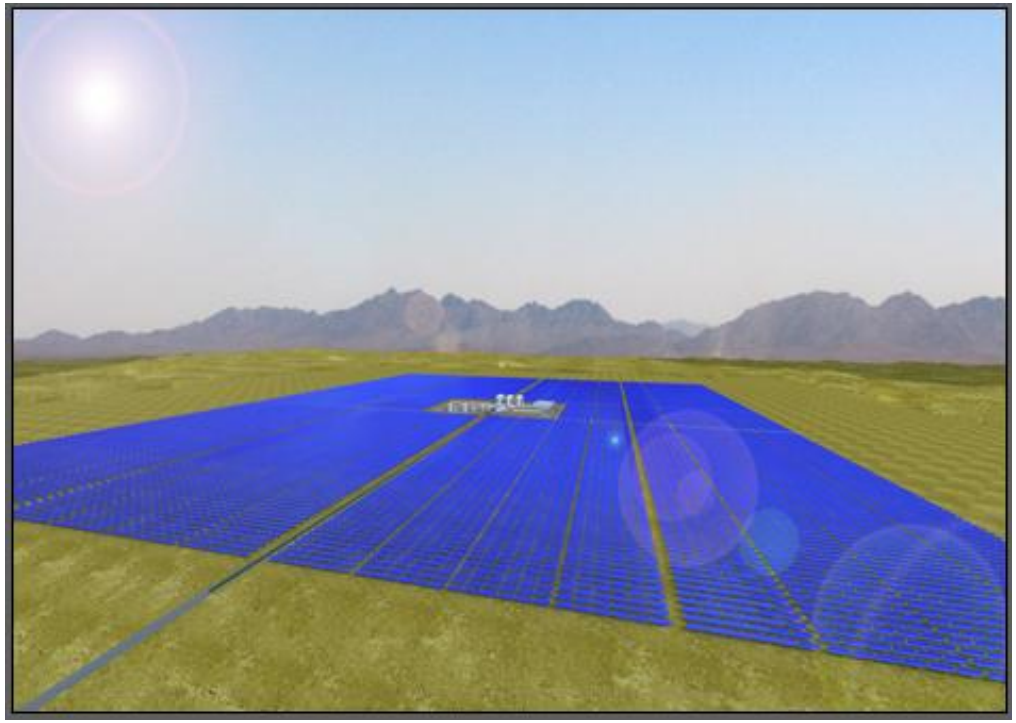
ABENGOA SOLAR

Solar Power for a Sustainable World

Farming the Sun: the Solana Generating Station Project

Presented to:

The American Society of Farm Managers and Rural Appraisers



27 February 2009
Tempe, AZ

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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 2007 of $5 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 Solar is one of five companies that comprise Abengoa, S.A.

Abengoa Solar

Solar energy

International leader in solar power plants

- 12 MWs in operation
- 120 MWs under construction
- Hundreds of MWs under development

Abengoa Bioenergy

Bioenergy

Only bioethanol producer on the three key geographies

- First European producer
- Fifth largest producer in USA
- One of the largest producer in Brazil

Befesa

Environmental services

International leader on industrial waste treatment, as well as in the water management field

Telvent

Information technologies

International leader in IT for the energy, traffic, transport and environmental sectors

Abeinsa

Engineering and construction

Leader in Spain and South America in engineering and construction projects and EPC.

- Ranked as the third largest international power contractor (ENR)

International Presence

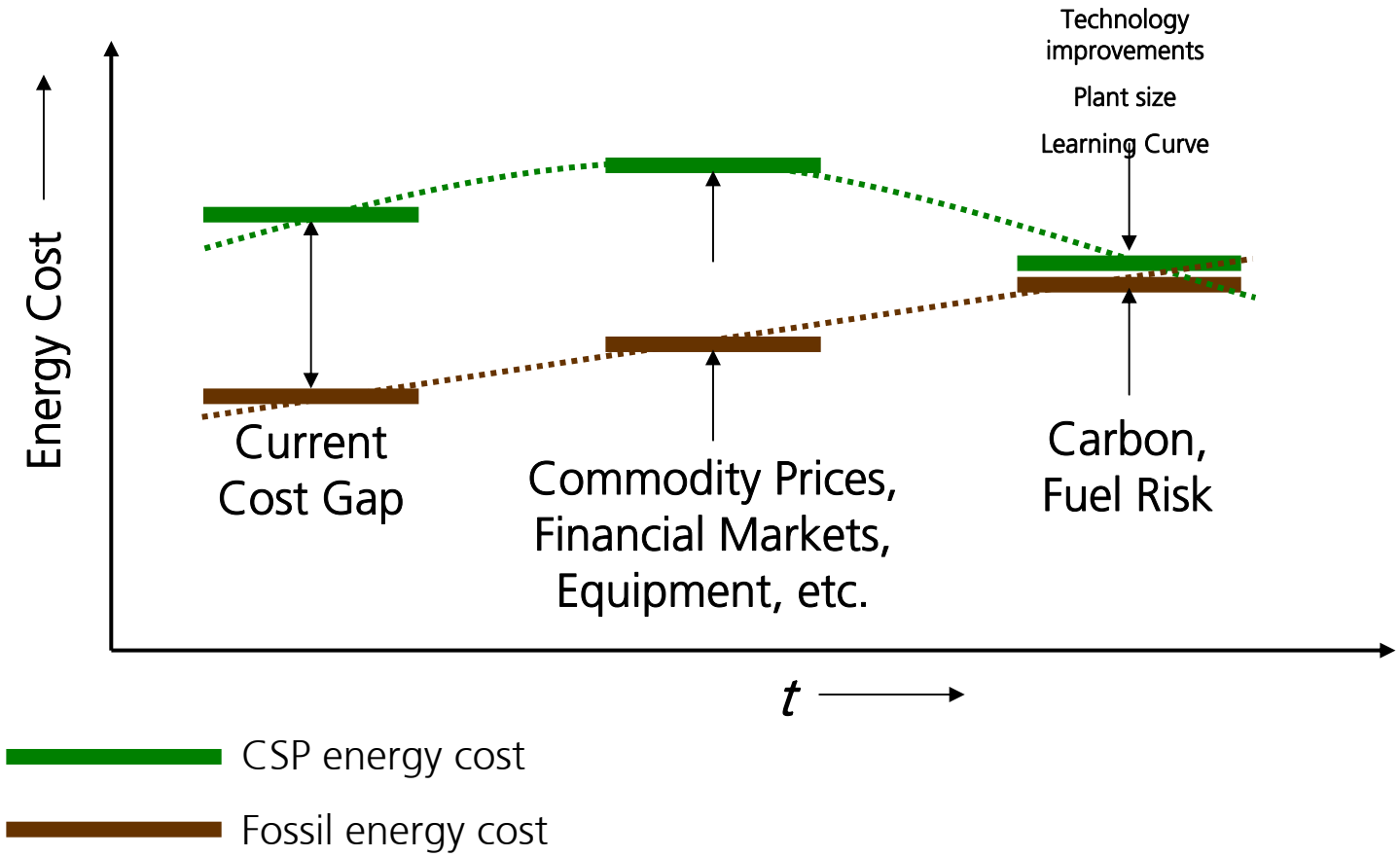
Abengoa Solar Inc. in the U.S.

