

Concentrating Solar Power (CSP)

EESI/OSA
House Renewable Energy and
Energy Efficiency Caucus
Briefing
July 11, 2008

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National Renewable Energy Laboratory

CSP: The Other Solar Energy



Parabolic trough

Linear Fresnel



Power tower



Dish-Stirling

354 MW Luz Solar Electric Generating Systems (SEGS) 1984 - 1991



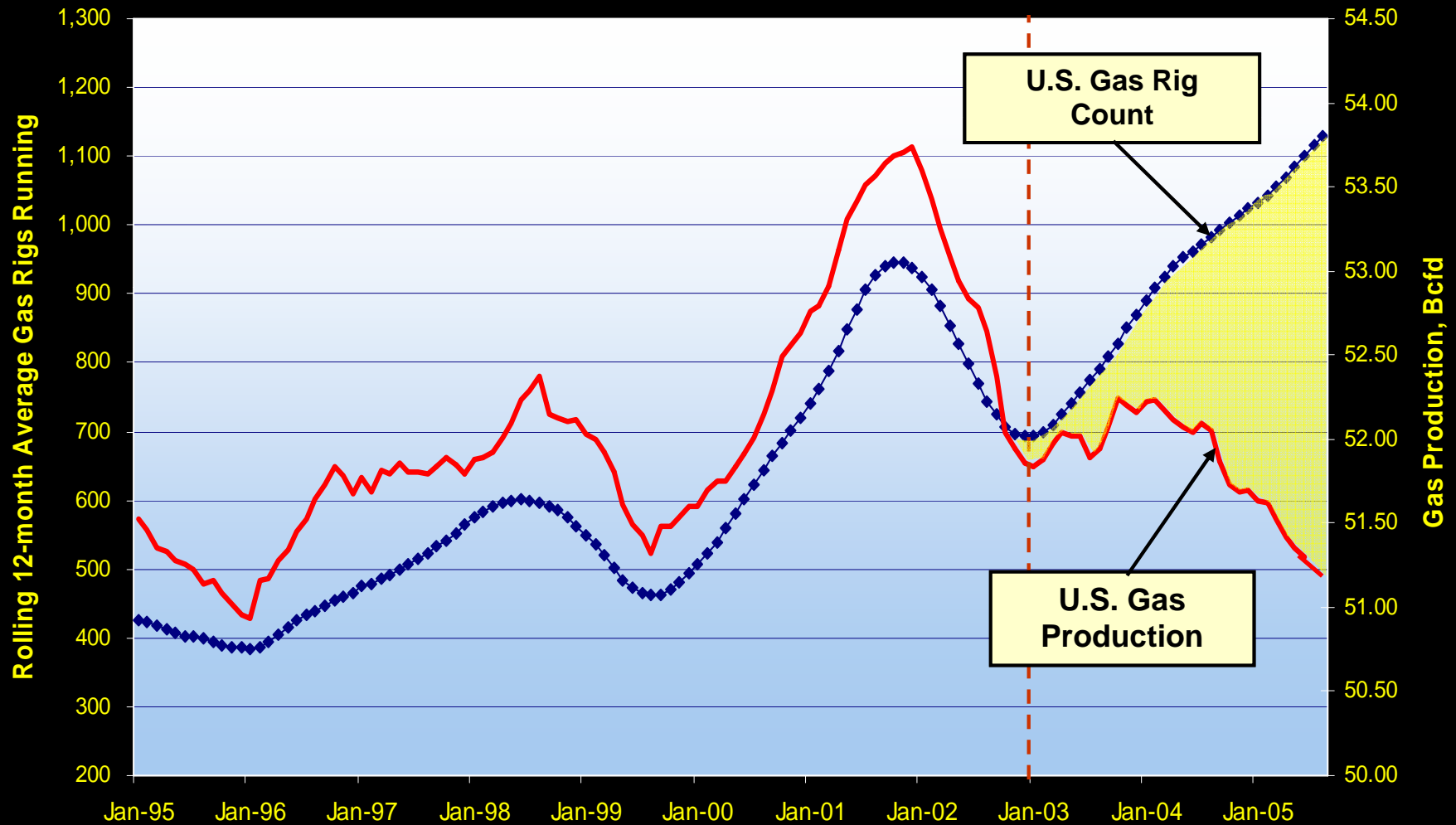
*“The most important form
of carbon-free energy in
the 21st century.”*

