



# Salton Sea RFI

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# Agenda

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Context: Federal government renewable energy goals

RFI Results – Executive Summary

Next Steps

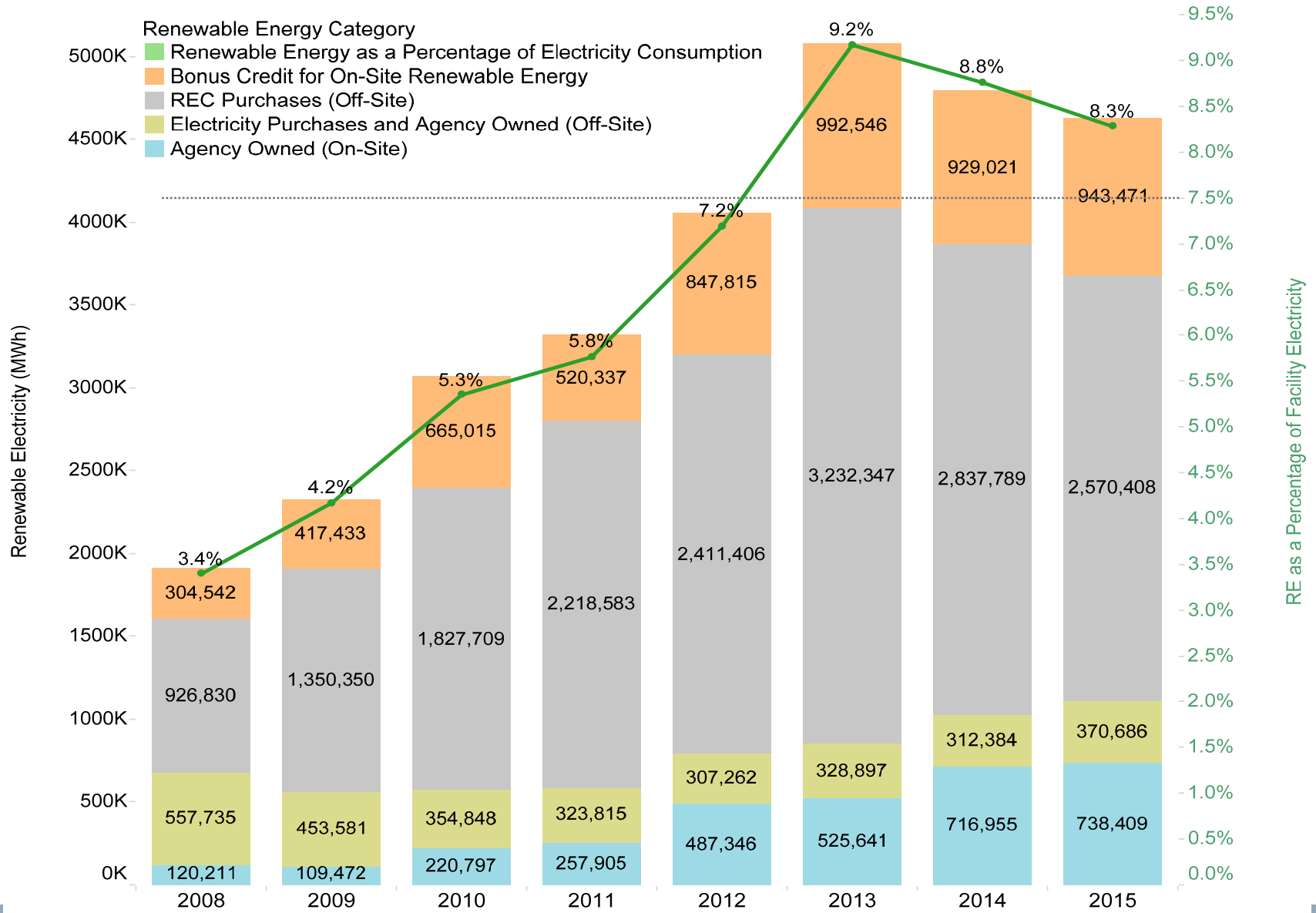
Q&A

# Goals from EO 13693

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- **Clean Energy and Energy Efficiency**
  - A 2.5 percent annual reduction in agency building energy intensity measured in BTU per gross square foot through 2025 from 2015 baseline
  - 25 percent of total amount of building energy (electric and thermal) will come from clean sources meaning renewable or alternative energy sources by 2025
  - 30 percent of the building electricity portion of total energy will be obtained using renewable resources by 2025
- **Water Efficiency**
  - Reduce agency potable water consumption intensity measure in gallons per gross square foot by 36 percent by 2025 through 2 percent annual reductions from a baseline of 2007
  - Reduce agency industrial, landscaping, and agricultural water consumption by 2 percent annually through fiscal year 2025 from a 2010 baseline
  - Improve storm water and waste water management through appropriate green infrastructure features on federally owned property

## Total Government Use of Renewable Energy as a Percentage of Total Electric Energy



## RFI - Recap

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- Information received in response to the August 25, 2016 Request for Information (RFI) released by the U.S. Department of Energy's Federal Energy Management Program (FEMP) on the availability of new construction geothermal electricity in the Salton Sea area to serve regional federal load
- The purpose of the RFI was to gather industry input on options available to the federal government for:
  - a potential aggregated power purchase of 100-250 MW of new construction geothermal electricity generated in the Salton Sea area
  - within the Riverside and Imperial Counties of California
  - for delivery over a 10-year or 20-year contract period to serve regional federal load
- Responses were due September 29, 2016

# RFI – Responses Received

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The Federal government received 12 individual responses:

- 7 answered the RFI questions
- 4 submitted letters supporting additional geothermal development in the area
- 1 response did not relate to geothermal energy development

| Submitting Organization                      |
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| GeoGenCo LLC                                 |