- Solar technology development company
- U.S. company headquartered in Denver, CO
- > 45 U.S. employees dedicated to CSP project development and R&D
- Pioneer in construction of commercial CSP, PV, and IPH power plants
- Growing project team based in Phoenix, AZ
- Contract signed with APS in February 2008 to build the 280MW Solana Generating Station

Renewable Energy Climate

- Policy
  - Arizona Renewable Energy Standard
  - Arizona H.B. 2614
  - Federal Investment Tax Credit
- Uncertainty for conventional generation
  - Increasing fuel and capital costs
  - Concerns over carbon emissions

The Cost Gap is Closing



Renewable Energy Climate

- Large, multi-national corporations providing renewable solutions
  - Incentives abroad
  - Demonstrated technologies
  - Financial strength
  - Power experience

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ABENGOA SOLAR

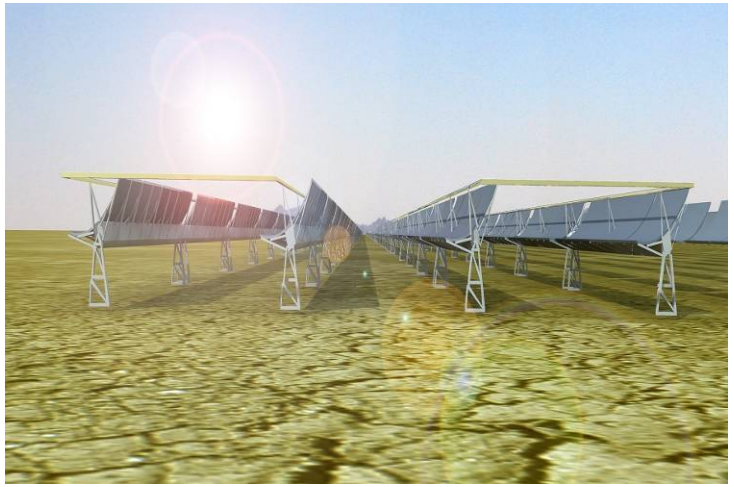
Solana Overview

Solana Generating Station
West of Gila Bend, AZ
280 MW Under Development

Solar Power for a Sustainable World

Project Facts

- Located ~70 miles southwest of Phoenix
- Generates electricity with conventional steam turbines
- Thermal storage tanks allow electricity to be produced on cloudy days or several hours after sunset
- If operating today, Solana would be the largest solar power plant in the world