**Joe Romm in article “The
technology that will save
humanity,” salon.com
April 14, 2008**

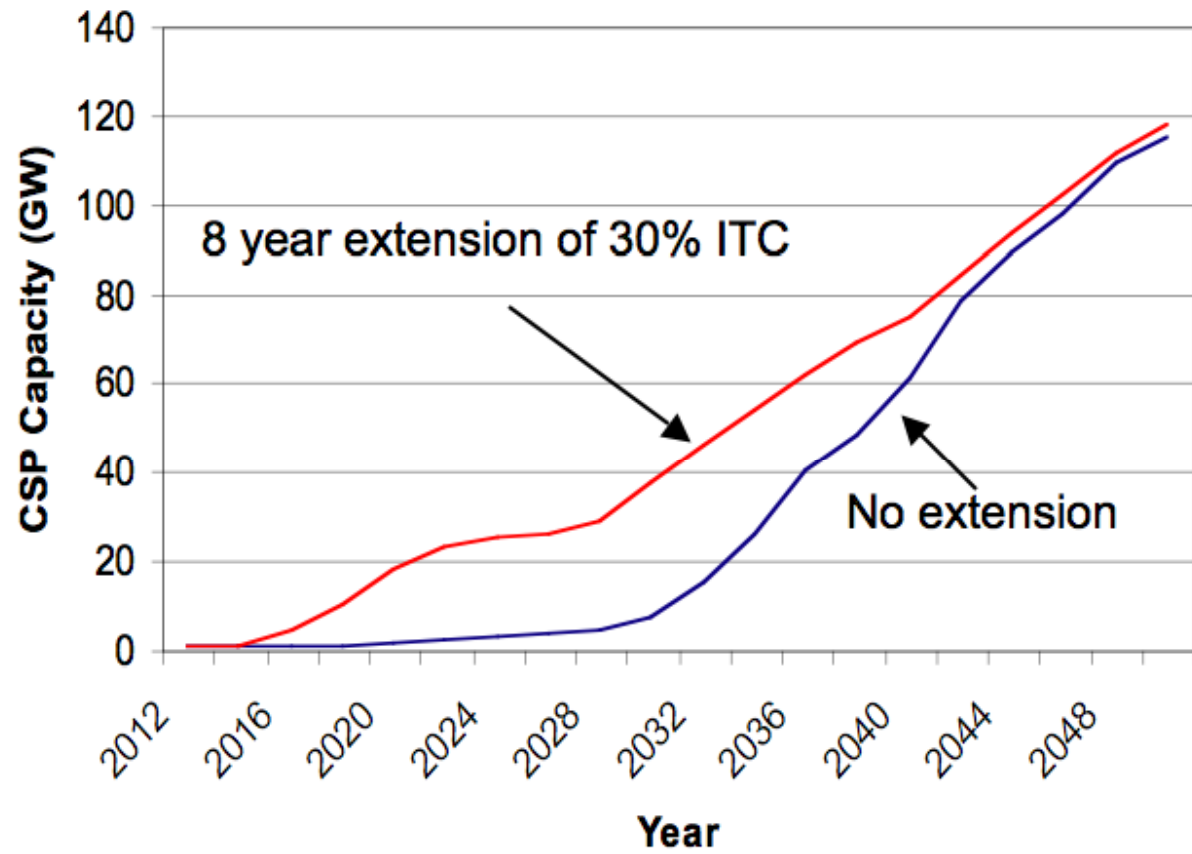


**Why the sudden
renewed interest in CSP?**

More and More U.S. Gas Wells Producing Less and Less

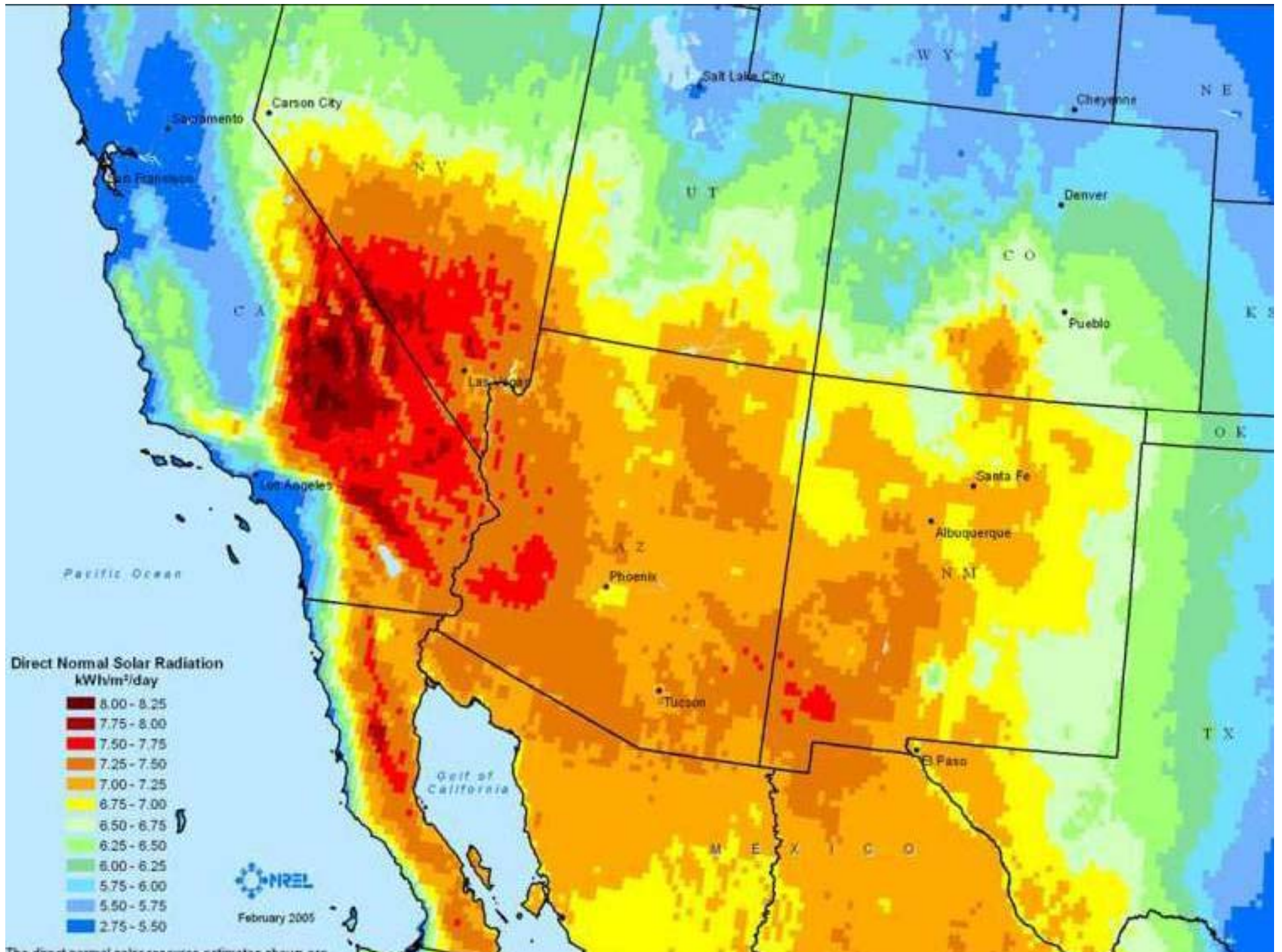


Source: Baker Hughes, EIA/DOE (2004 and 2005 production volumes are EIA estimates)





