About GEA

We are 150 companies that work 80% global geothermal market or about 60 countries.
Outline

- Discussion of International Market Trends
- Focus attention on U.S.
- U.S. Policy Overview
International Geothermal Power Nameplate Capacity (MW)

- Current Geothermal Power Capacity
- Potential Capacity Additions of Plants Under Construction - Baseline
- Potential Capacity Additions of Plants with Announced Completion Dates
- GEA's 2013/2014 Forecast
Global Geothermal Development Goals and Pledges

- World Hydrothermal Geo Potential
- IRENA/UNFCCC Global Geothermal Alliance Goal
- Announced Country Geothermal Development Goals
Operating Capacity by Technology Type

- Installed Capacity (MW)

- Dry Steam
- Single Flash
- Double Flash
- Triple Flash
- Binary
- Back Pressure
Geothermal Resources of the United States

Source: National Renewable Energy Laboratory
Policy Impact on U.S. Industry

- 1972: Industry Coupled Case Studies begin
- 1975: CA’s GRDA
- 1981: PURPA
- 1984: First binary unit commissioned in US
- 1993: PTC, ITC, RPS(s) enacted
- 2002: PTC reenacted for 2 years
- 2014: GRED I, II, III
Geothermal Project Cost and Risk Profile at Various Stages of Development

‘Investment Phase incentives’ are the most helpful in the U.S. for constructing new projects with high upfront risk when tailored fairly to geothermal power’s unique needs
Asymmetrical Incentives

*For Example,*

<table>
<thead>
<tr>
<th>California Incentive</th>
<th>Solar</th>
<th>Geothermal Power</th>
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</thead>
<tbody>
<tr>
<td>Federal PTC or ITC</td>
<td>Yes 30% ITC</td>
<td>Yes PTC/30% ITC</td>
</tr>
<tr>
<td>Expires</td>
<td>Begin construction by 12/31/2019 Phased out by 12/31/2022</td>
<td>Begin construction by 12/31/2016</td>
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<tr>
<td>Clean Power Plan CEIP</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>State tax credit/rebate</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Property tax exemption</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>Special rates/net metering</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Renewable energy credits</td>
<td>Yes SRECS</td>
<td>Only RECS</td>
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</tbody>
</table>
Stalled Project Development in California

- **Imperial Valley**
  - ‘Shovel Ready’: 500+ MW
  - Identified Potential: 1,700 to 2,300 MW

- **The Geysers**
  - 200+ MW in different phases of development

- **Mono County**
  - 200+ MW in different phases of development

- **Northern California**
  - 20+ MW

*Geothermal Energy Association*
Thank You

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