# POWERED BY NATURE, HARNESSED BY US

## GEOTHERMAL ENERGY PROJECTS ON PUBLIC LANDS
## PUBLIC LANDS FOUNDATION ANNUAL MEETING 2019

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# SAFE HARBOR STATEMENT

Information provided during this presentation 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 the company's plans, objectives and expectations for future operations, and are based on 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, please see risk factors as described in the Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 1, 2019.

In addition, during this presentation, statements may be made that include a financial measure defined as non-GAAP financial measures by the Securities and Exchange Commission, such as EBITDA and adjusted EBITDA. These measures may be different from non-GAAP financial measures used by other companies. The presentation of this financial information is not intended to be considered in isolation or as a substitute for the financial information prepared and presented in accordance with GAAP.

Management of Ormat Technologies believes that EBITDA and adjusted EBITDA may provide meaningful supplemental information regarding liquidity measurement that both management and investors benefit from referring to this non-GAAP financial measures in assessing Ormat Technologies' liquidity, and when planning and forecasting future periods. This non-GAAP financial measures may also facilitate management's internal comparison to the company's historical liquidity.

EBITDA and Adjusted EBITDA are not a measurement of financial performance or liquidity under accounting principles generally accepted in the United States of America and should not be considered as an alternative to cash flow from operating activities or as a measure of liquidity or an alternative to net earnings as indicators of our operating performance or any other measures of performance derived in accordance with accounting principles generally accepted in the United States of America. EBITDA and Adjusted EBITDA are presented because we believe they are frequently used by securities analysts, investors and other interested parties in the evaluation of a company's ability to service and/or incur debt. However, other companies in our industry may calculate EBITDA and Adjusted EBITDA differently than we do.

# OUTLINE

- Ormat
- U.S. Projects
- Nevada Projects
- Economic Impact on Public Lands
- Case Study:
  - McGinness Hills Geothermal Complex

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# INTRODUCTION TO ORMAT

Market leader with proven track record in the geothermal energy sector

Our mission: to become a leading global renewable energy provider

**54 years** of experience

**4.5 Million**

Metric Tons of CO2 avoided per year

**2,900**

**MW** supplied

Own & Operate

**917 MW**

**1,346** Employees

# OVER 50 YEARS OF ORMAT: SUCCESSFUL TRACK RECORD, WORLDWIDE

**Geothermal Power Plants**
2,700 MW, 140 power plants

Amatitlan geothermal power plant, Guatemala

**Recovered Energy Generation**
180 MW, 40 power plants

OREG IV (Peetz) REG power plant, Colorado, USA

**Energy Storage**
63 MW*, 5 projects

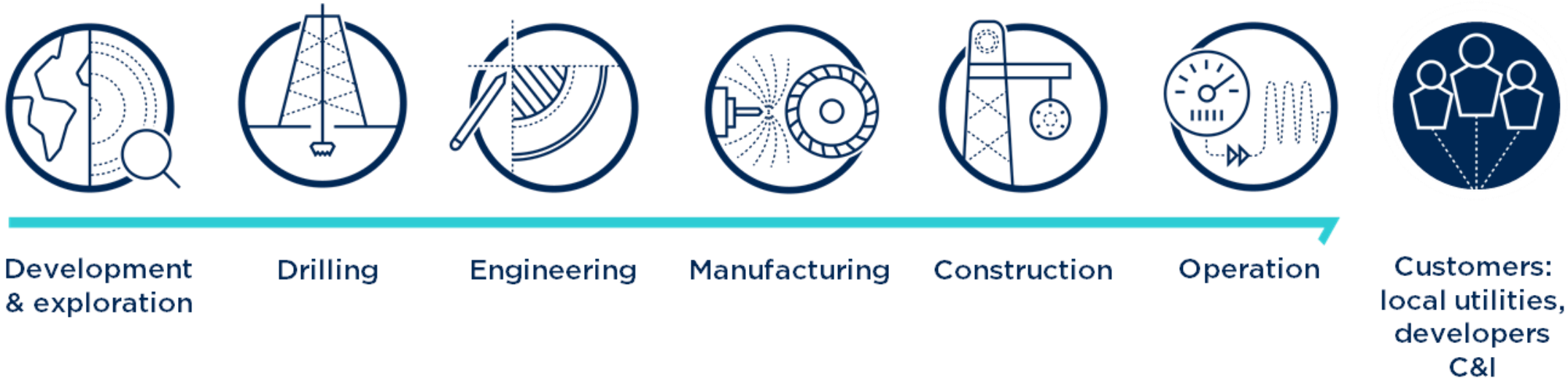
Plumsted Battery Energy Storage Facility, New Jersey, USA

