



SolarReserve



Nevada CSP Development

SSPG Stakeholder Meeting

**Reno, NV
Nov. 4, 2008**

SolarReserve Heritage

Original Partners



- Entrepreneurial Structure
- Renewable Energy Expertise
- Operating Capital – Owner



- Technology License
- Guarantee/Warranty
- Engineering Investment

Series “B” Financing - Project Deployment

Sustainable Development Investments
Citi Alternative Investments



NAZARIAN enterprises



SolarReserve has the Exclusive Worldwide Rights to the Rocketdyne Power Tower Technology

SolarReserve's Investment Partners

- **Citi – Sustainable Development Investments (SDI)** - a private equity group within Citi that seeks investment in renewable energy. Citi has announced a plans to direct \$50 billion in the next 10 years to address global climate change.
- **Good Energies** - a leading global investor in renewable energy and energy efficiency industries. Good Energies' annual investment budget is \$450 million and its current portfolio has a market capitalization of more than \$5 billion.
- **US Renewables Group** – the founding investor in SolarReserve and one of the largest US private equity firms focused exclusively on investing in renewable power, biofuels, and clean technology infrastructure and has mobilized \$575 million of capital commitments.
- **Credit Suisse Customized Fund Investment Group (“CFIG”)** - one of the world’s leading managers of private equity fund-of-fund and co-investment programs, with nearly \$22 billion of commitments to more than 750 private equity funds and portfolio companies.
- **Argonaut Private Equity** - a diversified global private equity fund dedicated to building emerging market leaders with more than \$3.5 billion under management.
- **PCG Clean Energy and Technology Fund** - dedicated to investing across the spectrum of the global clean energy market. The fund is managed within PCG Asset Management, which annually oversees more than \$9 billion of private equity commitments.
- **Nimes Capital, LLC** - a member of Nazarian Enterprises. Nimes Capital is a private equity fund that provides growth capital to development companies with an emphasis on renewable energy, water and wastewater management and clean technologies.

SolarReserve Technology Guarantor



\$65B Market Cap
\$60B Revenue



Sikorsky



Otis



Carrier



UTC Fire & Security



Hamilton Sundstrand



Pratt & Whitney



UTC Power



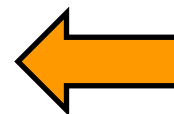
Research Center



HS Rocketdyne



PW Rocketdyne



Rocketdyne

3,500 Employees
1,300 Technical Degrees

Rocketdyne Core Competencies

Rocketdyne

Designed, Developed and Built



Liquid Rocket Engines - 1585 Launches



Space Station Power System



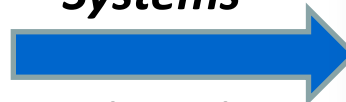
Liquid Metal Systems

Competencies

High Heat Flux



Systems



Engineering

Molten Salt



Rocketdyne

Designed, Developed and Built

Solar Two

10 MWe Demonstration Plant



Technology Validated

Dispatchability
 Demonstrated 24 hr/d
 Exceeded performance targets
 Meet all test objectives

Storage is Integral in our Power Tower

Sunlight is concentrated and directed from a large field of heliostats to a receiver on a tall tower