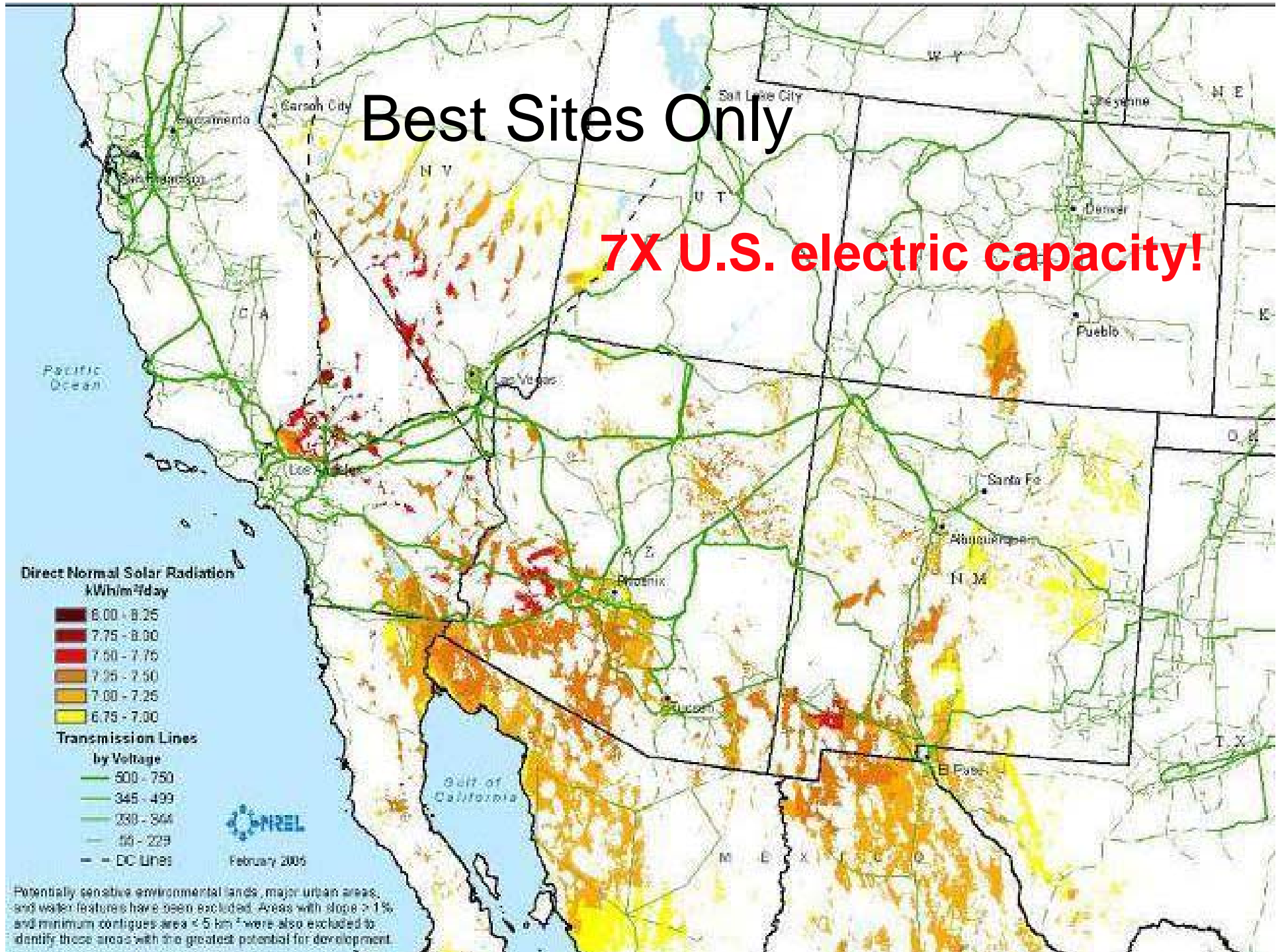
<u>State</u>	<u>RPS Requirement</u>
Arizona	15% by 2025
California	20% by 2010
Colorado	20% by 2020, 4% Solar
Nevada	20% by 2015, 5% Solar
New Mexico	20% by 2015
Texas	5,880MW (~4.2%) by 2015



The direct normal solar resource estimates shown are

Best Sites Only

7X U.S. electric capacity!

