



# Why CSP, Why Now? A Utility Perspective

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# APS Overview

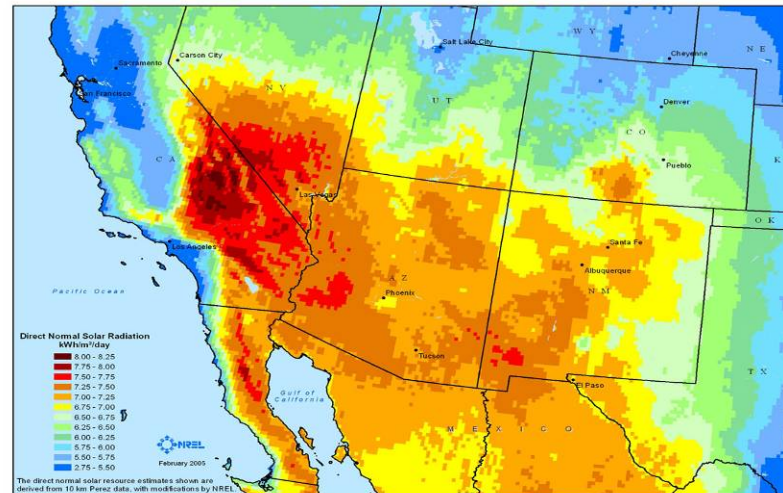
- Customer growth 3 times US Average
  - Fastest growing state
  - Fastest growing utility
- 5,039 miles of transmission
- Peak demand ~ 7,400 MW
- Over 1 million Customers



