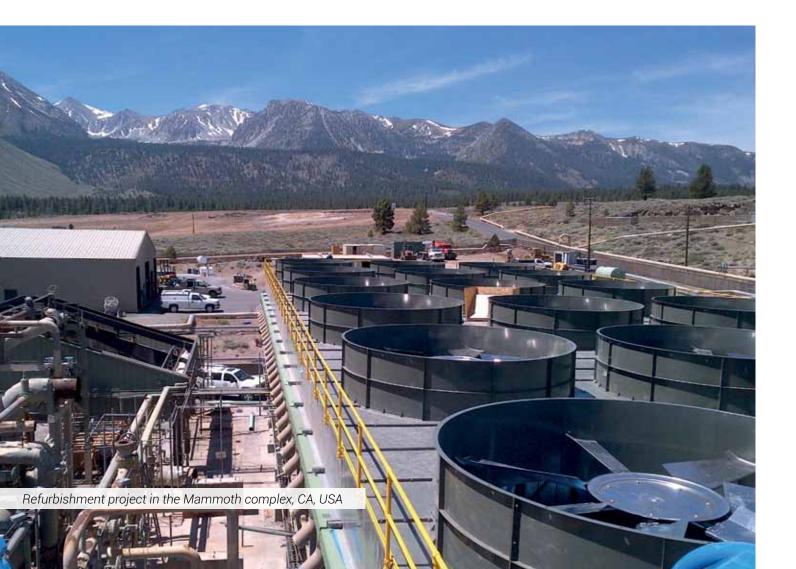
Original equipment was replaced with Ormat Energy Converters (OEC), which increased the power plant's efficiency, improved the plant availability and power operation and lowered maintenance costs.

### Largest Single Binary Power Plant Opened in New Zealand

The 100 MW Ngatamariki geothermal power plant in New Zealand was officially opened in September 2013, by owner Mighty River Power (MRP). It is the largest singular binary power plant ever constructed.

Ormat was contracted by Mighty River Power to build the facility and installed Ormat Energy Converters to enable 100% of the exploited geothermal fluid to ceremonies and commented, "We are pleased with be re-injected. Ormat's technology facilitates zero the outperformance of the Ngatamariki power water consumption and low emissions, minimizing plant and are confident that the effectiveness and reliability of Ormat's technology will continue to environmental impacts and preventing depletion of the underground reservoir. benefit our clients. During the last 25 years, Ormat has installed in New Zealand approximately 350 MW in 14 power plants, 60% of the new geothermal Ngatamariki was built in a record time of 24 capacity in that country. We look forward to further months following the contract award in June 2011. expanding our activity with our partners in New Its power output is expected to be 3 MW higher Zealand in future geothermal development." than specified and the new station adds close to 700 GWh of annual electricity production to New To view the official opening ceremonies of Ormat's Zealand's grid, which is enough to power the Ngatamariki power plant, click here: electricity use of about 80,000 households. www.youtube.com/watch?v=sEdWXbn35kQ

Dita Bronicki, former CEO of Ormat Technologies, was on hand to participate in the official opening







# How We Work – Respectfully and Responsibly

Above you read about how Ormat's technology has a profound and positive impact on the environment. We take this even further, by going to great lengths to minimize and mitigate our impact on the environment, adhere to all regulations in each of the different countries we operate in and by going beyond legal requirements.

### Compliance with Environmental Legislation

The countries in which Ormat operates have local environmental protection laws regulating the following:

- The effect on the environment outside of the power plant, including restrictions on noise, air emissions and discharge of pollutants and contaminants:
- Air quality and noise levels inside our power plants, in order to protect employees; and,
- Safety and general requirements, including ventilation, fire protection, personal protection, railings, electric protection, and employee training on pertinent issues.

Ormat maps and monitors all laws regulating all of our sites and maintains a multi-year plan for the continuous improvement of our environmental performance.

In addition to meeting all legal and regulatory requirements in the multiple jurisdictions in which we operate, Ormat meets the exacting standards of various international operating guidelines and has earned ISO14001 certification.

Ormat's general liability insurance policy provides coverage for unexpected events. Under this policy, Ormat's insurers will cover environmental damage to third parties resulting from unexpected events that do not involve negligence.