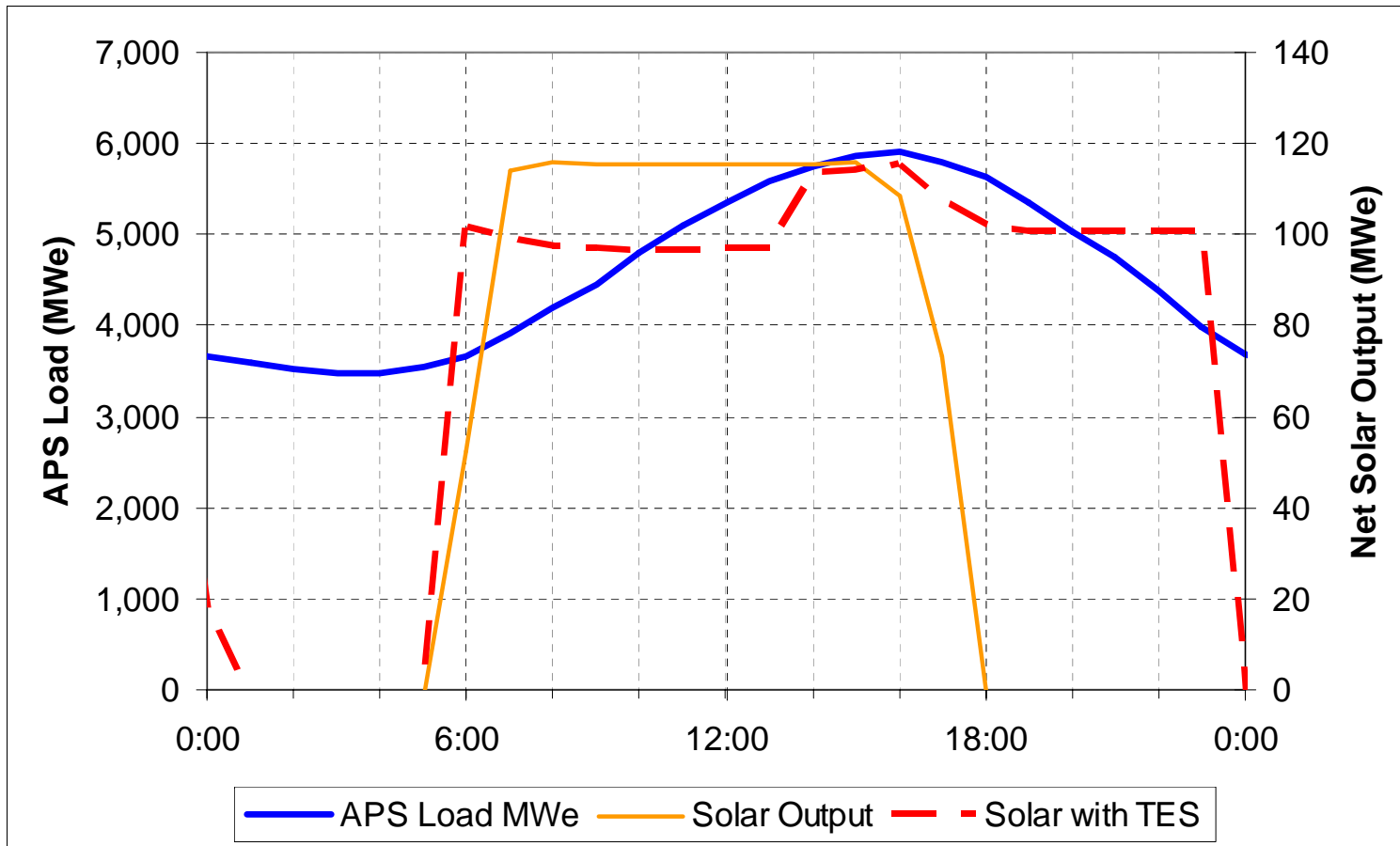


New 64 MW Acciona Solar Parabolic Trough Plant

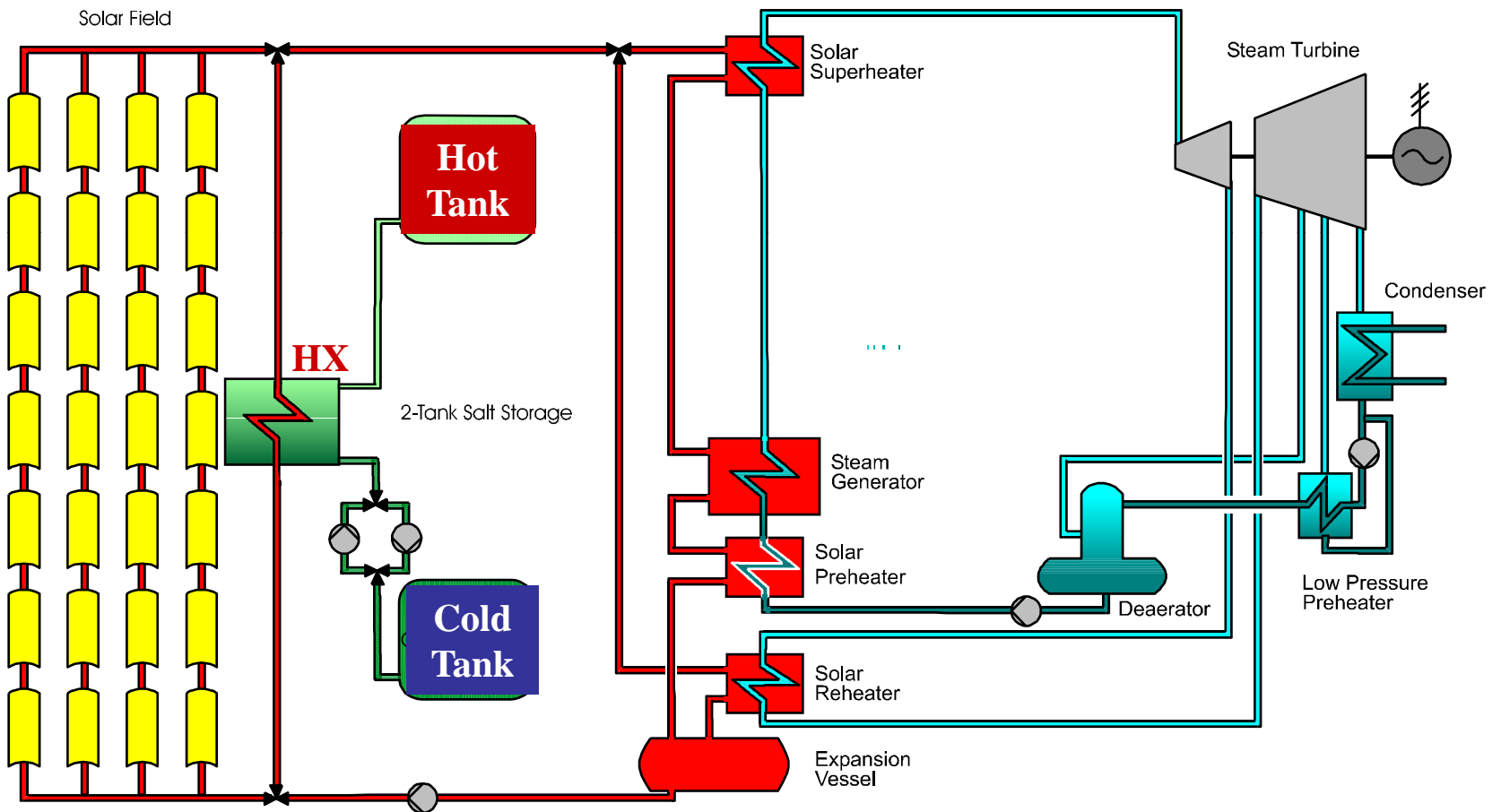