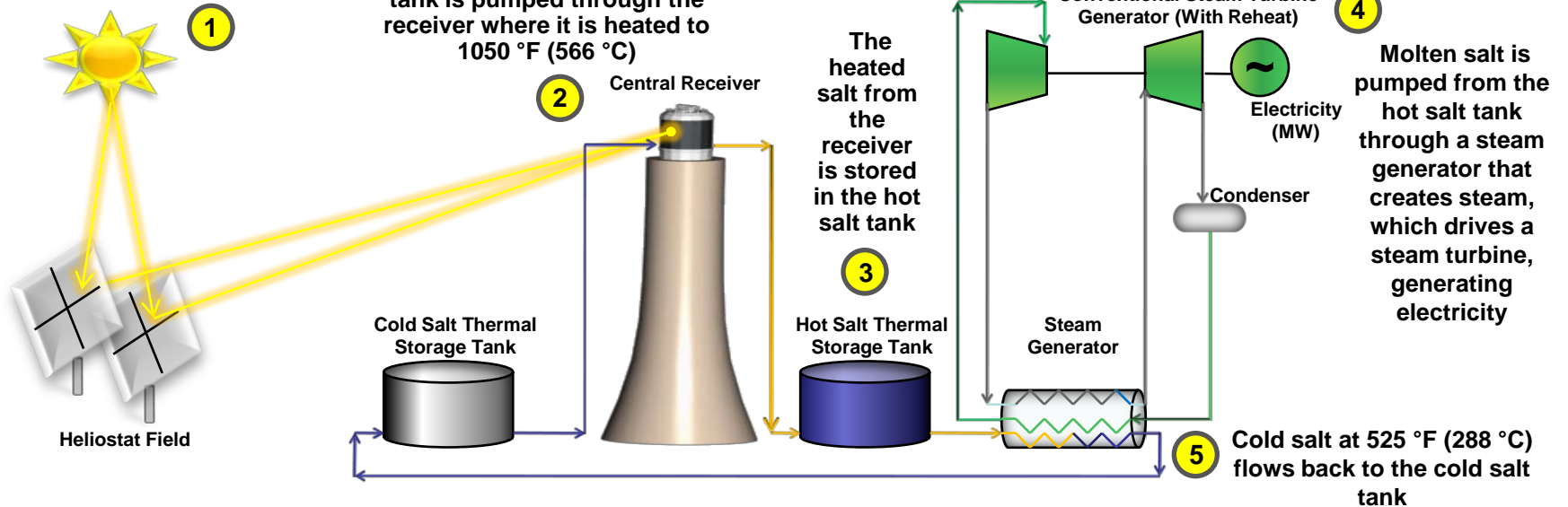
Molten salt from the cold salt tank is pumped through the receiver where it is heated to 1050 °F (566 °C)

The heated salt from the receiver is stored in the hot salt tank

Conventional Steam Turbine Generator (With Reheat)

Molten salt is pumped from the hot salt tank through a steam generator that creates steam, which drives a steam turbine, generating electricity

Cold salt at 525 °F (288 °C) flows back to the cold salt tank



Heliostat



Central Receiver



Molten Salt Tanks

Technology Validated at Solar Two

DOE Demonstration Project

- Molten Salt Operations Characterized

“Over the three-year operating lifetime, daily operation of Solar Two became relatively routine, with various performance records broken on a fairly regular basis.”

(DOE SunLab, March 2000)

- Demonstrated electric power 24 hr/d
- Exceeded Performance Targets
- Receiver Performance
 - Exceeded 88% efficiency prediction
- Pump Performance
 - Demonstrated full-flow at design pressures

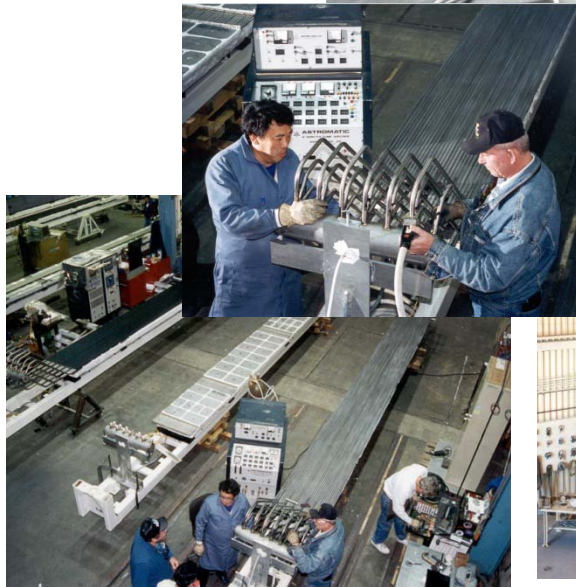
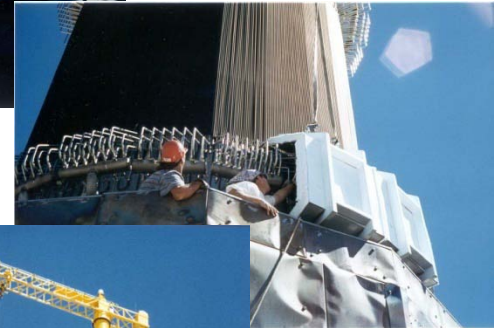


10 MW Pilot Plant
1997-1999

- 300 ft tall tower; 1,926 heliostats
- 42 MWt receiver; 10 MW turbine
- 3 hours molten salt storage