In the 2012-2013 reporting period, neither Ormat nor

its officers were involved in legal or administrative proceedings relating to environmental issues.

### Minimizing Impacts to Local Resources

Ormat minimizes our facility footprint in the U.S. by operating in accordance with National Environmental Policy Act (40 CRS 1500.1) if sited on public land. Ormat interacts with various government and regulatory agencies in the US, most frequently with the federal Bureau of Land Management (BLM), as well as with the U.S. Forest Service (USFS) and the Department of Defense (DOD). Other federal agencies we consult with on proposed geothermal projects or during permitting application and review processes may include:

- U.S. Fish and Wildlife Service (USFWS)
- U.S. Army Corp of Engineers (ACOE)
- Advisory Council on Historic Preservation (ACHP)
- U.S. Environmental Protection Agency (EPA)
- Department of Energy (DOE)
- National Park Service (NPS)
- State Historic Preservation Office (SHPO)

### Environmental Incidents

Ormat's facilities and the people who operate them strive to work in full compliance with all applicable environmental regulations. Despite our best efforts, sometimes exceedances (emissions beyond what a facility is licensed to emit), spills or other incidents may occur. That's why Ormat continually monitors facility performance and reports any incidents that may occur. Close monitoring of our environmental performance provides the information necessary to improve or modify procedures to prevent future incidents.

### Innovative Mitigation Practices at McGinness Hills

Ormat successfully commissioned our new 38 MW McGinness Hills geothermal power plant complex in Lander County, Nevada in June 2012.

2012-2013 Sustainability Report

When developing geothermal facilities, Ormat's preferred approach is to avoid biological and cultural resources and other sensitive areas. During the construction planning and siting of facility locations at McGinness Hills, Ormat took a number of measures to reduce a wide range of potential impacts. These included measures such as drilling multiple geothermal wells from one well pad, routing piping along existing roadways and power plants, co-locating power plants, pipes and road systems and using overland travel versus new roadway construction, wherever possible. All help reduce the development's operational and environmental "footprint".

Significant populations of Greater Sage Grouse inhabit the desert near McGinness Hills and while Ormat is an active participant in Wildlife Working not listed as endangered species, the birds are Groups, in cooperation with the U.S. Bureau of currently classified as "warranted but precluded" Land Management and the Nevada Department by the US Department of the Interior. Accordingly, of Wildlife. The goal of this collaborative effort Ormat adopted a series of proactive protective is to direct, oversee and monitor the allocation measures to ensure the continued viability of Greater of mitigation funds created for geothermal Sage Grouse in the area during both construction development projects. The group also strives to and ongoing operation of the McGinniss Hills develop proactive efforts that will provide a model facility, similar to the protective measures we for future development in Greater Sage Grouse applied when constructing the Tuscarura power critical areas.





plant. (See our 2010-2011 Sustainability Report for more information.)

Operations and noise limitations were imposed during facility construction during the Greater Sage Grouse mating season, by establishing construction and drilling hours controls and fencing to reduce noise volumes from the plants. In addition, underground sections of piping were installed to ease the movement of wildlife. Ormat invested million in mitigation and soft costs during drilling and construction and plans to invest additional millions in ongoing wildlife monitoring and mitigation over the next decade.

### Wildlife Working Groups

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## Community Investment and Stakeholder Involvement

### Listening, Learning and Leading

Everyday Ormat interacts with hundreds of diverse stakeholders. Our employees, customers, shareholders, utilities, regulatory and governing authorities, lenders, scientists and local community members residing near our power plants are all important audiences in our stakeholder community.

Wherever we operate, Ormat strives to create positive, long-term relationships. We achieve this by creating opportunities to listen carefully to what our stakeholders tell us about the way our company interacts and operates. We have established policies and protocols to guide all stakeholder interaction and strive to ensure that we conduct these efforts in a manner that is timely, transparent and respectful.

At Ormat, we believe it is a fundamental part of our corporate social responsibility commitment to be an active participant in the communities in which we operate our power plants. An important principle that guides this participation is the recognition that wherever we operate worldwide we want the communities we interact with to benefit from our presence and to be better after we leave. We also



believe communities have the right to know how we operate to ensure that our employees, the public and the environment are protected.