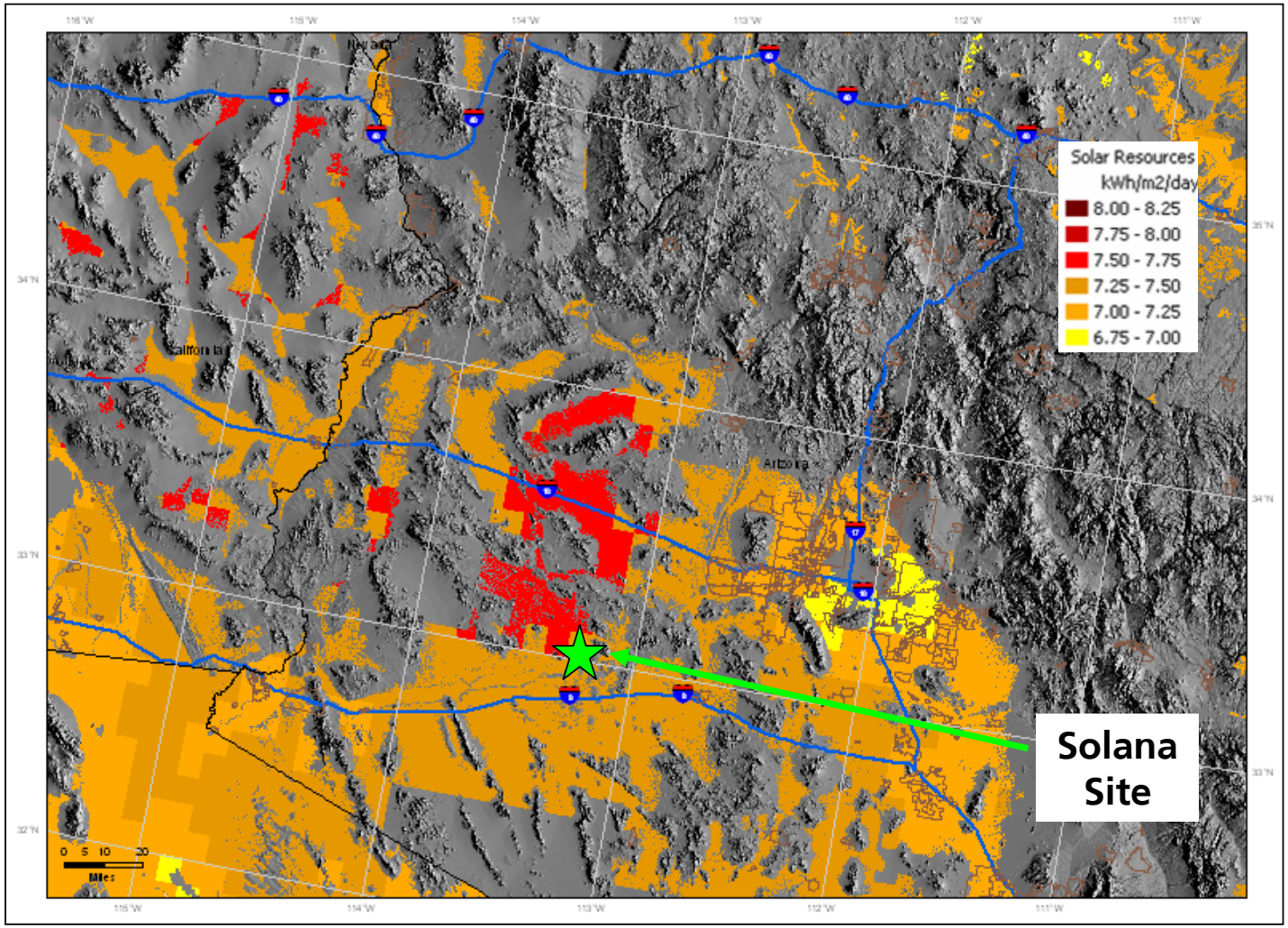


Site Location:

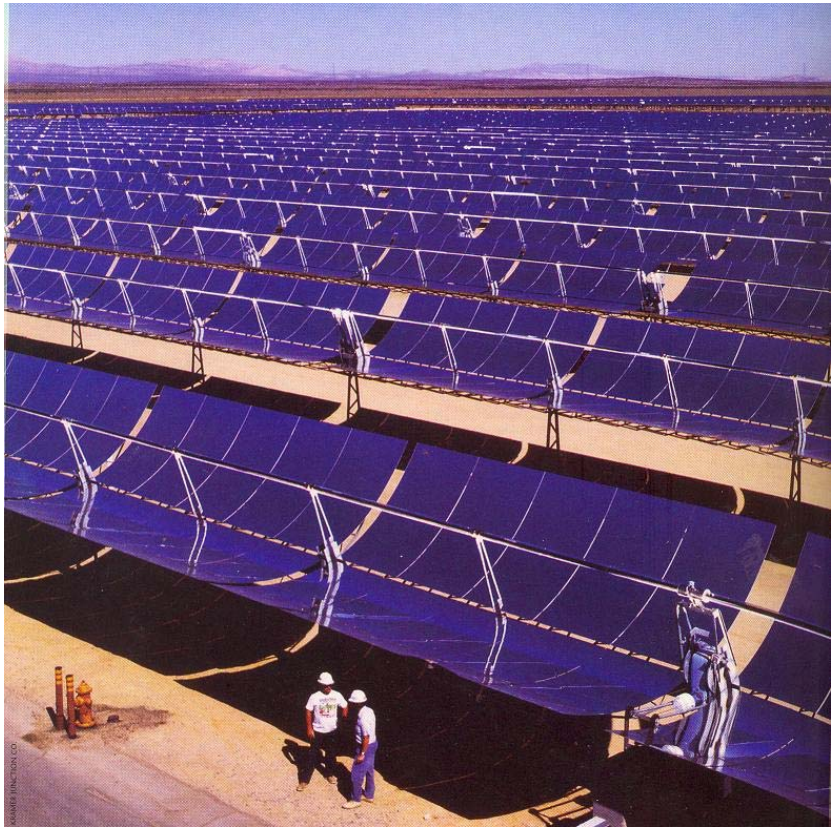
The Solana site is located west of Gila Bend, AZ, approximately ~70 miles southwest of Phoenix.

Overview: Solana Site Selection

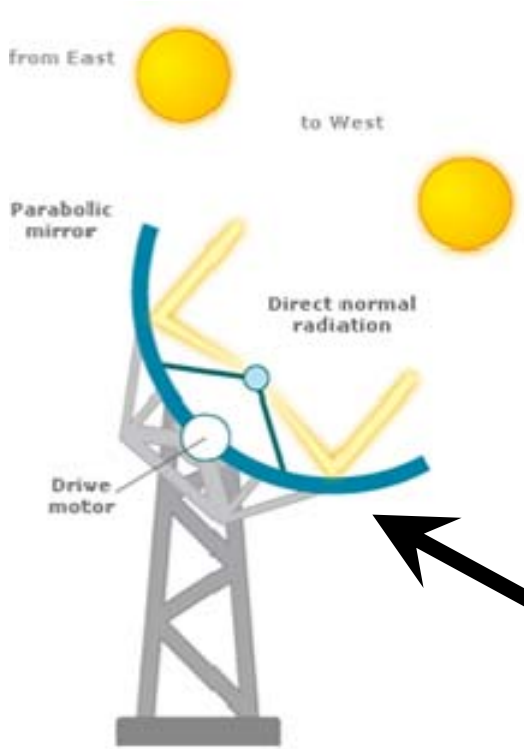
- High solar resource
- Minimal slope
- Proximity to electric grid
- Proximity to transportation corridors
- Water availability
- Previously disturbed land