Solar Two

Receiver System Designed and Built By Rocketdyne



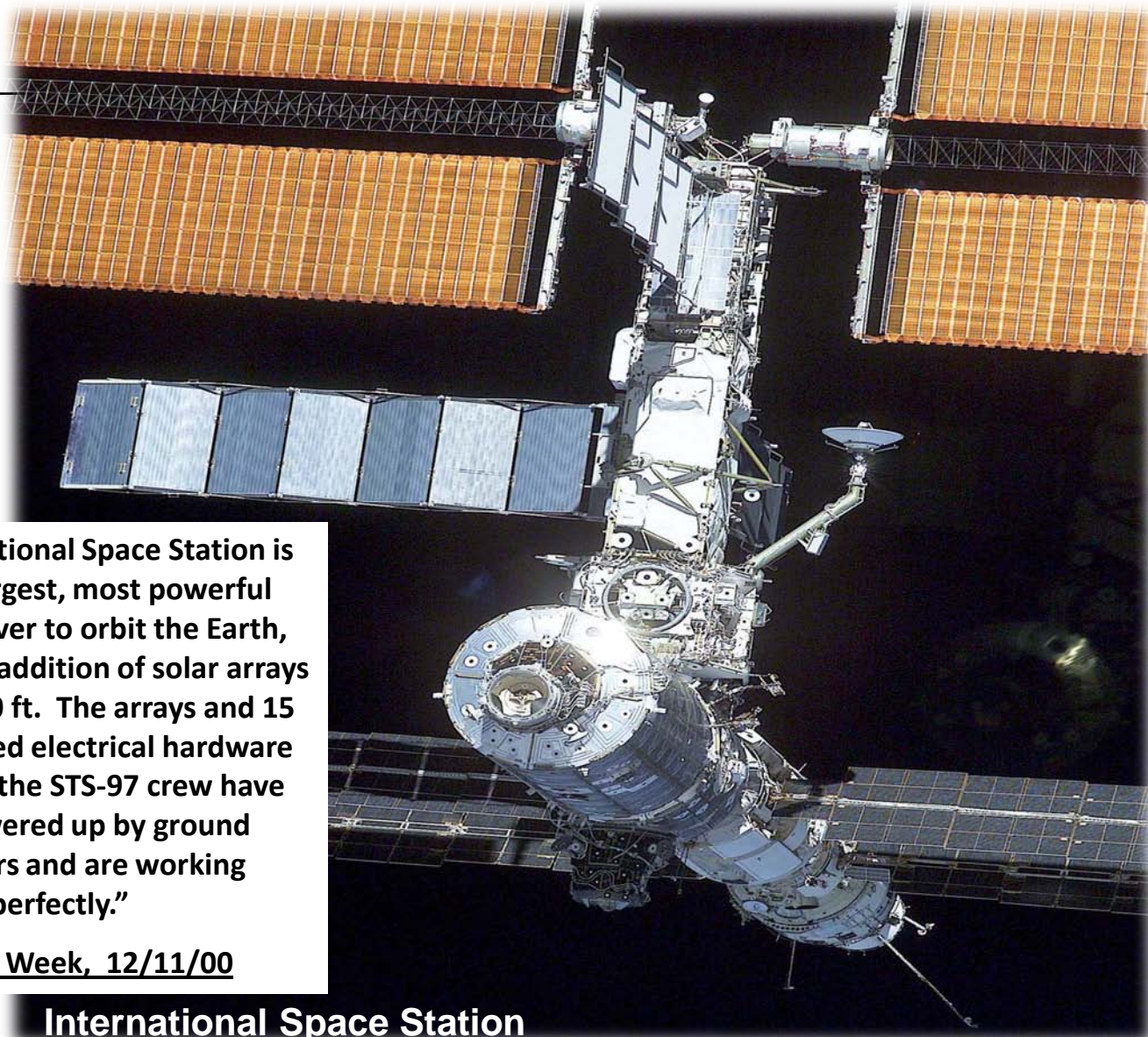
Fabrication at Rocketdyne

Installation at Barstow CA

Steam Generators and Salt Pumps



**Solar 2 Molten Salt Thermal Storage Tanks
and Steam Generators**



“The International Space Station is now the largest, most powerful spacecraft ever to orbit the Earth, following the addition of solar arrays spanning 240 ft. The arrays and 15 tons of related electrical hardware installed by the STS-97 crew have been powered up by ground controllers and are working perfectly.”