| Controlled Thermal Resources                 |
| EnergySource LLC                             |
| CalEnergy Operating Corporation              |
| Geothermal Energy Association (GEA)          |
| Imperial Irrigation District (IID)           |
| GreenFire Energy Inc.                        |
| Ormat Technologies, Inc. (Ormat Nevada Inc.) |
| IBEW Local 569 and Sierra Club               |
| Private Citizens                             |

# RFI - Response Recap

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- Generation Options
  - Responses estimated new Salton Sea geothermal capacity to be 1500 - 2500 MW. Based on the responses, some lack of clarity regarding whether respondents were estimating “new” or “total” capacity
  - Several respondents have geothermal projects in varying stages of development; estimated project development timeframe of 2-4 years
  - Responses characterized the resource as unique - creating technical, permitting and construction challenges
- Transmission / Delivery
  - Most respondents generally observed that the Imperial Irrigation District (IID) is interconnected to 3 major transmission networks, the California Independent System Operator (CAISO), Western Area Power Administration (WAPA), and the Arizona Public Service Company
  - Some respondents had specific transmission line delivery point recommendations, while others were flexible
  - Most respondents said delivery would be 24/7
  - Transmission capacity available; some potential congestion to the west, with plans to alleviate
- Optimal Contract Terms
  - General preference for 20-30 year contract
  - 1 suggestion for 10 year contract with options

## RFI – Response Recap (2)

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- Price ranges
  - 8 – 14 cents / kWh; 1 response > 15.5 cents / kWh
  - Unclear whether these price estimates reflect a delivered cost or the wholesale generation cost before transmission and other costs are added
- Other
  - Respondents provided information on topics including cooling water cost and availability, benefits specific to a particular company's geothermal technology, other benefits (economic, environmental, ancillary, geothermal compared to other intermittent resources) and procurement recommendations



## Next Steps

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- No immediate timeframe for RFP release
- Federal government to further refine analysis based on agency energy requirements, agency authorities
- Determine appropriate lead agency – each of whom have varying authorities with respect to energy procurement