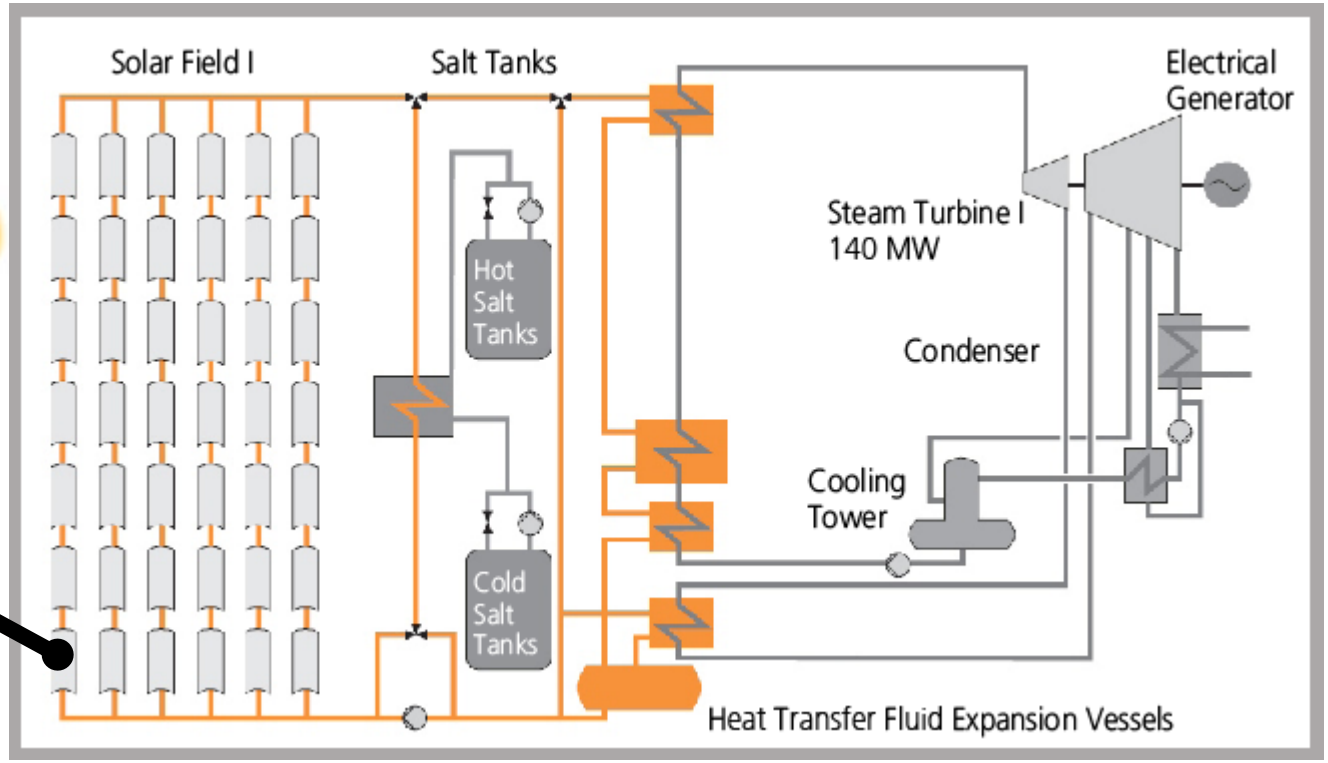
- 250 MW plant with conventional steam turbines
- Plant water consumption approximately eight times less than current agricultural use
- "Solar Field" will cover 3 square miles and contain 2,700 trough collectors
- Collectors are 25ft. wide, 450ft. long, and over 20ft. in height
- Plant footprint is large, but profile is low (3 story building)