**the BIG ATTRACTION:
STORAGE!**

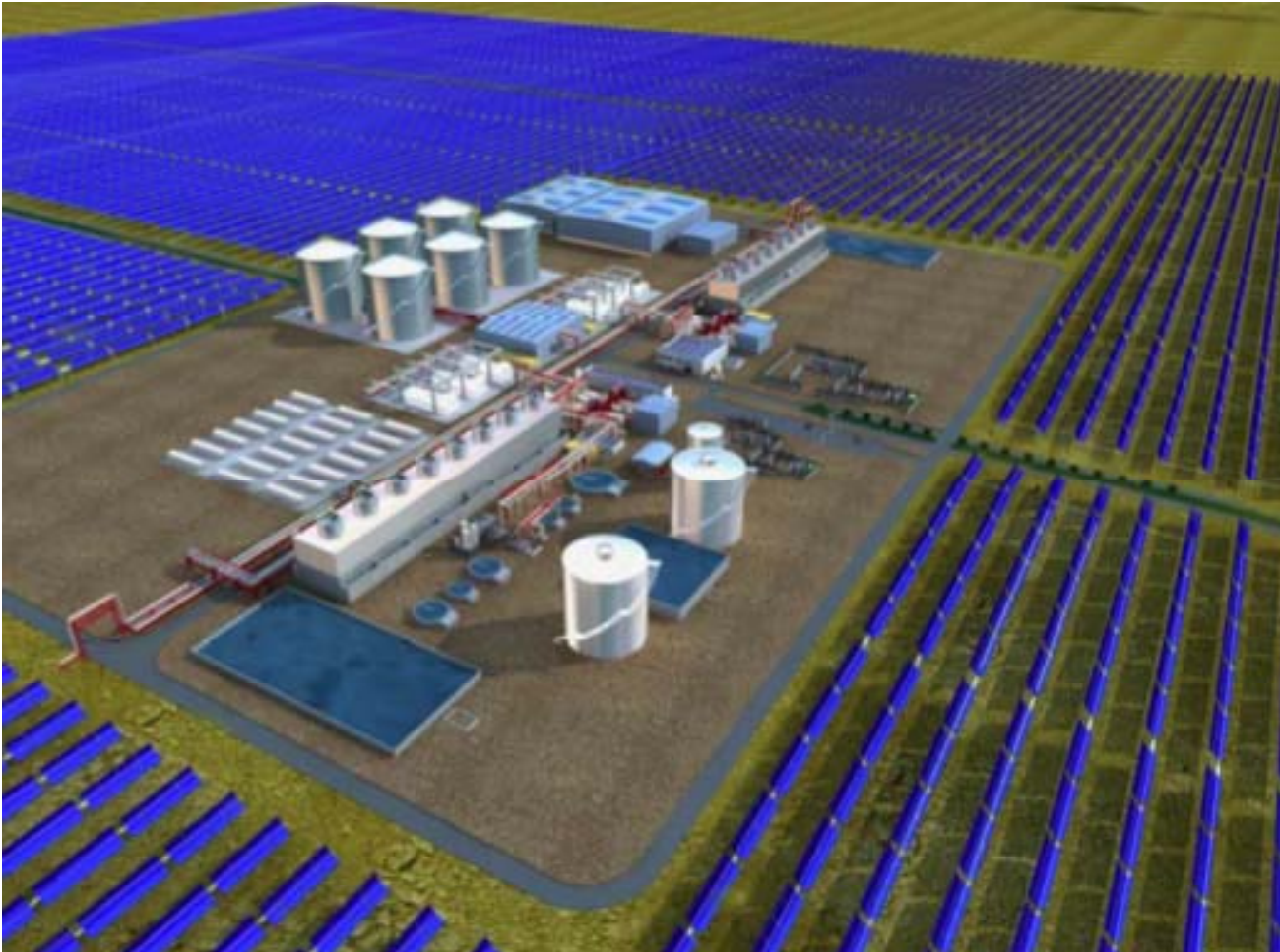
Parabolic Trough Output Profile Summer Day