Aviation Week, 12/11/00

International Space Station

Thermal Storage Creates Value

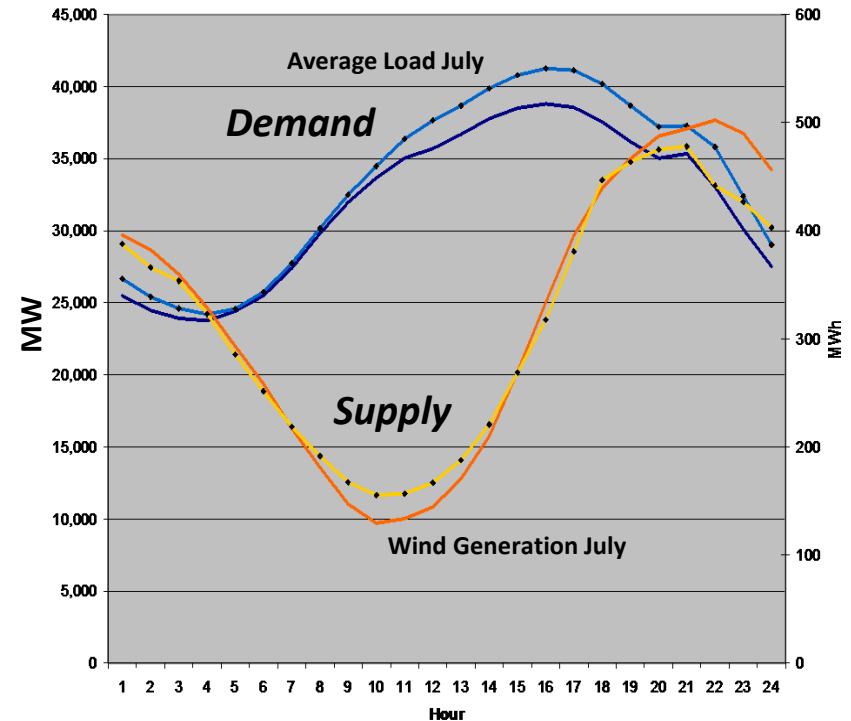
Utility Incentives for Peak Production

time	Winter					Summer				Winter		
	January	February	March	April	May	June	July	August	September	October	November	December
0:00	0.61	0.61	0.61	0.61	0.61	0.75	0.75	0.75	0.75	0.61	0.61	0.61
1:00	0.61	0.61	0.61	0.61	0.61	0.75	0.75	0.75	0.75	0.61	0.61	0.61
2:00	0.61	0.61	0.61	0.61	0.61	0.75	0.75	0.75	0.75	0.61	0.61	0.61
3:00	0.61	0.61	0.61	0.61	0.61	0.75	0.75	0.75	0.75	0.61	0.61	0.61
4:00	0.61	0.61	0.61	0.61	0.61	0.75	0.75	0.75	0.75	0.61	0.61	0.61
5:00	0.61	0.61	0.61	0.61	0.61	0.75	0.75	0.75	0.75	0.61	0.61	0.61
6:00	0.83	0.83	0.83	0.83	0.83	0.75	0.75	0.75	0.75	0.83	0.83	0.83
7:00	0.83	0.83	0.83	0.83	0.83	0.75	0.75	0.75	0.75	0.83	0.83	0.83
8:00	1.00	1.00	1.00	1.00	1.00	1.35	1.35	1.35	1.35	1.00	1.00	1.00
9:00	1.00	1.00	1.00	1.00	1.00	1.35	1.35	1.35	1.35	1.00	1.00	1.00
10:00	1.00	1.00	1.00	1.00	1.00	1.35	1.35	1.35	1.35	1.00	1.00	1.00
11:00	1.00	1.00	1.00	1.00	1.00	1.35	1.35	1.35	1.35	1.00	1.00	1.00
12:00	1.00	1.00	1.00	1.00	1.00	3.13	3.13	3.13	3.13	1.00	1.00	1.00
13:00	1.00	1.00	1.00	1.00	1.00	3.13	3.13	3.13	3.13	1.00	1.00	1.00
14:00	1.00	1.00	1.00	1.00	1.00	3.13	3.13	3.13	3.13	1.00	1.00	1.00
15:00	1.00	1.00	1.00	1.00	1.00	3.13	3.13	3.13	3.13	1.00	1.00	1.00
16:00	1.00	1.00	1.00	1.00	1.00	3.13	3.13	3.13	3.13	1.00	1.00	1.00
17:00	1.00	1.00	1.00	1.00	1.00	3.13	3.13	3.13	3.13	1.00	1.00	1.00
18:00	1.00	1.00	1.00	1.00	1.00	1.35	1.35	1.35	1.35	1.00	1.00	1.00
19:00	1.00	1.00	1.00	1.00	1.00	1.35	1.35	1.35	1.35	1.00	1.00	1.00
20:00	1.00	1.00	1.00	1.00	1.00	1.35	1.35	1.35	1.35	1.00	1.00	1.00
21:00	0.83	0.83	0.83	0.83	0.83	1.35	1.35	1.35	1.35	0.83	0.83	0.83
22:00	0.83	0.83	0.83	0.83	0.83	1.35	1.35	1.35	1.35	0.83	0.83	0.83
23:00	0.83	0.83	0.83	0.83	0.83	0.75	0.75	0.75	0.75	0.83	0.83	0.83

