ABENGOA SOLAR
Solar Power for a Sustainable World

ASES National Solar Conference
Phoenix, May 20th 2010
Kate Maracas
1. Abengoa Solar corporate overview
2. Business philosophy
3. Solar technologies and accomplishments
4. A little about Solana
Abengoa is a technology and project development company applying innovative solutions for sustainable development in infrastructure, environment and energy sectors.

- **Mature**: Founded 1941
- **Profitable**: Sales in 2009 of $5.6 billion US
- **Focused**: Innovative Solutions for long term Sustainability
- **Global**: Present in more than 70 countries, 64% of business outside Spain
- **Large**: Over 23,000 employees
- **Public**: Quoted on the Madrid Stock Exchange (ABG)
Abengoa employs 2,257 people in the US, over 23,323 globally and has a market capitalization of €1.7 billion ($2.31 billion)

Over €4.1 Billion ($5.6 Billion) in 2009 Sales

Quoted on Madrid Stock Exchange with Nasdaq listed subsidiaries

US is an essential part of Abengoa’s growth plans, and already accounts for over 14% of sales

Offices in Denver, Phoenix, Victorville Berkeley, and Washington, DC

In the US, Abengoa has assembled some of the most experienced and well-respected professionals in the solar industry, including

- Former managers, engineers and financial personnel from the California solar electric generating plants (SEGS)
- Personnel from the National Renewable Energy Laboratory (NREL)
- Engineers formerly with Industrial Solar Technology (now Abengoa Solar IST)

Data as of 03/09/2010. Assumes $ / € exchange rate of .735
Large international and integrated Solar Power Generation company offering proven technologies and developing new one, both CSP and PV

- A **twenty year commitment** to both CSP and PV technology development
- **More than 430 professionals worldwide, 90 in the U.S.**
- **Two domestic markets** (Spain and U.S.) and expansion to international markets (i.e. North Africa, Asia)
- **Proprietary solar technologies** (trough, tower, thermal storage, other technologies)
- Assembly of a **world class team of solar experts**, with unsurpassed collective experience and skills

**Key Achievements:**
- **300 MW Solar Complex** under construction in Spain
- **First and second commercial towers worldwide** (PS10 & PS20) on line
- **First and second Integrated Solar Combined Cycle** (ISCC) under construction in Algeria and Morocco
- **Six 50 MW trough plants** under construction, two of them with Eon as partner
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CSP projects in the U.S.

- Solana
  - IST
  - Jefferson County Correctional Facility
  - FCI Englewood
  - Cameo Hybrid Plant

- Mojave Solar
  - IST
  - California Correctional Institution

- ASI San Francisco
  - IST
  - Frito Lay, Modesto

- ASI Victorville
  - IST
  - Federal Correction Facility
  - ASI Phoenix
  - Cochise College

- ASI Offices
- ASI Projects

- IST
  - Fort Bliss

Abengoa Solar Inc
Lakewood, CO

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Cameo Project
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IST installations

California Correctional Institution

Palmas Altas, Seville
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Solnovas 1 and 3
Abengoa Solar Inc. Harper Lake property

- Land: 3,430 acres (1,765 used for project)
- Water: 10,478 acre-ft (2,163 used for project)
- Location: Mojave Desert, California
- Site Characteristics: Excellent
- Slope: <1%
- Solar Radiation: >7.7 kWh/m²/day

- Large Areas Previously Disturbed
  - Agricultural Activity
- Access to Transmission
  - CAISO/SCE
  - Mead-Adelanto
- Adjacent to Existing Solar Plants
  - SEGS VIII and IX (80 MW each)
Site Location:

The Solana site is located west of Gila Bend, AZ, approximately ~70 miles southwest of Phoenix.
Project Facts

- 280 MW gross output with conventional steam turbines
- “Solar Field” will cover ~ 1,900 acres (3 square miles) and contain 3,200 trough collectors
- Collectors are ~ 18 feet wide, over 450 feet long, and roughly 19 feet in height
- Plant water consumption approximately eight times less than current agricultural use
- Thermal storage tanks allow electricity to be produced on cloudy days or several hours after sunset
## Status of Solana’s authorizations

**Key:**
- **Complete**
- **Not Complete**

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<tr>
<th>Environment</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
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<td>Plan of Service (90 Day)</td>
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<td>Special Use (Zoning) Permit</td>
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<td>Water Rights Agreement</td>
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<td>Temporary Construction</td>
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<td>Excavation Grading</td>
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*Anticipated Financial Close*

*Aquifer Protection permit is not granted until construction has commenced*
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Procurement supply origins

- USA: 73%
- Europe: 6%
- South America: 9%
- Asia: 12%
Workforce origin

USA 98%
Non-USA 2%

Solana’s job creation profile

Peak workforce

Subcontracts 50%
Mirror assembly 40%
Direct hired 10%

US subcontractors origin

AZ 57%
CA 9%
CO 8%
KS 5%
MO 8%
OR 3%
TX 10%
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Further information

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