**Solar PV**
49.5 MW*, 4 projects

Heber Solar Power Plant, California, USA

(*) including MWs that we own and operate, MWs that are under construction, and MWs of 3rd party assets that we operate

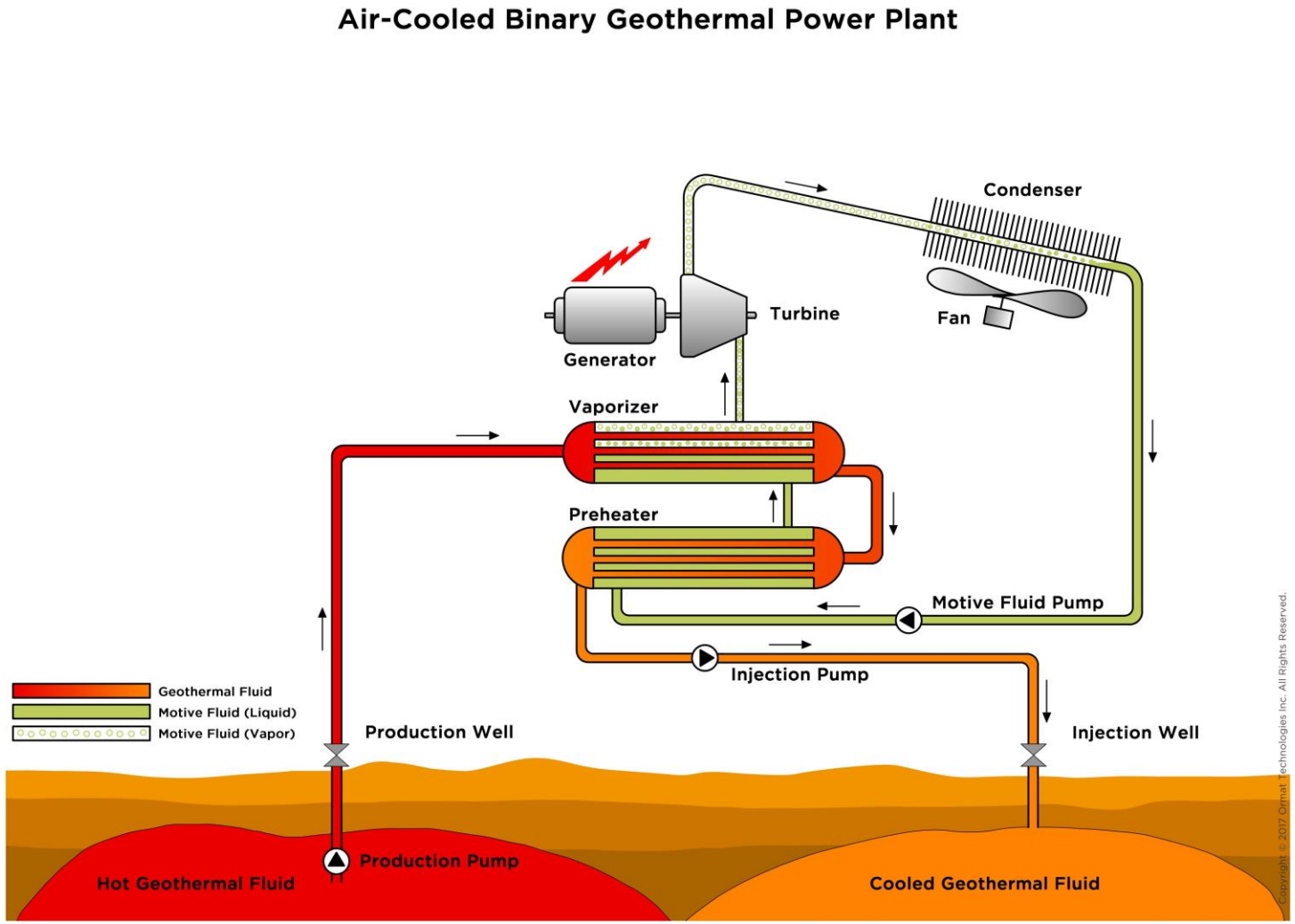
# THE WORLD'S ONLY VERTICALLY INTEGRATED GEOTHERMAL COMPANY



# GLOBAL FOOTPRINT

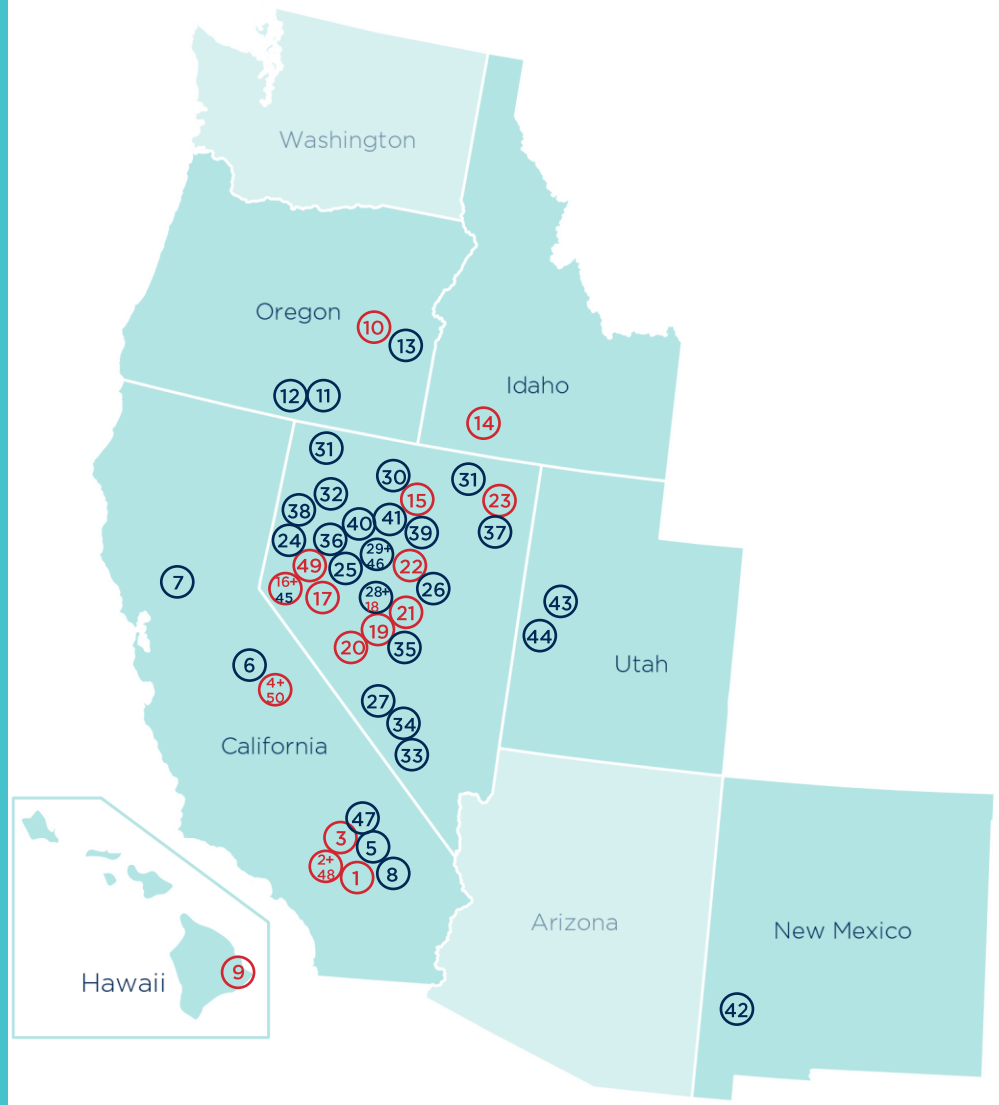
Responding to the needs of our customers around the world – more than 2,900 MW supplied in 30 countries

# AIR-COOLED BINARY GEOTHERMAL POWER PLANT



# U.S PROJECTS

# WESTERN US MAP - ORMAT PROJECTS




## Operation

1 **Ormesa Complex** California, 39 MW
2 **Heber Complex** California, 81 MW
3 **Brawley Complex** California, 13 MW
4 **Mammoth Complex** California, 29 MW
9 **Puna Complex** Hawaii, 38 MW
10 **Neal Hot Springs** Oregon, 22 MW
14 **Raft River** Idaho, 11 MW
15 **San Emidio** Nevada, 11 MW
16 **Steamboat Complex** Nevada, 65 MW
17 **Brady Complex** Nevada, 26 MW
18 **Tungsten Mountain** Nevada, 27 MW
19 **Tungsten Mountain Solar** Nevada, 7 MW
20 **Don A. Campbell Complex** Nevada, 39 MW
21 **McGinness Hills Complex** Nevada, 140 MW
22 **Jersey Valley** Nevada, 10 MW
23 **Tuscarora** Nevada, 18 MW