Solana Will Utilize Solar Parabolic Trough Technology



"Trough" collectors track the sun

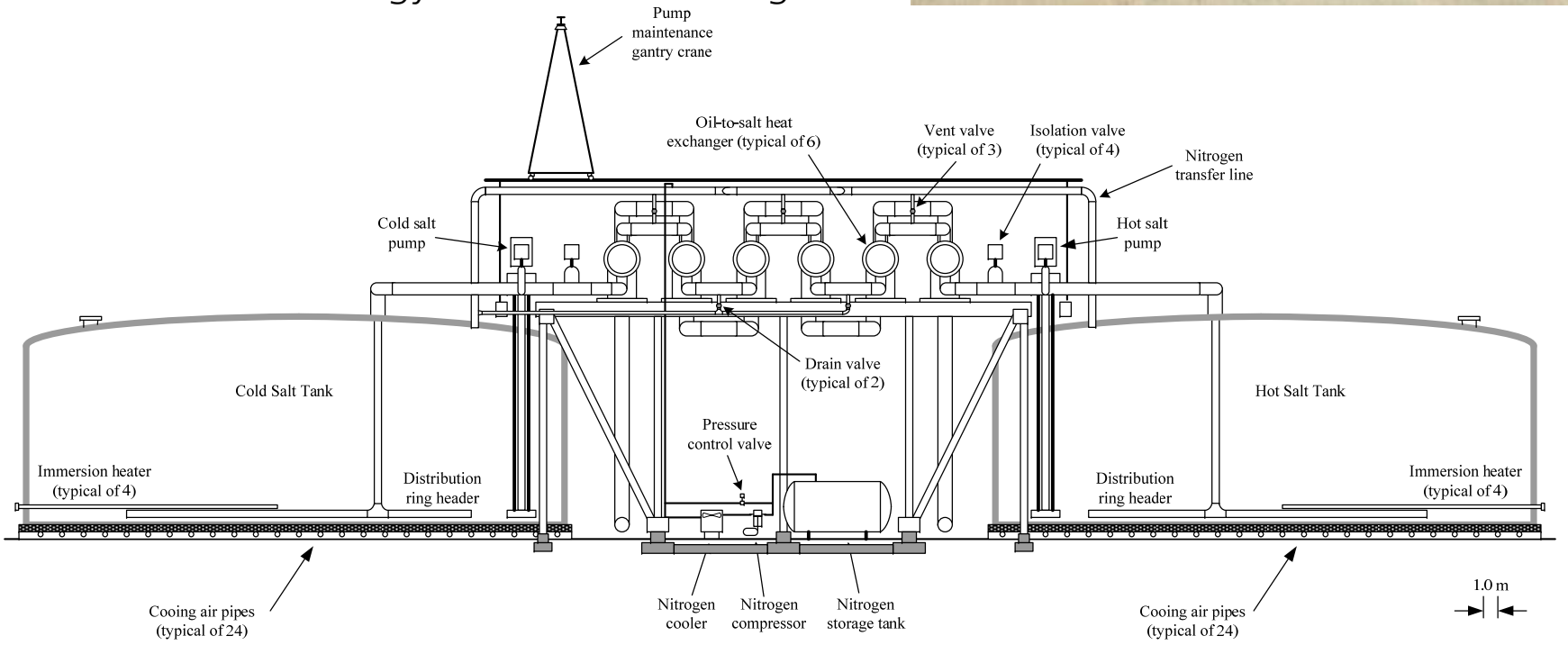


Solar Field

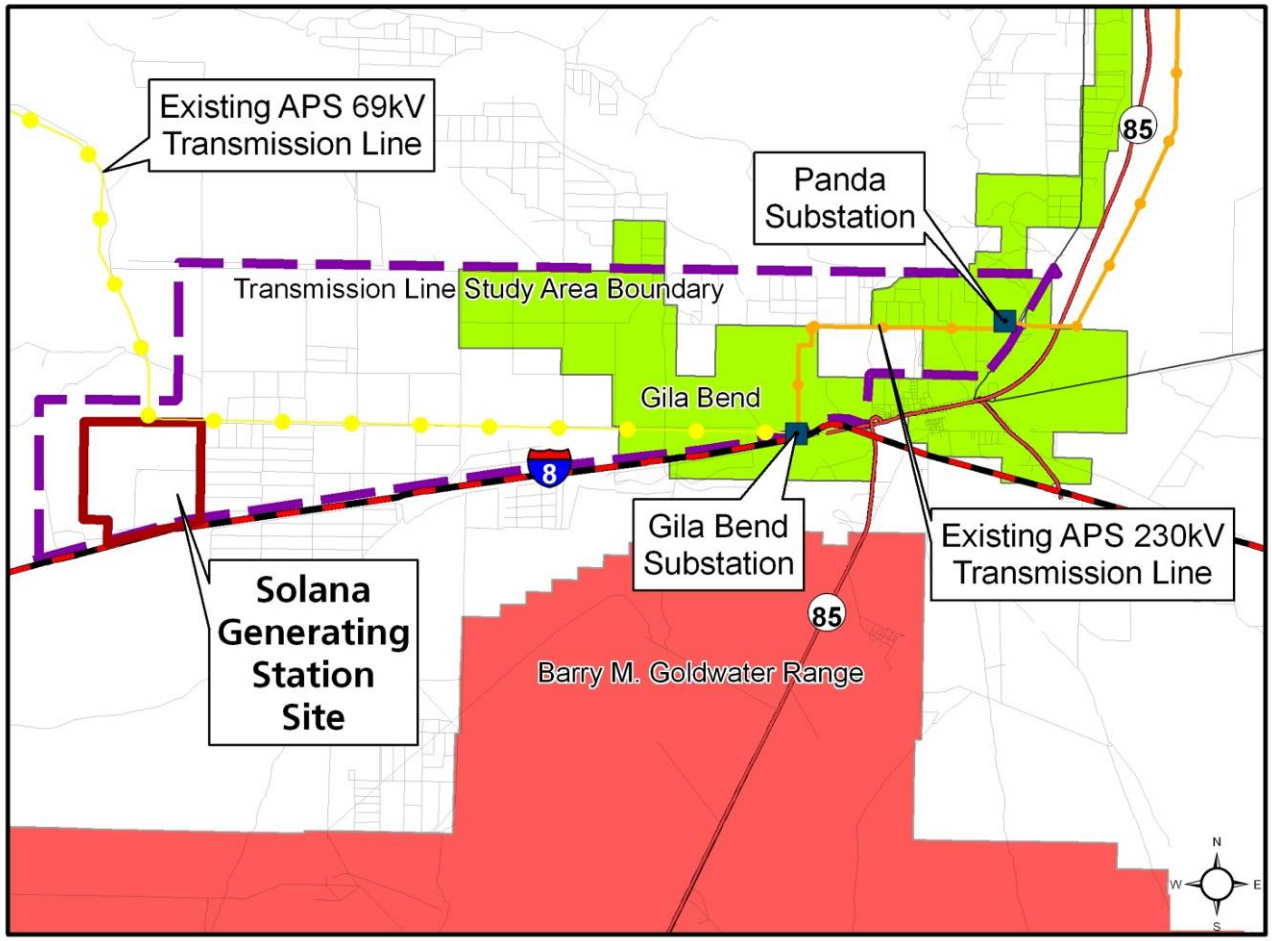
Conventional Steam Power Plant

Thermal Energy Storage

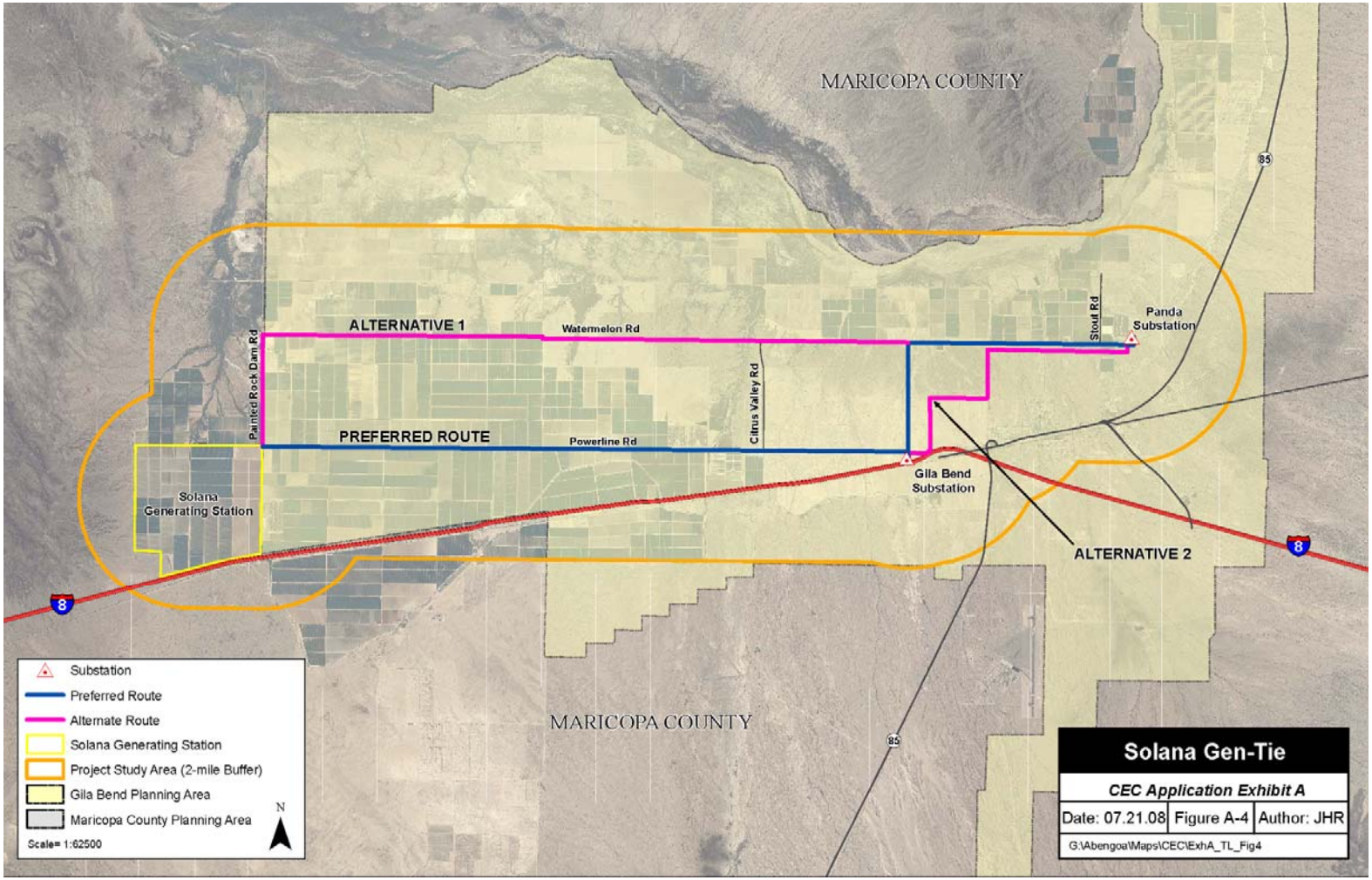
- Based on Solar Two molten-salt power tower experience.
- Indirect 2-tank molten-salt design for parabolic trough plants.
    - Uses oil to salt heat exchangers to transfer energy to and from storage



Project Study Area