We recognize that every part of our connection with stakeholders - from initial consultation when planning a development, through the lifecycle of a facility and the ultimate conclusion of its operations - is important. That's why Ormat maintains an active stakeholder contact program using numerous tools to stay in touch with our constituents. They include:

• Website - www.ormat.com

We let communities know how our power plants are operating and what our plans are for future development, through regularly posted updates;

Community Relations

We maintain a proactive community relations program to promote participation in economic development initiatives, support for Chambers of Commerce and other community-based organizations;

Civic Engagement

Ormat's employees are actively engaged in a variety of local boards and committees, contributing their time and ideas to initiatives that aim for improved environmental, health and social outcomes:

Open Doors

We regularly open our doors to the different stakeholders by conducting facility tours. We also communicate using e-mail, phone calls, conferences, Shareholder meetings, Analyst Days and face-to-face meetings;

Buying Locally Policy

Ormat advocates the purchase of goods and services from local suppliers and vendors, whenever quality and pricing are consistent with non-local supplier offerings.

### In the United States

Education continues to be the overarching focus of Ormat's community investment programming. As a company involved in pioneering geothermal technology development, Ormat recognizes how vital it is to encourage and support opportunities for scientific education and a deeper understanding of geothermal energy resources. We view the engagement of our employees in educational endeavors as a valuable investment in the future of the geothermal industry and welcome opportunities to mentor students, share our expertise, host students for tours of our facilities and contribute to the development of geothermal training curriculum.

We partner and participate in a wide-ranging array of educational initiatives with many leading institutions, including University of Nevada Reno (UNR), The Great Basin Centre for Geothermal Energy, The University of Nevada, Las Vegas, The Desert Research Institute, National Geothermal Academy, University of Nevada, Reno, Truckee Meadows Community College, The Colorado School of Mines, The Colorado Energy Research Institute, The University of Utah, The Massachusetts Institute of Technology Energy Initiative and the University of Colorado – Boulder Renewable and Sustainable Energy Institute.

### Who Are Ormat's Stakeholders?

Shareholders Customers Utilities Lenders







who own we sell Ormat stock

who buy equipment and the power build power we generate plants for

who lend to invest in power plants we develop



### Enhanced Geothermal Systems Boosting Power Output

In 2013, Ormat, the U.S. Department of Energy (DOE) and GeothermEx successfully demonstrated the positive impacts of an enhanced Geothermal System (EGS) project at Ormat's Desert Peak 2 geothermal power plant in the Brady complex, Churchill County, Nevada. Through the application of innovative subsurface technologies, the research and development team was able to stimulate an existing sub-commercial injection well, which resulted in a 38% increase in power output from the brine.

To date, the project has attracted \$5.4 million in direct DOE funding, \$2.6 million in investment from Ormat and has involved more than four years of collaboration with partners who include the Lawrence Berkeley National Laboratory, U.S. Geological Survey, Sandia National Laboratory, University of Utah EGI, Temple University, MIL-TECH, BESTEC and TerraTek.

It is through continued collaboration with researchers at leading universities that initiatives of this kind are advancing understanding of geothermal resources and building the foundation for future growth of this renewable resource.

Employees Local Scientific Residents Environmental and Business Government Regulators Researchers Officials Owners of Ormat in the field of who live or at municipal, who develop

worldwide

operate near

our power

plants

state and federal levels

policy and enforce regulations

geothermal

and energy

research

### In Guatemala

Ormat operates two geothermal power plants in Guatemala: the 23 MW Zunil power plant built in 1999 and the 20 MW Amatitlan power plant, which began generating power in 2007. During our more than 15 years of working in this Latin American country, Ormat's community involvement activities have been directed through the Orpacaya Trust and Tigo Foundations to support education, health care, agriculture and food assurance and infrastructure development.

We channel resources and ongoing financial support to five key communities located close to our two facilities in the San Vincente Pacaya region, which include the communities of San Francisco, Cedro, Calderas, Pepinal and Bejucal.

Our intent is to forge healthy, sustainable, amicable and trust-based relationships with the local "cocodes" or community leaders. An inclusive approach that involves these individuals in decision-making about community priorities has helped facilitate this goal.