## Exploration/ Development

5 **Truckhaven** California
6 **Rhyolite Plateau** California
7 **WGP Geysers** California
8 **Glamis** California
11 **Crump Geysers** Oregon
12 **Lakeview/Goose Lake** Oregon
13 **Vale** Oregon
24 **North Valley** Nevada
25 **South Brady** Nevada
26 **Horsehaven** Nevada
27 **Alum** Nevada
28 **Tungsten Mountain 2** Nevada
29 **Comstock** Nevada
30 **New York Canyon** Nevada
31 **Baltazor** Nevada
32 **Colado** Nevada
33 **Pearl Hot Springs** Nevada
34 **Rhodes Marsh** Nevada
35 **Edwards Creek** Nevada
36 **Trinity** Nevada
37 **Twin Buttes** Nevada
38 **North Valley 2** Nevada
39 **Crescent Valley** Nevada
40 **Lee Hot Springs** Nevada
41 **Gerlach** Nevada
42 **Rincon** New Mexico
43 **Pavant** Utah
44 **Roosevelt Hot Springs** Utah
45 **Steamboat Solar** Nevada
46 **Dixie Meadows** Nevada
47 **Wister Solar** California

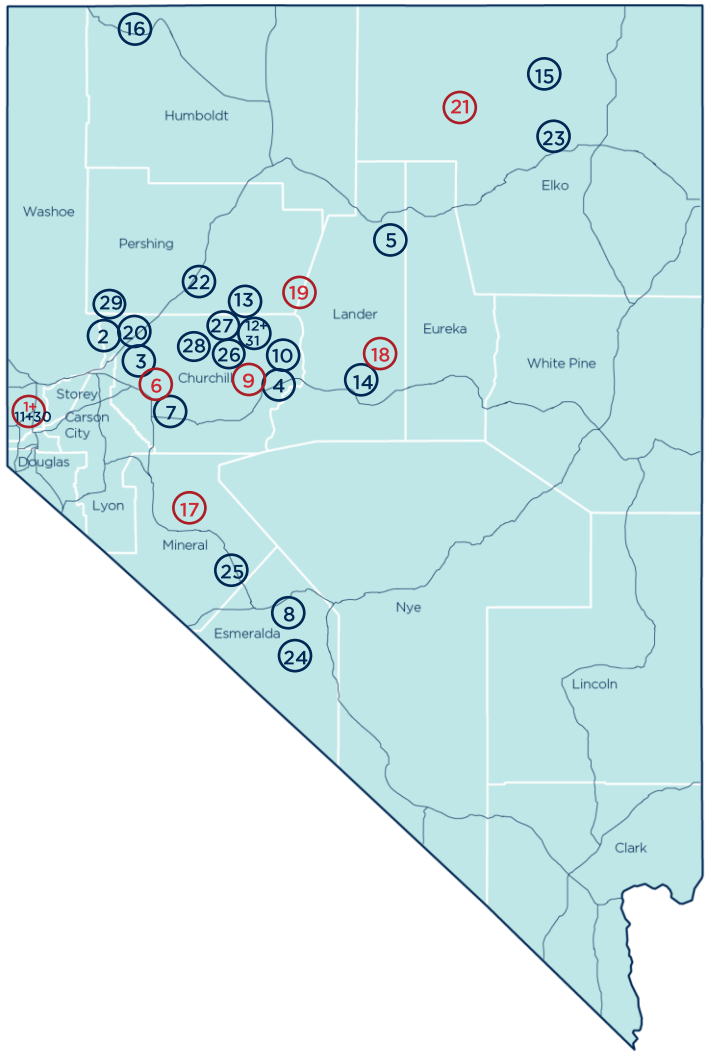
## Under Construction

49 **Carson Lake** Nevada
50 **Mammoth CD4** California
52 **Steamboat Hills Repowering** Nevada
48 **Heber Repowering** California

** McGinness Hills, Steamboat Hills Repowering and Heber Repowering are in advanced construction while Carson Lake, and Mammoth CD4 are under initial construction