Transmission Routes Considered



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Unique Considerations of CSP's "Footprint"

- Land & Siting
  - Private/state/federal land considerations
    - Acquisition, leases, exchanges
    - Previously disturbed lands are ideal
- Land Acquisition and Property Tax Costs
- Permitting
- Zoning and entitlements
  - Per acre fees

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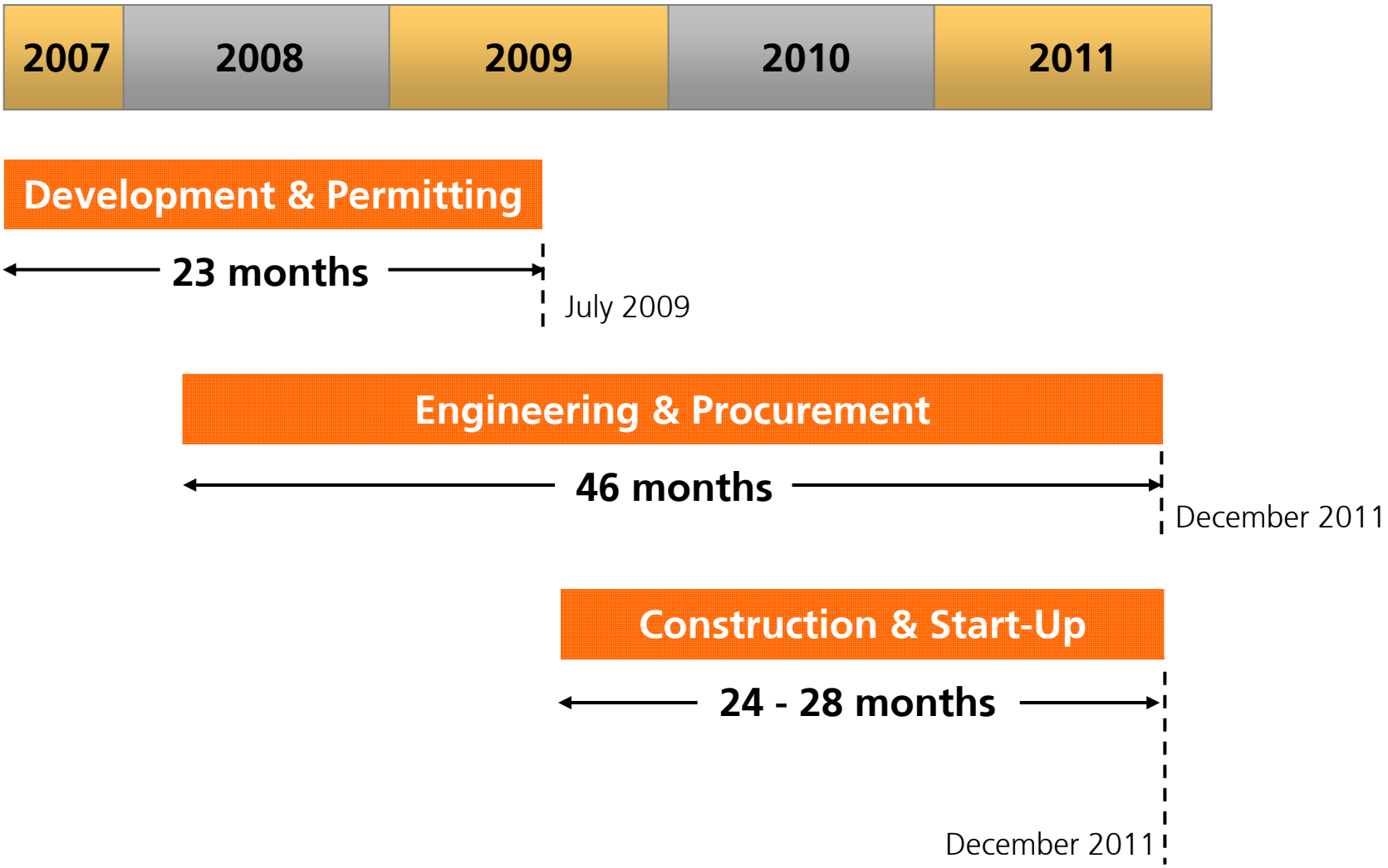
Key Environmental Permits