 APS Retail Service Territory

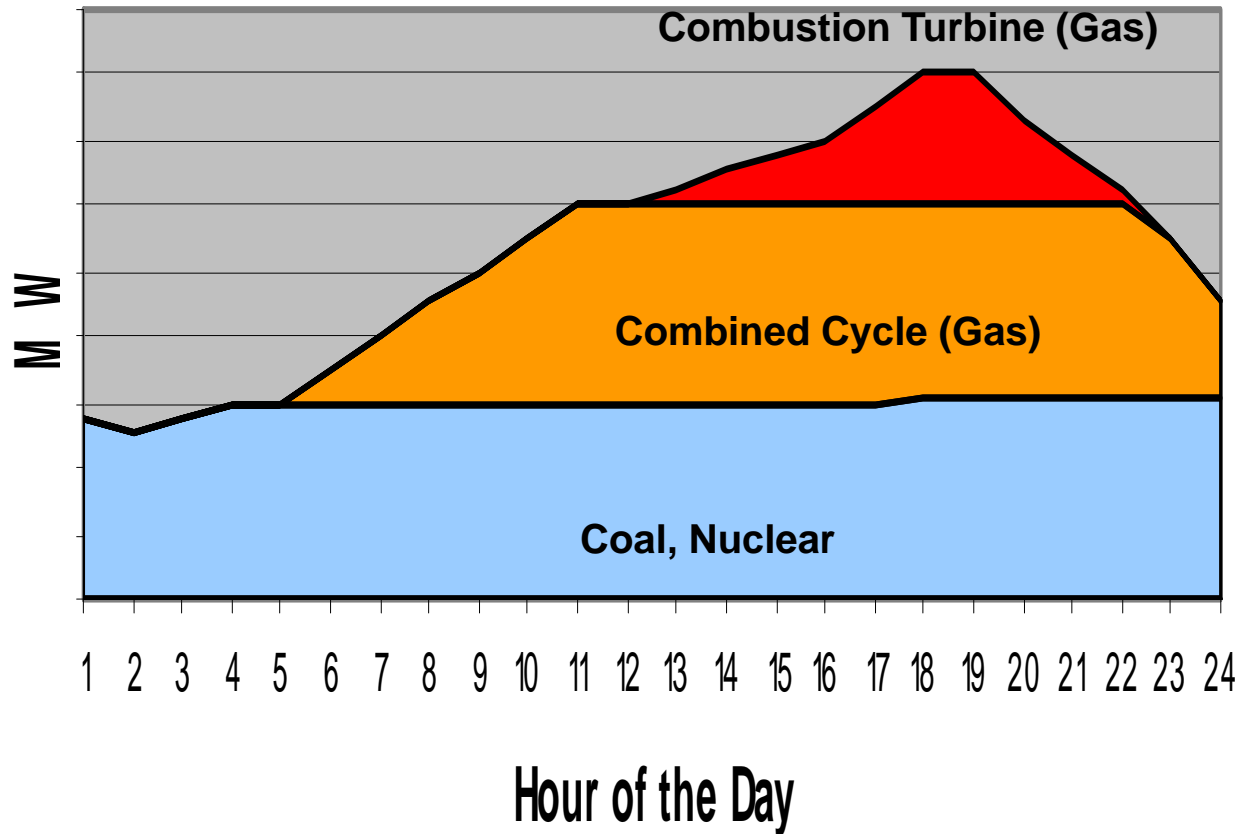
# Background

- Energy consumption is growing rapidly in the west
- Solar thermal has significant potential that is largely untapped
- CSP is currently the most *cost-effective* solar technology with the potential to be competitive in the mid-term