Additional Benefits of Thermal Storage

- Firm Dispatch
- Stable electricity production
- Increase of annual capacity factor
- Provide reliable peaking capability
- Buffering during transient weather conditions
- Load Following on Wind Transmission Utilization

Wind isn't Always Coincident with Demand



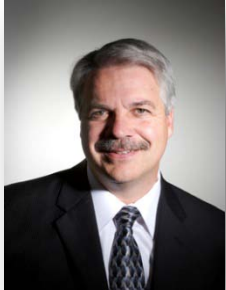
Solar Thermal Storage Can "Firm-Up" Wind

SolarReserve Differentiators

- ❑ **Financeable System**
 - Rocketdyne Know-How, Fabrication and Patents
 - Critical hardware Fabricated & Guaranteed by UTC
 - Strategic and Financial Partners
- ❑ **Dispatchable Power - Thermal Storage**
 - Tailored to meet the demand profile
 - Inherent to system, not an attempted bolt on
- ❑ **Technology Demonstrated**
 - Pilot Plant = No Unknowns
 - Validation by Sargent Lundy and RW Beck
- ❑ **Pricing Competitive and Stable**
 - 100% renewable energy - No natural gas required
 - Levelized cost competitive with NG and Clean Coal
- ❑ **Enormous opportunity for Local Communities**
 - Permanent job creation, high value tax base
 - \$600+ million capex per plant



Experienced Management Team



Terry Murphy
President and CEO

Previous Positions:
Hamilton Sundstrand Rocketdyne, Director Advanced Power Systems: Boeing - Director Energy Systems, Director of International Business Development, Program Manager Advanced Propulsion programs
BS Astronautical Engineering - Purdue University
MS Systems Mgmt. – University of Southern California



Lee Bailey
Chairman & USRG Founder

Previous Positions:
Rustic Canyon Ventures, Partner: Energy Conversion Devices, Inc.: White House Director for International Science and Technology Commercialization Programs
BA - St. Lawrence University
MS - Northwestern University
JD - Washington University



Kevin B. Smith
COO and Head of Development

Previous Positions:
Invenergy LLC – Senior Vice President
Rolls-Royce Power Ventures – COO
Indeck Energy- General Manager and Vice President
BS Mechanical Engineering -Purdue University
MBA Finance - University of Chicago



William R. Gould, Jr.
Chief Technical Officer

Previous Positions:
Sustainable Energy Projects, Principle
Bechtel - Solar Two Project Manager
BS and MS Mechanical Engineering –
Brigham Young University