Health clinics for the five communities now operate and in 2013 Ormat's Orpacaya Trust paid the salary for a doctor and the transportation costs for medical visits to each community. In addition, a vehicle was converted into an ambulance and donated to the community.

In the educational sector, in 2013 Ormat donated funds for classroom refurbishments at the local Pepinal and El Cedro schools, added computers, software, desks and chairs, as well as scholarships for several students and soccer uniforms for school team members.

Sustaining healthy communities requires nutritious food. In 2013, Ormat donated hundreds of avocado plants and seed bags and supported training projects for local families in cooperation with the Agricultural United Fund.



Other efforts included paving of streets and the on programs designed to building long-term, positive going reconstruction of houses that were damaged relationships. following the Pacaya volcano eruption in 2010.

#### In Honduras

In 2013, Ormat completed the acquisition of the Geotermica Platanares geothermal project in Honduras, purchasing it from ELCOSA, a privately owned Honduran energy company. Ormat will hold the assets for approximately 15 years under a Build, Operate and Transfer (BOT) structure, and it's associated Power Purchase Agreement for up to 35 MW with ENEE, the national utility of Honduras.

Before Ormat makes the decision to enter a particular country, region or community, we take a proactive approach to interacting with the people who live there. Whether we are considering the development of a new facility where none existed before, or when purchasing an existing facility from another entity, we initiate community consultation





To create and nurture these relationships, which are vital to our company's ongoing social license to operate, Ormat hosts gatherings to which community members are invited to attend for the purpose of sharing their views, posing questions about geothermal development, drilling and facility operations, learning more about the specifics of our company's plans, including employment opportunities and meeting face-to-face with Ormat representatives who will play an ongoing role in the local area. Open, timely and transparent information exchange is Ormat's objective for these sessions.

Since the acquisition Ormat has hosted several such meetings with representatives from San Andres - the local community closest to the proposed development of the Geotermica Platanares project, which is expected to attain commercial operations in approximately three years.

#### In Kenya

Ormat subsidiary Orpower 4, Inc. operates the Olkaria III geothermal complex in Kenya, Africa. One of the key community investment benefits Ormat optimizes during project development is to facilitate the number of ways in which employment can be extended to people from local communities. During peak construction for Olkaria III's second phase, which took place in 2012 and 2013, more than 400 workers were hired locally. These individuals provided labor and technical skills. In addition, Ormat hired local women to provide food services for the work crews.

Ormat has also provided opportunities for local employees to learn technical geothermal drilling skills, which have the potential to be applied regionally as the geothermal industry develops in Kenya.

Education continues at the heart of Orpower 4's corporate social responsibility activity. We provide financial support to supplement the salaries of local primary school teacher's salaries, offer an ongoing program of secondary, mid-level and University bursaries and emphasize the importance of girls continuing their education.



### Ormat's Olkaria III Facility Contribution to Kenya - Today 110 MW light 220,000 Kenyan homes<sup>3</sup>

Plant 3, February 2014 110 MW. 220.000 homes

Plant 2, April 2013 92 MW, 184,000 homes

Plant 1, 2nd Phase, January 2009 48 MW, 96,000 homes

Plant 1 Addition, December 2000

13 MW, 26,000 homes

Plant 1July 2000

8 MW, 16,000 homes

Household accessing electricity in Kenya

□ MW of Olkaria III

In Kenya, where only 20% of the population has access to electricity, the contribution of a plant like Ormat's 110 MW Olkaria III power plant is very significant. When compared to the U.S., for example, with its higher level of electricity coverage and





consumption per household, every new MW added to the Kenyan power grid means many more new households are able to gain access to electricity, raising the standard of living and improving quality of life.

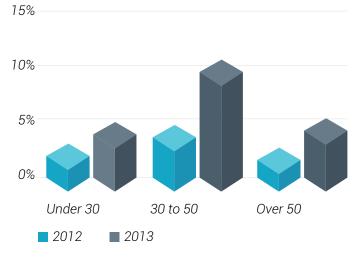
### A Progressive Workplace

We value the contributions of all Ormat employees and strive to foster a workplace where employees are engaged and motivated to do their best. Ormat recognizes that the continued competitiveness and success of our company depends on our ability to attract, retain and develop employees to their fullest potential.