# NEVADA PROJECTS

# NEVADA MAP - ORMAT PROJECTS




## Operation

1 Steamboat Complex (Galena 1, 2, 3, Steamboat Hills, Steamboat 2&3)*
65 MW

6 Brady Complex*
26 MW

9 Tungsten Mountain*
27 MW

17 Don A. Campbell Complex
39 MW

18 McGinness Hills Complex
140 MW

19 Jersey Valley
10 MW

21 Tuscarora
18 MW

## Under Construction

7 Carson Lake*

11 Steamboat Repower

## Exploration/ Development

2 North Valley

3 South Brady*

4 Edwards Creek

5 Horsehaven*

8 Alum*

10 Tungsten Mountain 2*

12 Comstock*

13 New York Canyon*

15 Ruby Valley*

16 Baltazor*

20 Trinity

22 Colado

23 Twin Buttes

24 Pearl Hot Springs

25 Rhodes Marsh

26 Crescent Valley

27 Gerlach

28 Lee Hot Springs

29 North Valley 2*

30 Steamboat Solar

31 Dixie meadows*

* Part of SCPPA Portfolio PPA

# ECONOMIC IMPACT

# ECONOMIC IMPACT

- **All Public Lands:**
  - In the U.S. Ormat has 251,431 acres under lease in California, Nevada, New Mexico, and Utah
  - In 2018 Ormat paid $2.6 M in royalties and $923,448 in rentals to the Bureau of Land Management

- **Nevada:**
  - In Nevada Ormat has 205,442 acres under lease. This number for Nevada will increase next week.
  - In 2018 Ormat paid $2.3 M in royalties in Nevada alone.

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# ATM IN THE DESERT

- **Every 30 MW geothermal development has a economic impact to the local community***
  - One time expenditures: Drilling & Construction = ~$135M
  - Recurring expenditures: Operations, Taxes, Royalties ~$2M annually

- **Every 30 MW geothermal development has direct employment impact to the local community**
  - Drilling: 100 jobs
  - Construction: 300 jobs
  - Operations: 20 jobs

- **Every 30 MW geothermal development has a direct environmental impact to the local community**
  - 140,000 Metric Tons of C02 avoided annually

Wahlstrom & Associates. 2011 "Economic benefits of proposed Dixie Meadows Geothermal power plant, Churchill County, Nevada." Reno, NV: Prepared for Ormat Technologies

# MCGINNESS HILLS COMPLEX

# WHAT? YOU HAVEN'T BEEN TO MCGINNESS HILLS?

# SILICA SINTER TERRACE – WHERE IT ALL BEGAN!

# MGH POWER PLANT PHASE SUMMARY- 140 MW

- **Phase I (2009 – 2012)**
  - Five Production Wells
  - Three Injection Wells
  - Air condensing system
- **Phase II (2013 – 2015)**
  - Five Production Wells
  - Three Injection Wells
  - Similar construction as plant #1
- **Phase III (2016 – 2018)**
  - Five Production Wells
  - Two Injection Wells
  - New plant design utilizes two working fluids