CSP Power Plant with Thermal Storage



Planned 280 MW Solana Plant with 6 hrs Storage



Artist Rendition

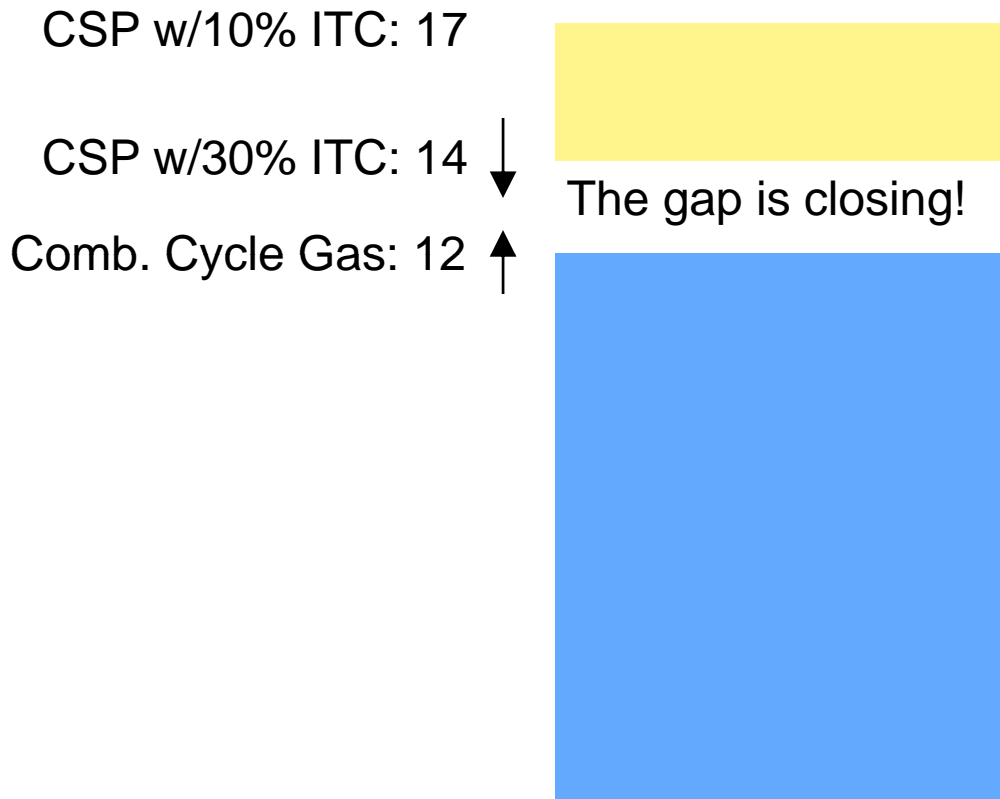
1500 construction jobs
over two years