We approach this responsibility with a human resources philosophy that promotes equitable and competitive salaries across our company, as well as generous employee benefits, including health insurance and retirement savings plans.

Ormat prides itself on being an open and caring company – one where every employee feels valued and comfortable asking questions, sharing opinions and expressing concerns. Employees are regularly encouraged to stay connected and engaged through regular meetings with their supervisors, in group sessions and town hall meetings and at our annual general meetings.

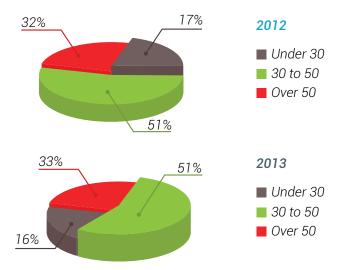
We invest in the long-term success of all employees by offering professional development opportunities designed to help individuals excel at their current responsibilities, and to advance in their careers. Our organization also places a high priority on



Ormat's overall turnover rate increased from 7% in 2012 to 20% in 2013. This is attributed to an operational efficiency initiative, particularly in the power plants. ensuring that inter-cultural communication training is provided for employees working in international contexts. In addition, we provide in-house training to increase awareness of and help prevent workplace issues such as bribery, sexual harassment and other unethical behavior and operate a telephone line that facilitates the anonymous reporting of any such breaches.

Safety training is another priority area for Ormat's operating employees. All must complete annual course work aligned with the company's safety procedures, to ensure our employees understand how they are expected to perform their roles. Completion of annual coursework is mandatory and employee knowledge is tested following the completion of each course. Ormat's overarching aim is for every employee and contractor to experience an injury and incident-free workplace; ongoing training and reinforcement of safe behaviors and practices is the key to achieving this objective.

At year-end 2013, Ormat employed a total of 1,123 people throughout our worldwide operations. Of these employees more than 80% were male, a gender distribution reflecting that of other utility sector companies where engineering, manufacturing and operations-related roles are typically more prevalent.



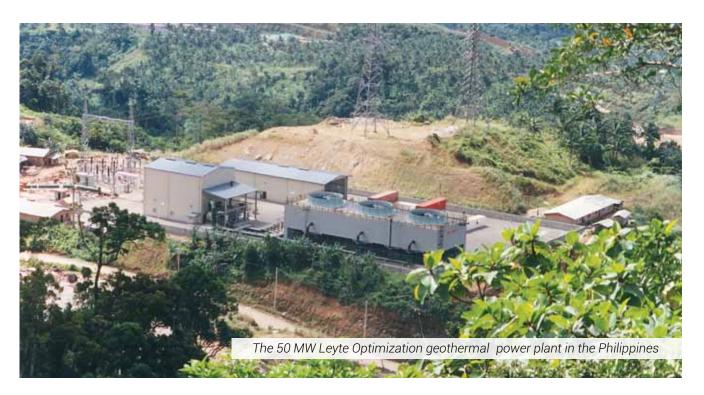
Ormat works to attract and retain a diverse employee population by engaging employees of all ages.

# Ormat and Employees Reach Out Following Typhoon Haiyan

The 2013 Pacific typhoon season exerted a huge toll on many parts of Southeast Asia, but none more devastating than Typhoon Haiyan, which is among the most destructive and intense tropical cyclones on record. The storm hit in November 2013, creating especially significant damage in the Philippines, where more than 6,300 people lost their lives and where hundreds of millions of dollars in infrastructure damage was sustained.

Ormat has a long-standing connection to the Philippines through previous ownership of the Leyte Optimization power plant under a Build, Operate and Transfer (BOT) agreement. When Ormat's ownership of the Leyte plant ended in 2007, several employees from the facility continued working in other Ormat plants in the US and Kenya.Of these employees, eleven are currently employed with Ormat.

Ormat's reaction to the typhoon was swift and supportive. Both Ormat management and the rest





of Ormat's employees wanted to provide assistance to our Philippine colleagues and their families who were impacted by the typhoon.

When the typhoon hit, Ormat immediately paid for airline tickets and \$2000 for other expenses for all Philippine employees who wished to return home to help their families deal with the storm's aftermath.Our company also established a relief fund providing all worldwide employees with the option to contribute by making an in-kind donation of personal vacation days. Ormat matched the value of each donation, which ultimately grew to US \$50,000.

