

# SOLARRESERVE

ACC Workshop on the 2012 IRP Assessment

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# Overview

- Company Overview
- Value Proposition
- Lead Project: Crescent Dunes
- Arizona Development Activities
- Our Recommendation: “Enhanced Renewables” Scenario

# Company Overview

- **World class team of power plant developers, utility, energy technology, finance, and construction experts.**
  - Experienced management/executives from Bechtel, AES, Southern California Edison, Rocketdyne, Invenergy, HSBC, UBS, Rolls-Royce, LS Power, Enron, Sempra and others.
  - More than 15,000 MWs financed and built (\$20 billion) at previous companies.
- **Developer of utility-scale Concentrated Solar Power (CSP) and Photovoltaic (PV) projects with an extensive pipeline of project development opportunities in the United States, and Arizona specifically.**
  - 50-person staff, headquartered in Santa Monica with offices in Las Vegas, London, Madrid, and Johannesburg (SA)
  - 250 MW of executed PPAs (CSP)
  - Crescent Dunes Project (110 MW CSP plant) in Tonopah, NV currently under construction, financing closed September 2011
  - Recently awarded 3 projects totaling 238 MW in South African tender process
- **Exclusive license to leading Molten Salt Power Tower and Heliostat technology**
  - Inherent thermal energy storage allows for dispatchable power on demand – typically 12 to 16 hours of storage per project depending on utility requirements
  - Lowest projected LCOE for CSP projects – as determined by independent studies
  - Proven technology: 10 MW demonstration plant built in cooperation with U.S. DOE

# SolarReserve – CSP and PV Solar Projects

- Geographically diverse portfolio of more than 3,000 MW of CSP projects
  - Two lead projects with Power Purchase Agreements (250 MW)
  - Late stage projects represent more than 600 MW under permitting
  - 25 sites and more than 150,000 acres under control
- Expanded into Photovoltaic activities in early 2009, development pipeline of more than 1,500 MW
  - Primarily in the 5 to 20 MW capacity proposed over 50 different sites across the US
  - Several large scale PV projects in the 50 to 200 MW capacity range
  - Awarded 3 projects totaling 238 MW in South African tender process



# SolarReserve Value Proposition

## *“Smart Dispatch”*

- SolarReserve thermal storage provides high capacity value and capacity factor with good DNI look-ahead
- Performance comparable to NGCC means guaranteed availability during periods of high capacity need
- Intermittent wind & PV will eventually need NG integration
- Zero renewable integration cost

## *No natural gas fuel*

- Guaranteed world class DNI in Arizona with no carbon implications
- No pipeline capacity limitations as fuel needs escalate
- No rising commodity prices, volatility, or hedging requirements for comparable price/performance

## *Economics*

- Eight projects in Arizona, some are shovel-ready
- Comparable LCOE means ratepayer acceptability

# Crescent Dunes Solar Energy Project

- **Location:** Tonopah, Nevada
- **Technology:** CSP with Thermal Energy Storage (10 hours full load storage)
- **Size:** 110 MW
- **Energy production:** more than 500,000 MW-hours annually (twice the output per MW of other solar technologies)
- **Capacity factor:** 52%
- **Power contract:** NV Energy – 25 years; \$135 MWh
- **EPC Contractor:** Cobra Thermosolar Plants, Inc. with full EPC “wrap”
- **Technology Supplier:** SolarReserve under a subcontract to Cobra
- **Investors:**
  - SolarReserve (managing investor)
  - Cobra
  - Santander



# Crescent Dunes: Job Creation and Economic Impacts

## JOBS

Total Man-hours on site (to date)	81,885 man-hours
Total construction man-hours from Nevada residents (to date)	59,564 man-hours
% of construction workforce by Nevada residents (to date)	73% Nevada workers
Current workforce on site	90-100 craft workers
Expected peak on-site manpower requirements (expected to reach peak in late 2012)	600 craft workers
Expected total man-hour requirements for construction on site	1.5 million man-hours
Total direct, indirect and induced jobs which will be created	4,300 jobs

## Local Economic Impacts

- **Tax Revenues:** Project forecasted to generate **\$37 million** in total tax revenues over first 10 years of operation
- **Capital Investment:** Project will generate in excess of **\$750 million** in private capital cost investment in Nevada

# Crescent Dunes Solar Energy Project – August 2012



# Arizona Development Activities



## Our Position: “Enhanced Renewables” Scenario

- Arizona has tremendous solar resource and available land
- Opportunity to be the world-class leader in a diversified renewable energy portfolio
- Hedge against fuel price volatility – viable technologies with little to no impact to ratepayers
- Job creation: each CSP facility will create 650 jobs during construction and 50 long-term, skilled jobs
- Investment: SolarReserve alone is investing millions of dollars in Arizona

**Utilities Can Increase Generation Diversity While Mitigating Fuel Risk**

# Contact Information

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