State Siting Permit (Arizona Corporation Commission)	• Total process approximately 12 months
Air Permit Non-Title V (Maricopa County Air Quality Department)	• Total process approximately 7-13 months
Aquifer Protection Permit (Arizona Department of Environmental Quality)	• Total process approximately 10-16 Months
Cultural Resources Clearance (Arizona State Historic Preservation Office)	• Total process approximately 60 to 90 days; must be submitted 60 to 90 days prior to construction
Arizona Pollutant Discharge Elimination System (Arizona Department of Environmental Quality)	• May be required depending on potential discharges from the facility

Key Construction Permits

Comprehensive Plan Amendment	• Must be filed by May 30; filings reviewed on an annual basis
Special Use Permit (Maricopa County Planning and Zoning)	• Total process approximately 8-10 months from submittal
Encroachment Permit (Arizona Department of Transportation)	• Submit 60 to 90 days prior to construction
Permit for Temporary Construction Facilities (Maricopa County Planning and Zoning)	• Total process approximately 30 days
Permit for Temporary Power (Maricopa County Planning and Zoning Department)	• Total process approximately 30 days
Building Permits (Maricopa County Planning and Zoning Department)	• Total process approximately 60 to 90 days
Permit to Drill (Arizona Department of Water Resources)	• Within 30 days after well is completed

Key Project Activities & Schedule



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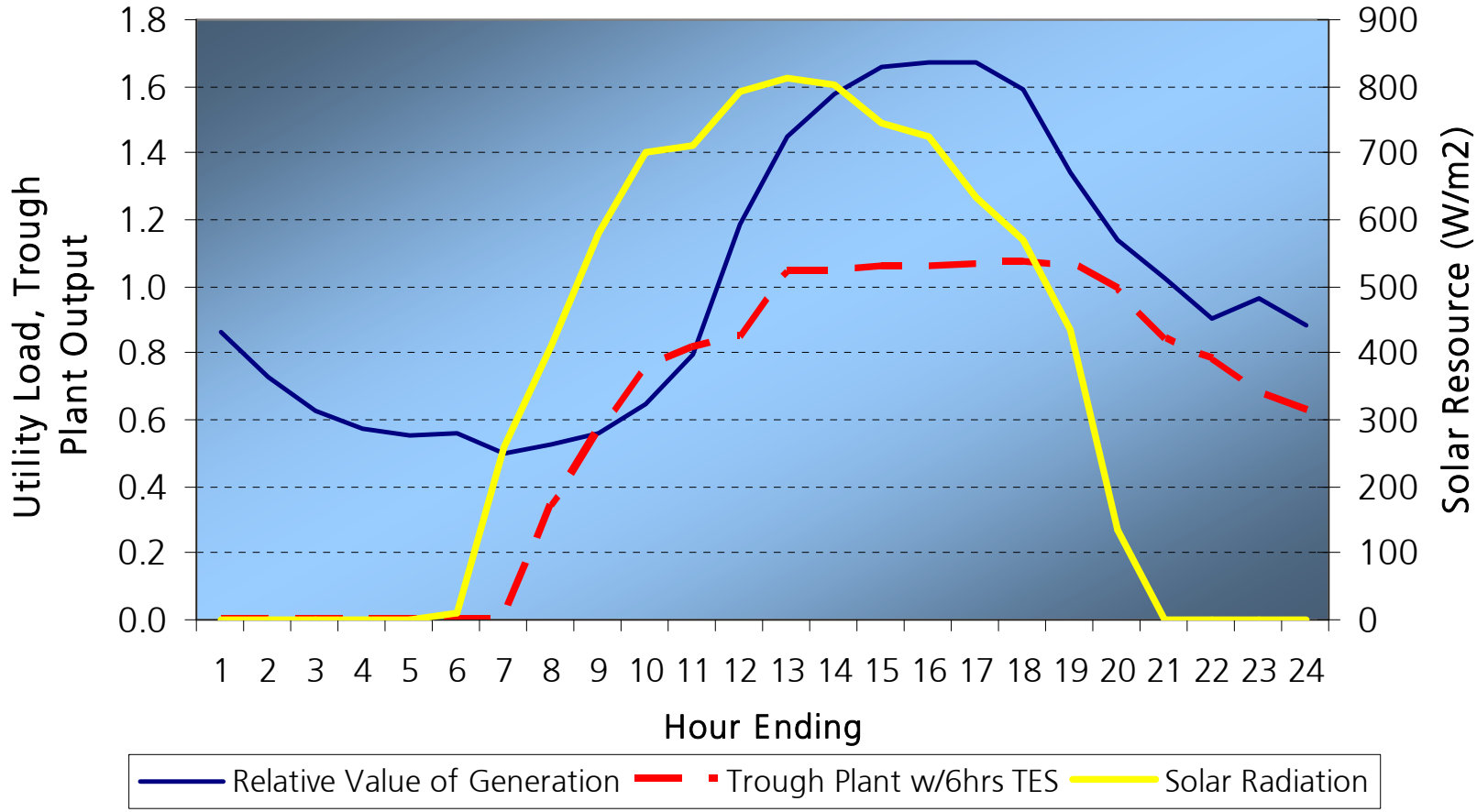
Energy Benefits

- Diversification of generation sources
  - Reduce reliance on fossil fuels
- Reliability
  - Abundant, renewable resource
  - Proven technology
- Guaranteed, fixed cost
- Thermal storage extends electrical generation through peak load when power is most needed