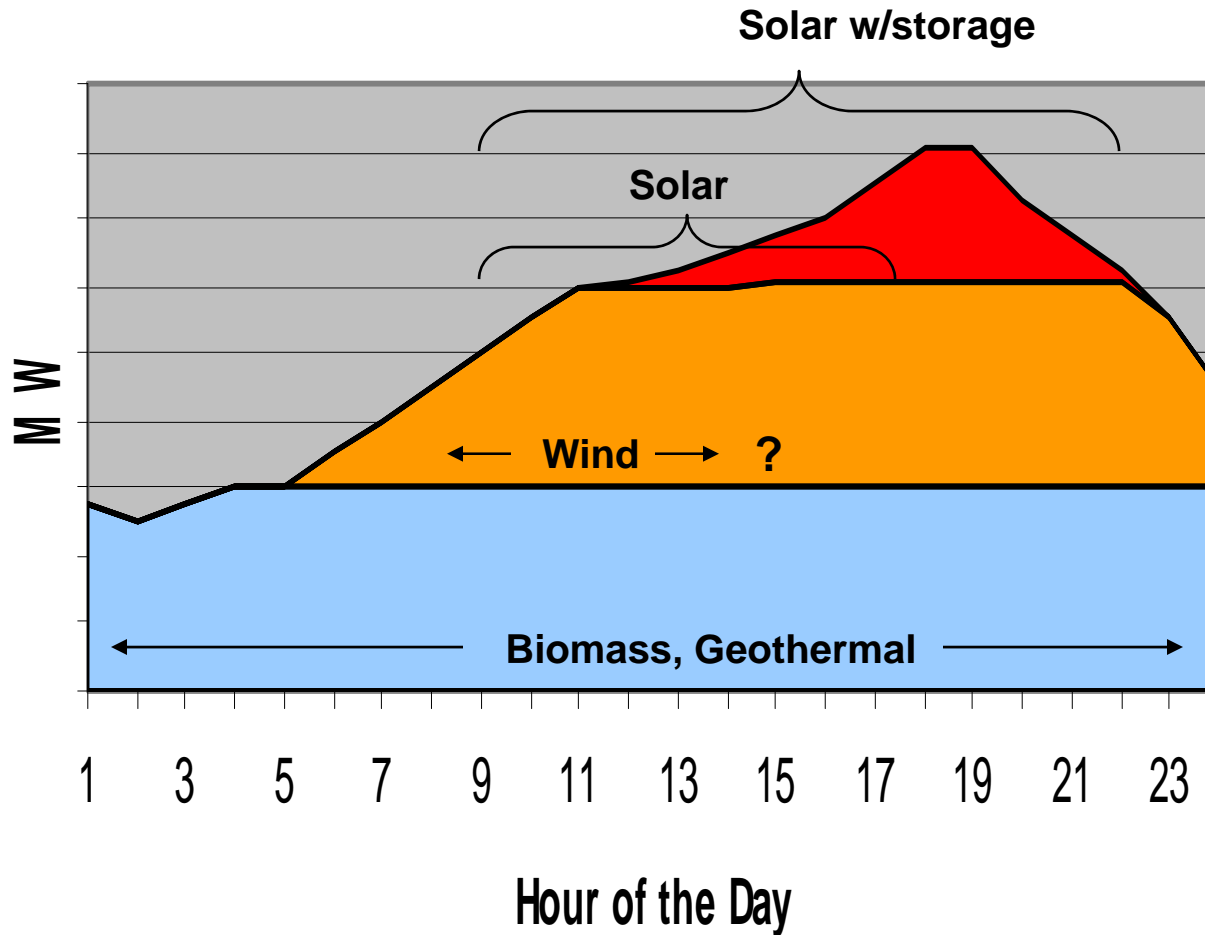
# Summer Generation Profile

## Traditional Resource Fit



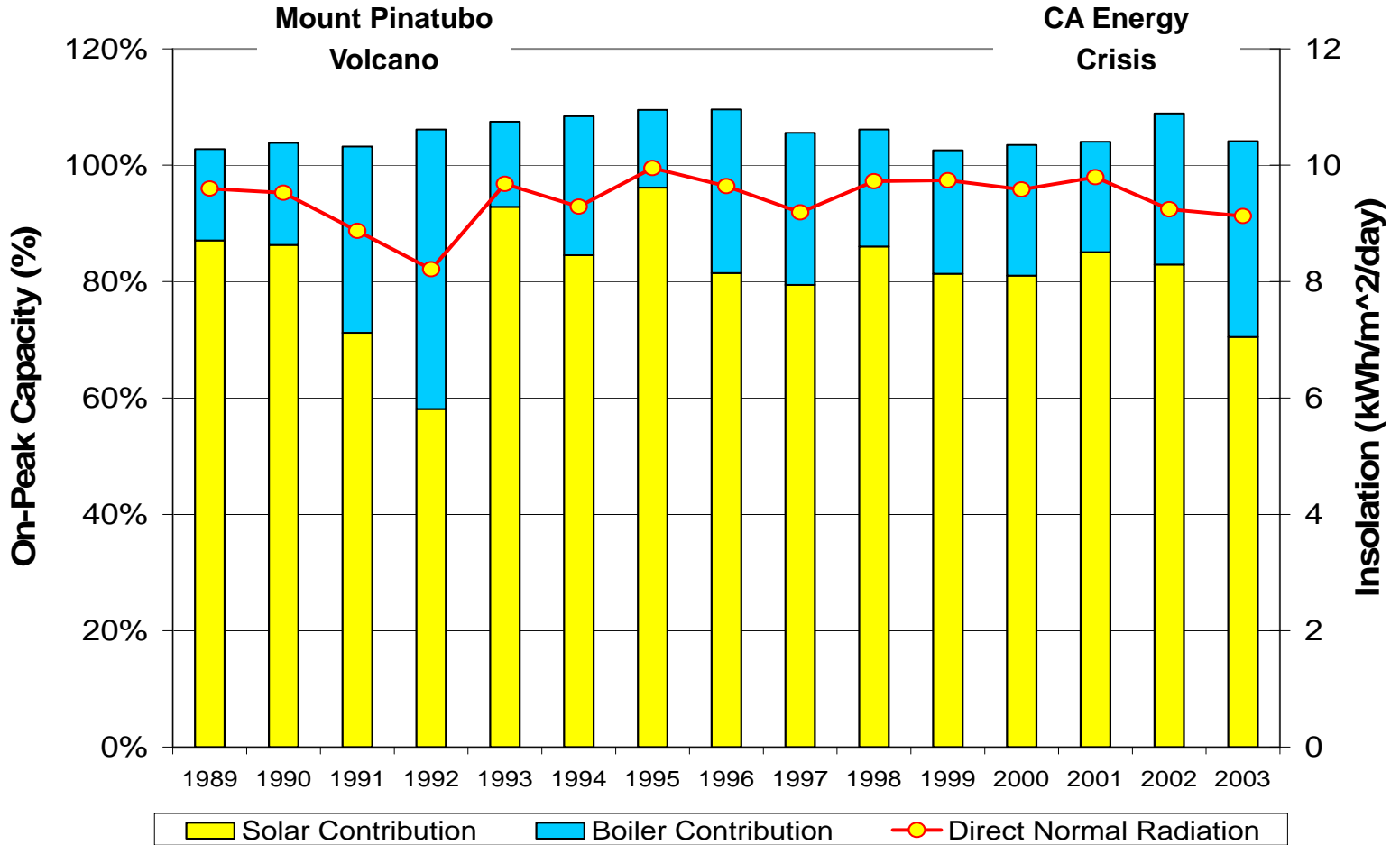
# Summer Generation Profile

## Renewable Resource Fit



# Historical On-Peak Performance For 5 Parabolic Trough Plants

**SCE Summer On-Peak**  
Weekdays: Jun - Sep  
12 noon - 6 pm



# Market Developments

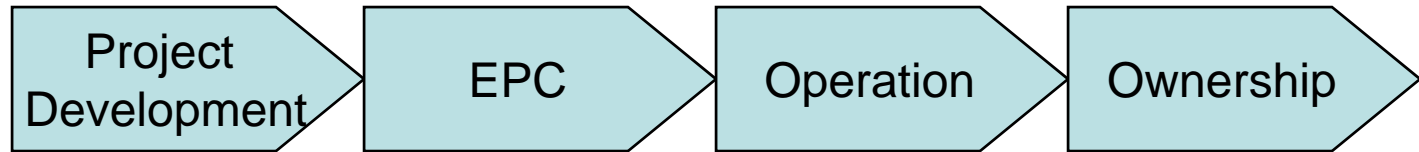
## Projects

- US Projects In Operation (Trough)
  - 354 MW California (1986 – 1988)
  - 1 MW Arizona (2006)
  - 64 MW Nevada (2007)
- US Projects Announced (CA and AZ)
  - 1750 MW Dish
  - 500 MW Tower
  - 653 MW Trough
  - 477 MW CLFR - Fresnel
- Worldwide Projects in Planning/Development
  - 45 projects – mostly Spain and US
  - > 5,000 MW



# Market Developments

## CSP Value Chain



Large, multi-national corporations involved in every part of chain

Project and Technology Developers

Utilities and Independent Power Producers

Engineering and Construction Companies

Quality counterparties reduced overall risk

Large balance sheets

Power and construction expertise

Strategic technology deployment

# A Narrowing Cost Gap

**CSP**

- ✓ Large Scale Projects
- ✓ Global Uptake
- ✓ Strong Developers
- ✓ Incentives

- Carbon Policy
- Fuel Risk

- ✓ Equipment and Labor Costs
- ✓ Increasing Fuel Prices
- ✓ Environmental

**Traditional Resources**

# Policy Needs

- Extension of the 30% Investment Tax Credit
  - Currently expires end of 2008
  - Large projects require 3 to 5 years to develop
  - Eight year extension would provide opportunity for market to become sustainable
  - Momentum will be lost without certainty
- Removal of the Utility ITC Exclusion
  - No definable basis for exclusion
  - Vast majority of energy is purchased from utilities
  - Option for utility ownership will potentially increase market and reduce costs

# Conclusions

- CSP is a Unique Renewable Technology
  - Large resource
  - Ability to store energy to fit utility need
  - Potential for cost competitiveness
- The Market is Rapidly Developing
  - Large credible, financially stable developers
  - Real projects
- Policy Decisions will Maintain Momentum
  - Long term ITC extension
  - Removal of utility exclusion