85 permanent jobs

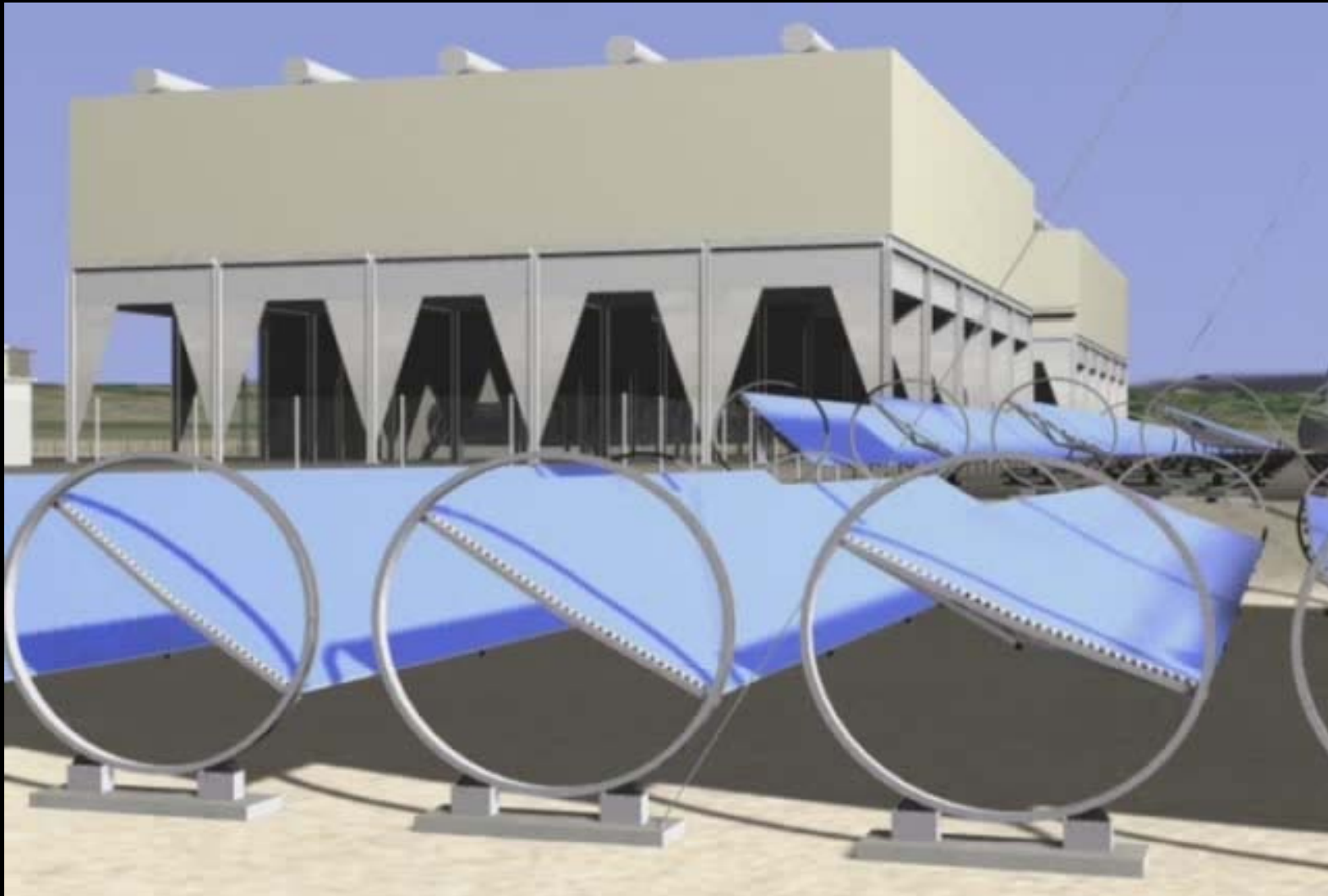


Renewable Energy

Cost of CSP (¢/kWh)

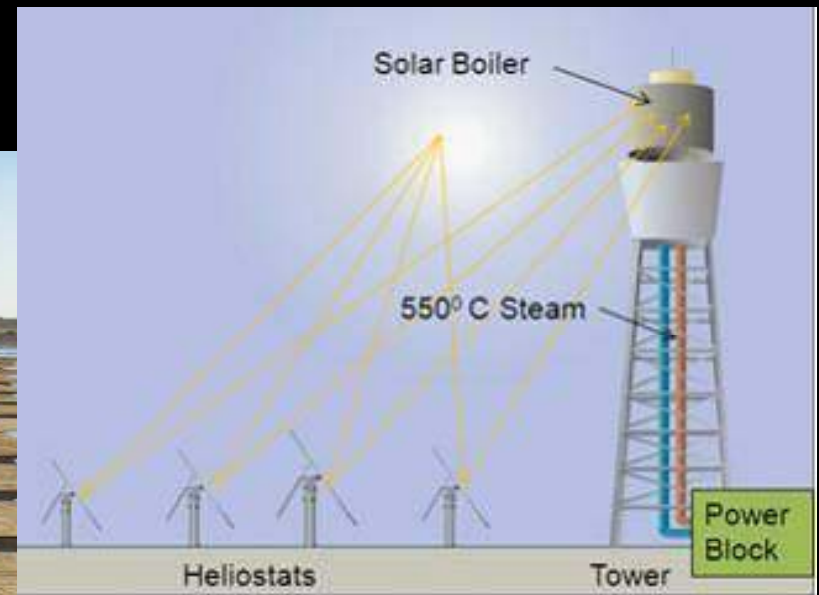
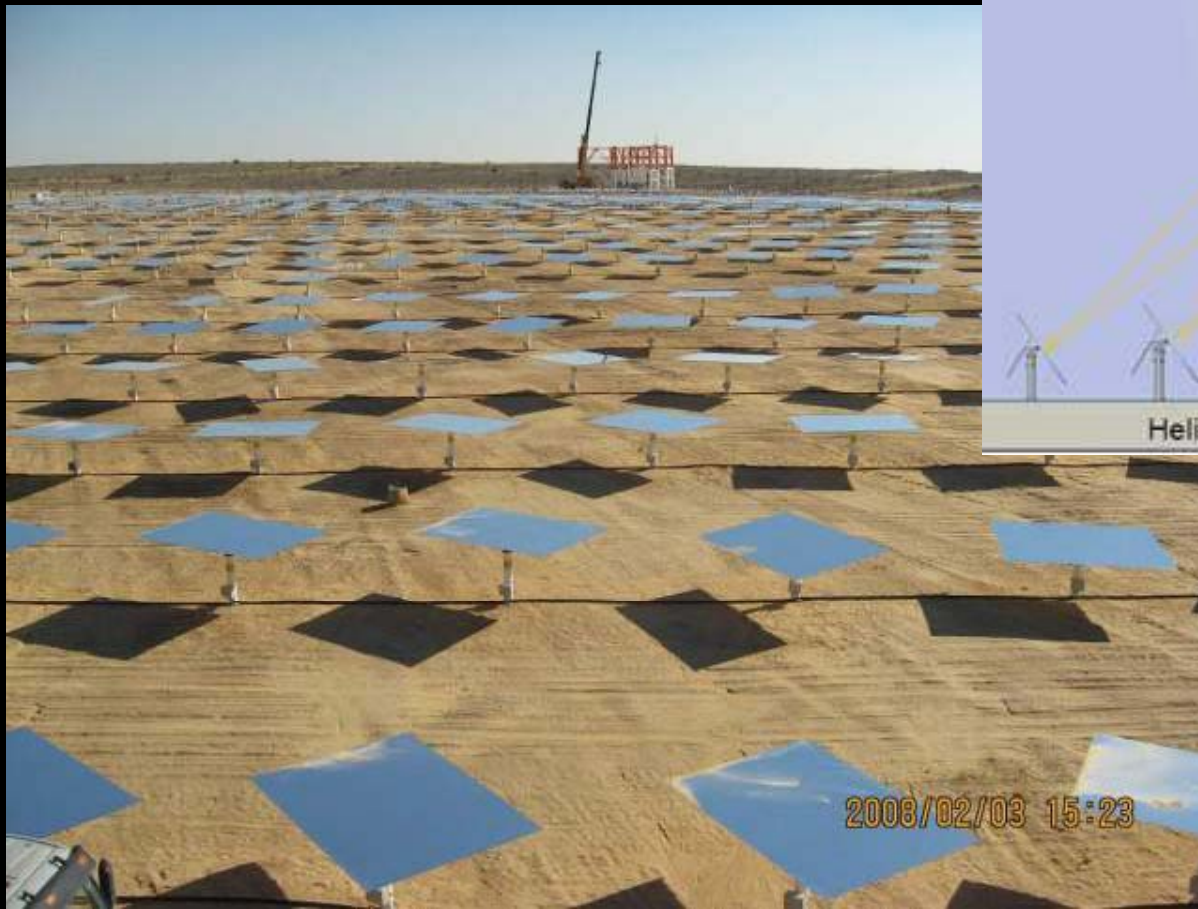