Tom Georgis
Vice President Development

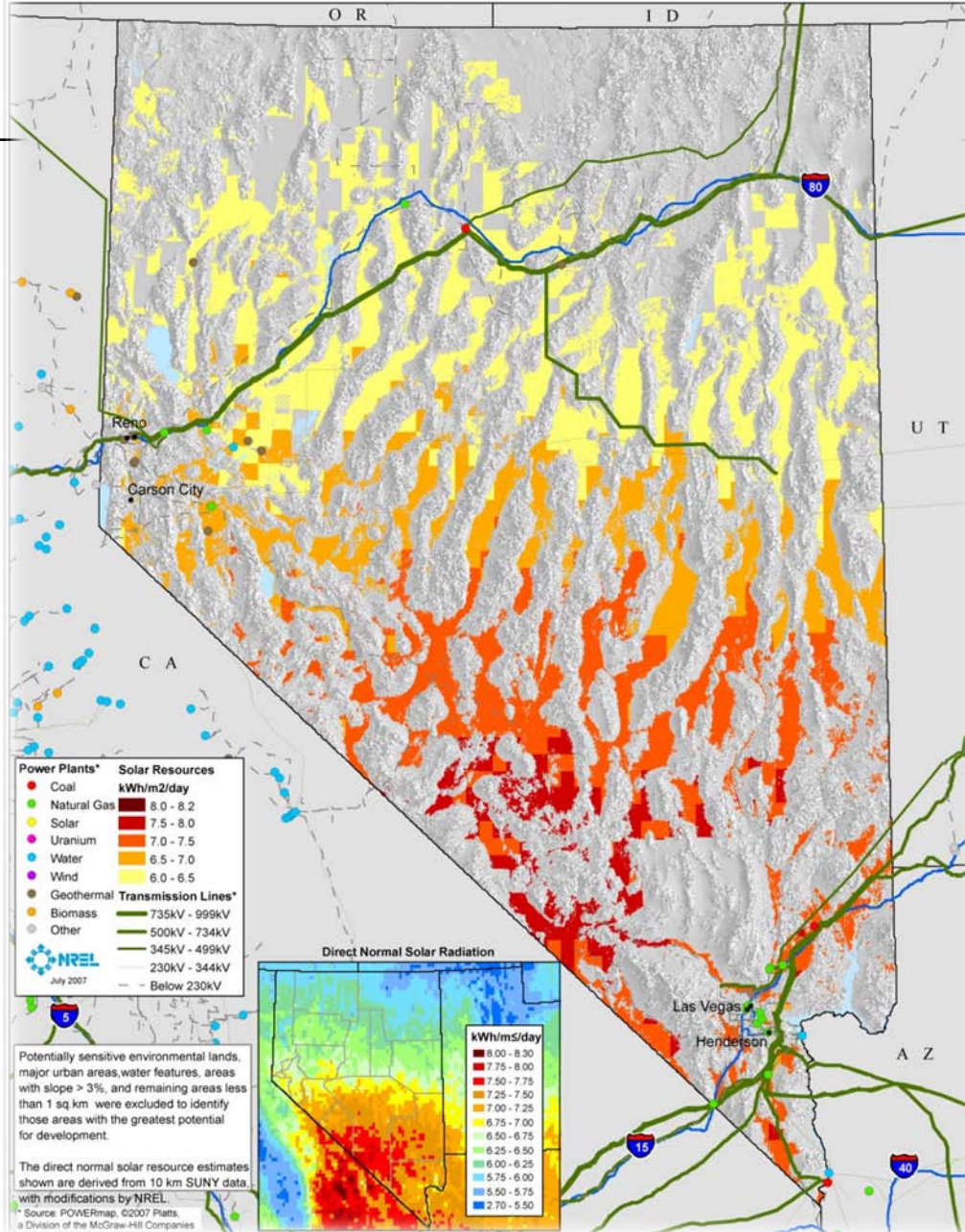
Previous Positions:
GlobalTec Solutions- Managing Director
Exodus Energy LLC- Managing Director
Enron Corporation - Manager
Nine year Navy Seal Veteran
BA- Northwestern University
MBA- Anderson School at UCLA



Alistair Jessop
Vice President Europe

Previous Positions:
Invenergy LLC- Vice President
GCC Energy Fund Managers Ltd- Senior Vice President
Graduate University of Wales, With Honors

Concentrating Solar Power Prospects of Nevada



Nevada CSP Opportunities

- Growing power demand in metro Las Vegas
- State RPS driving long-term PPAs
- Great solar radiation in central and southern NV
- Large parcels of flat land
- High-level political support
- Federal investment tax credit extended

Nevada CSP Challenges

- Land Availability
 - Dept. of Defense presence
 - Bureau of Land Management ROW process
 - Relatively little state and private options
- Transmission Capacity
 - Inadequate capacity relative to interconnection queue
 - No north-south corridor
- Water Resources
- Renewable Power Procurement
 - Are utility company RFPs functioning as envisioned?

Nevada CSP Development

608,139 total active Nevada BLM solar ROW acres (8/14/08)

50% credibility cut

304,069 credible development, acres

1,500 acres per project

405 total credible projects

200 average output, MW

81,085 credible output, MW

successful development rate	10%	5%	1%
successful developments, acres	30,407	15,203	3,041
successful projects	41	20	4
successful developments, MW	8,109	4,054	811

Red = assumptions