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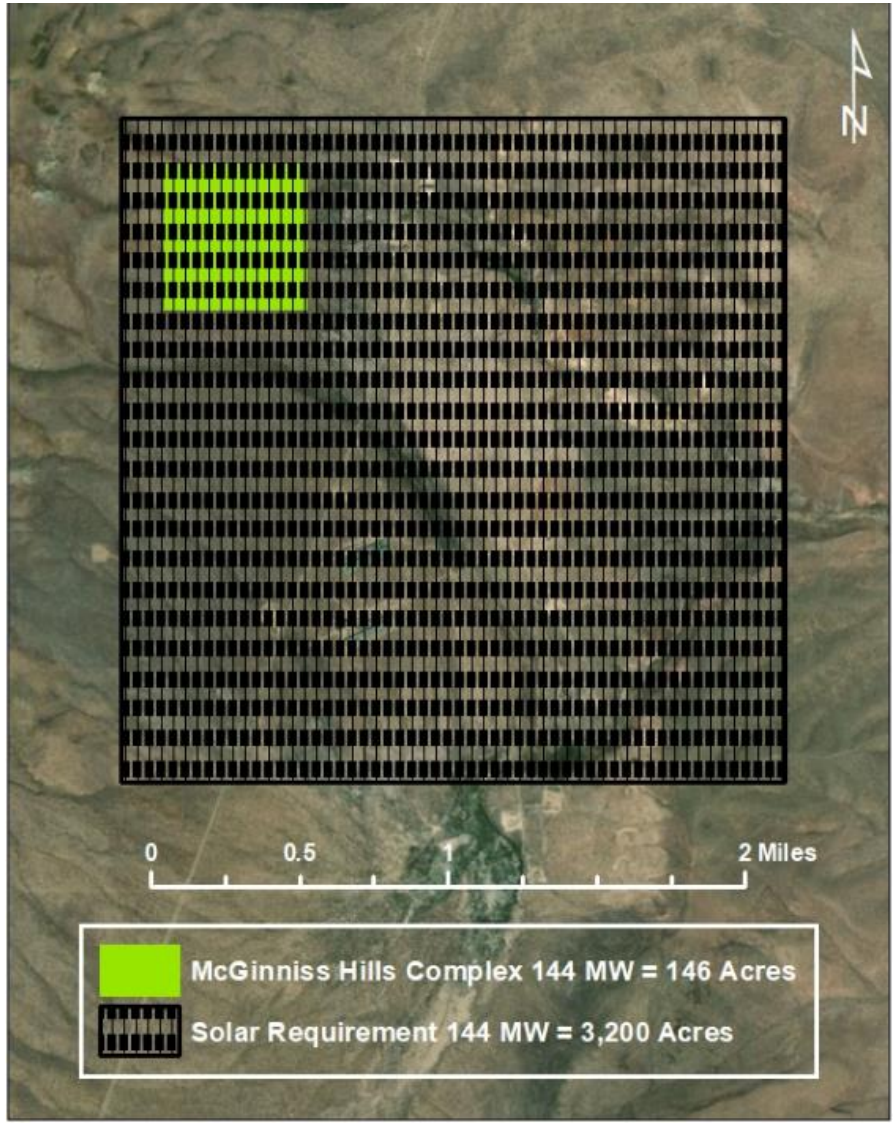
# MCGINNESS HILLS COMPLEX



# MCGINNESS HILLS COMPLEX PERMITTING

- In July 2011, Ormat received approval to construct and operate Phases I and II
- Approval was granted by the BLM after an extensive environmental review was completed. BLM, with coordination from the Nevada Department of Wildlife (NDOW), required mitigation, including habitat restoration and enhancement, as well as a 10-year Sage-grouse monitoring plan that is currently ongoing and implemented by experts at the U.S. Geological Survey (USGS), and reviewed by the BLM and NDOW.

- BLM required the Phase III expansion to undergo additional environmental review to analyze the proposed action under NEPA. NDOW worked closely with the BLM and Ormat on the release of the third EA and supports its development.

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# MCGINNESS HILLS COMPLEX

- During the preparation of the Draft EA BLM worked with NDOW addressing resource concerns, and providing an early review of the proposed project. This process resulted in additional environmental protection measures, and an Adaptive Management Plan for use in mitigating potential future impacts to greater sage-grouse from the Project. Additional environmental protection measures committed to by Ormat include installation of sound barriers around the existing and proposed production wells, placement of perch deterrents on the vertical expansion loops, revised timing restrictions to be in line with the 2015 Approved Resource Management Plan Amendment, and further measures to reduce supplemental food sources for predator populations (especially ravens).

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# PERCH DETERRENTS

# SOUND BARRIERS

# SHIELDED LIGHTING

# MCGINNESS HILLS COMPLEX

- “This decision is in accordance with BLM priorities, including making America safe through energy independence, getting America back to work and shared conservation,” said District Manager Douglas Furtado. “The Battle Mountain District has a heavy focus on the responsible development of energy and mineral projects. This geothermal expansion will increase the clean energy capacity within Nevada, create new jobs, and stimulate the local economy and energy market.”

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# MCGINNESS HILLS COMPLEX

- The entire McGinness Hills facility in Austin, Nevada has a capital investment of over 300 million dollars and will employ Nevada residents through construction and permanent employment.  Total construction payroll will exceed 30 million dollars, while total payroll for the facility is estimated at 35 million dollars over the next 20 years.  The facility will also contribute 35 million dollars in property and use taxes and 60 million dollars in federal royalties, with 30 million dollars going to the State of Nevada, 15 million dollars going to Lander County, and 15 million dollars going to the federal treasury.

- **The McGinness Hills Facility in Austin, Nevada is the largest geothermal power generating facility in Nevada, as well as the largest located on BLM land.**

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# WHEN CAN WE SCHEDULE A TOUR FOR YOU?

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