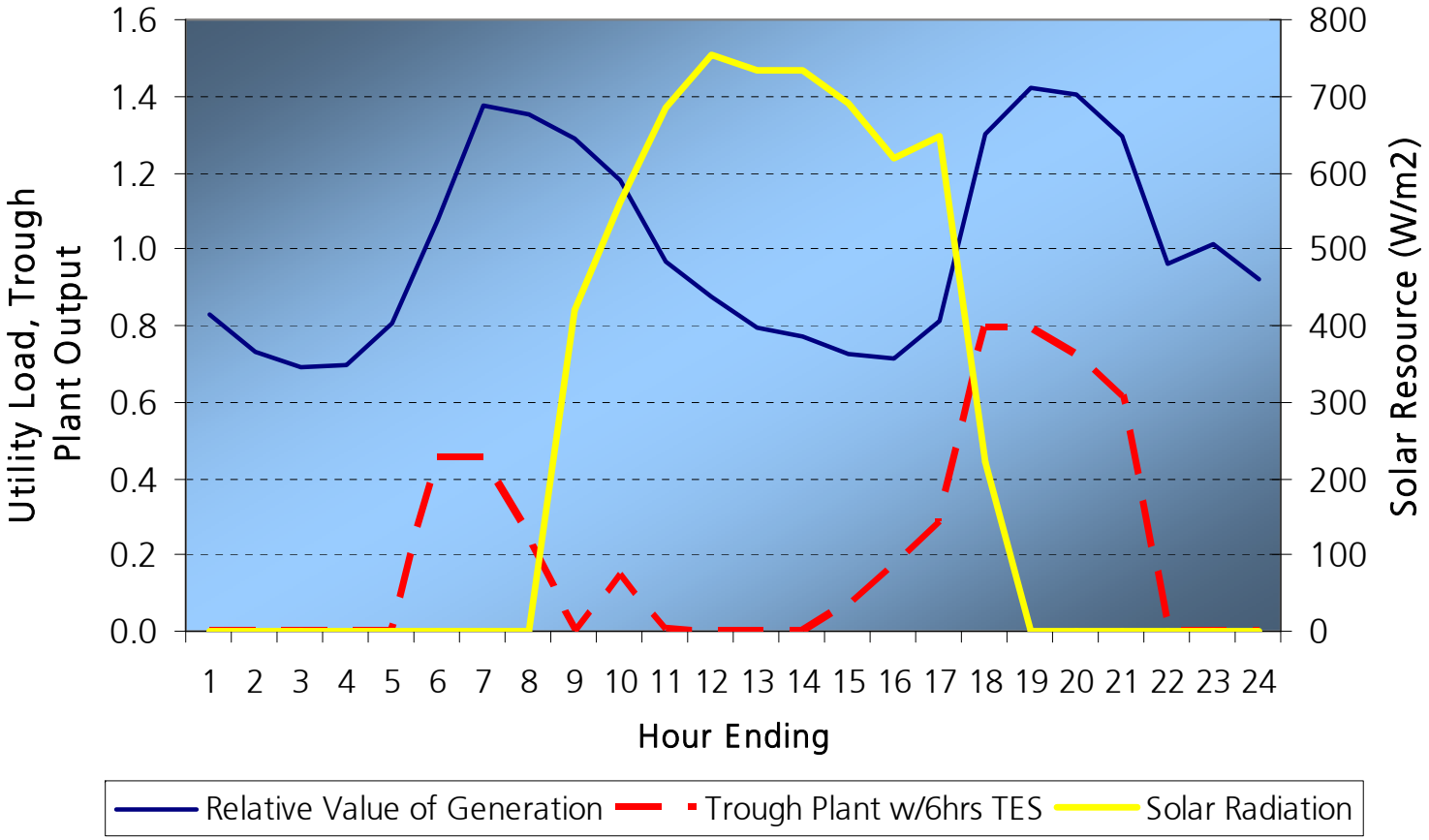
Solar Plant With Storage vs. Utility System Load

July



Solar Plant With Storage vs. Utility System Load

January



Economic Benefits

- Jobs
  - 1,500 – 2,000 during construction phase
  - 85 – 100 skilled for operating
- Total Arizona benefit
  - Over $1B in direct investment
- $300M to $400M in 30-year tax revenues
- Need for U.S. manufacturing of CSP components is an AZ opportunity

NREL-Supported Studies of CSP in Particular Indicate:

	100 MW of CSP in California would yield:	100 MW of CSP in New Mexico would yield:	100 MW of CSP in Nevada would yield:
Private Investment	$2.8 B	$198.9 M	Not estimated
Gross State Product	$626 Million	$465 M	$482M
Earnings	$195 Million	$75 M	$406M
Jobs	3,955 Job Years	2,120 Jobs	7,170 Job Years

NOTES:

- Studies utilized different assumptions, varying "high" and "low" scenarios, cost and impact models.
- California and Nevada studies expressed job creation in "job-years" while New Mexico evaluated absolute job numbers.
- The California study contemplated only a select number of counties in the southern portion of the state.

WGA's Look at CSP Impacts for Arizona

- Panel of experts convened in January 2007 to compare assumptions, methodologies, results across the CA, NM, and NV studies
- Goal: estimate reasonable impacts expected for AZ
- Participants:
  - Arizona Department of Commerce
  - Black & Veatch
  - National Renewable Energy Laboratory
  - Salt River Project
  - University of New Mexico (BBER)

WGA's Look at CSP Impacts for Arizona

Panel conclusion: Arizona's economic impacts will fall in the range between CA and NM impacts. *If Arizona builds 1 GW of CSP:*

- $2 - $4 billion private investment in State
- 3,400 - 5,000 construction jobs; up to 250 permanent solar plant jobs, many in rural areas
- $1.3 - $1.9 billion 30-yr increase in state tax revenues
- $2.2 - $4.2 billion increase in Gross State Output

Conclusions

- Positive economic impacts from CSP deployments in Arizona and southwestern states will be substantial.
- Policies and incentives aimed at kick-starting the CSP market are essential. Gains from these incentives will far outweigh their implementation costs.
- Leveraging the southwest's abundant solar resource can create a new economic engine for the states.