Yoram Bronicki, chairman Ormat Technologies, Inc., "The Ormat group of companies is a family and families care for each other in times of need. We are humbled by the generosity our employees demonstrated and hope that our collective contribution will help mitigate the impacts caused by this devastating storm."

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### Health and Safety Performance

Ormat's operating philosophy makes the health and safety of our employees, contractors, the public and the environment an overarching priority. We recognize that safety awareness and values, combined with the everyday attitudes and practices of our employees and contractors, are key contributors to a safe working environment for all.

### Tracking Safety Incidents

Ormat gathers and analyzes the incidents in all of our operations; manufacturing facilities, power plants and offices. We work to reduce incidents, primarily by doing HAZOPs (Hazard and Operability Study) and JSAs (Job Safety Analysis) and educating our employees about safe work practices, and by making an effort to keep safety top-of-mind in the day to day operations of our facilities.

When analyzing workplace incidents, Ormat groups them into General Incidents and Vehicle Incidents. In 2012, Ormat recorded a combined total of 61 general and vehicle incidents and in 2013, Ormat recorded a total of 52 general and vehicle incidents, representing a 15% year-over-year reduction.

### **Incident Mitigation Efforts**

Ormat takes safety incidents very seriously and works to reduce their likelihood in several important ways.

Management at all of our operating facilities maintains a constant and clear focus on the importance of safety. Safety processes and performance against regulatory requirements and industry practices are regularly audited at all of our operating facilities.

We also have an established vehicle tracking system which providing continuous report monitoring, as a mechanism to positively influence and motivate driver behavior. This initiative was introduced after

Ormat recognized an increase in vehicle safety incidents and it has helped address this issue in a direct and effect manner.

Learning from our mistakes is also an important part of our safety programming. Ormat schedules regular safety discussions between our various plant sites to help increase safety awareness, share lessons learned and prevent future incidents from occurring.

### Ongoing Safety Training

Ormat applies a consistent, comprehensive approach to safety training in every facility we operate. Our company's Safety Strategy Committee, which includes the Vice-President of Operations, Manager of Business Processes, Operations Planning Coordinator, Human Resources and Plant Managers is responsible for this effort. They work to ensure safety expectations are clearly communicated and understood by employees and contractors, and that a comprehensive safety plan is maintained across all company operations.

All Ormat operating employees are encouraged to keep safety top-of-mind by completing annual course work aligned with our company's safety procedures. Our goal is to instill a clear comprehension of performance expectations for all employees and their roles. Regular practice of safety procedures and drills is emphasized, to ensure employees remain conversant and well equipped to manage operational situations with sound and effective safety practices and protocols.

## Ormat's Health & Safety Policy

### Everyone, Everyday

Ormat employees are integral to safe operations. Accordingly, every employee is charged with the responsibility to work safely, help create and maintain a safe work environment, protect each other and the community, and promote ongoing compliance and improvements, each and every day.

### Manage Hazards

Creating a safe work environment requires identification and management of hazards in our operations. Ormat strives to systematically identify hazards, and then manage them by elimination, isolation or minimization.

### Core Value

Safety is a core value at Ormat. We are committed to safeguarding employees and assets, customers, the community and the environment at all times. We believe that safe operating practices are a shared responsibility among management, employees, contractors and visitors.

### **Continual Vigilance**

Our goal of zero incidents requires that all employees maintain constant vigilance to ensure that unsafe acts and conditions are prevented. If incidents do occur, Ormat employees are charged to identify, understand and correct the root causes.





### Ormat's Safe Harbor Statement

Information provided in this report may contain statements relating to current expectations, estimates, forecasts and projections about future events that are "forward-looking statements" as defined in the Private Securities Litigation Reform Act of 1995. These forward-looking statements generally relate to Ormat.s plans, objectives and expectations for future operations and are based upon its management's current estimates and projections of future results or trends. Actual future results may differ materially from those projected as a result of certain risks and uncertainties. For a discussion of such risks and uncertainties, see "Risk Factors" as described in Ormat Technologies, Inc.'s Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 28, 2014.

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

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