Planned 177 MW Air-Cooled Linear Fresnel Plant for PG&E

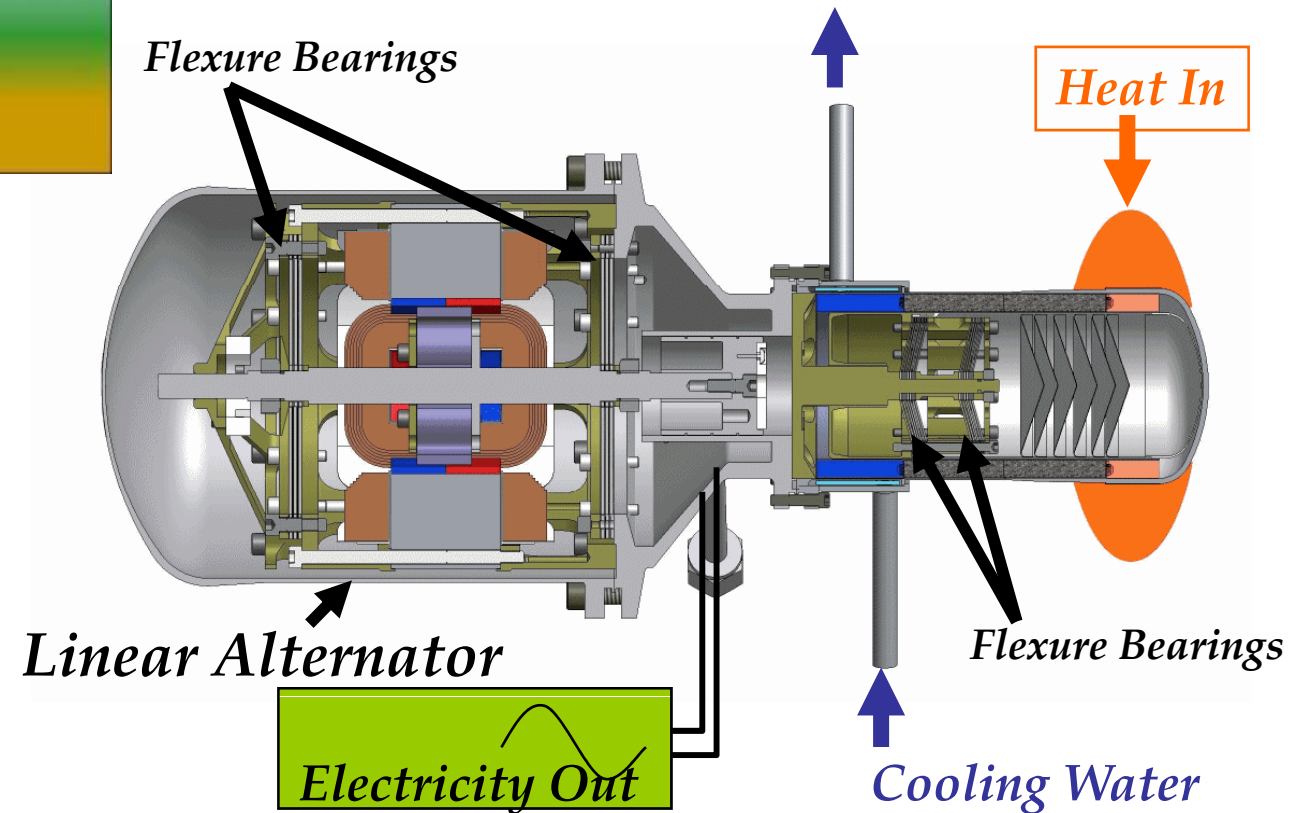


Artist rendition

BrightSource Distributed Power Tower



Dish/Stirling System



Six Dish Prototypes at Sandia-Albuquerque



4,000 MW of Planned U.S. Projects



1,103 MW



1,750 MW

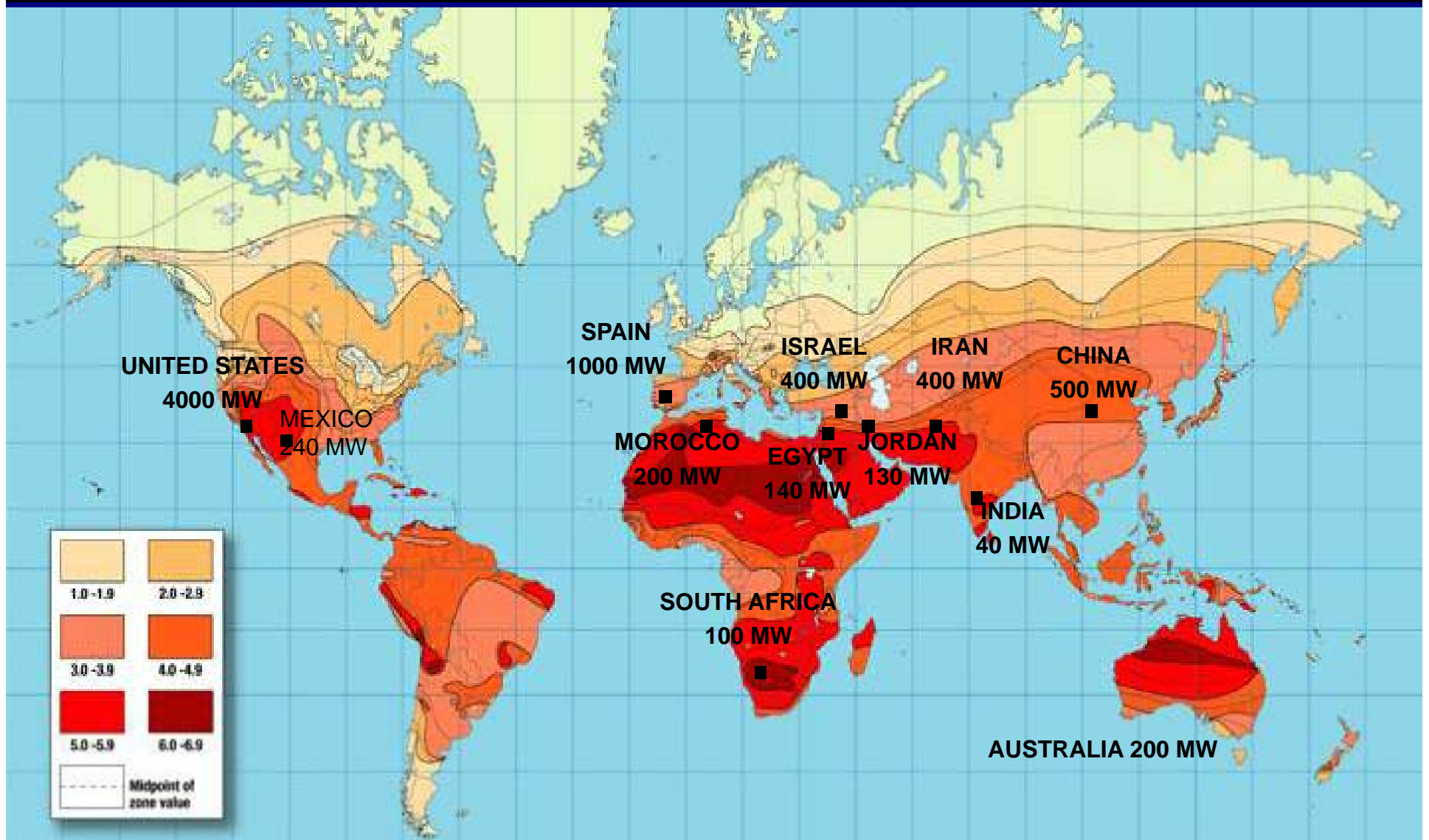


900 MW

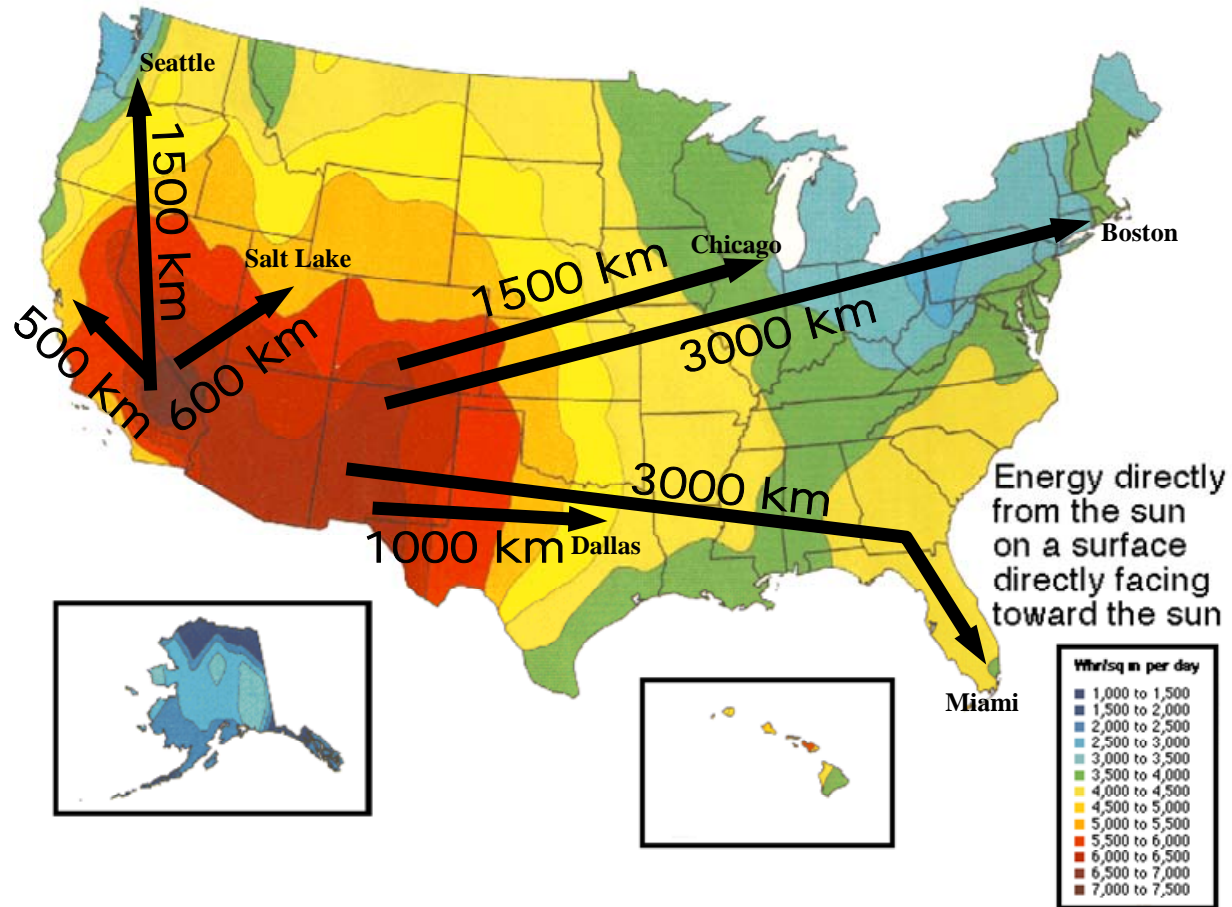


177 MW

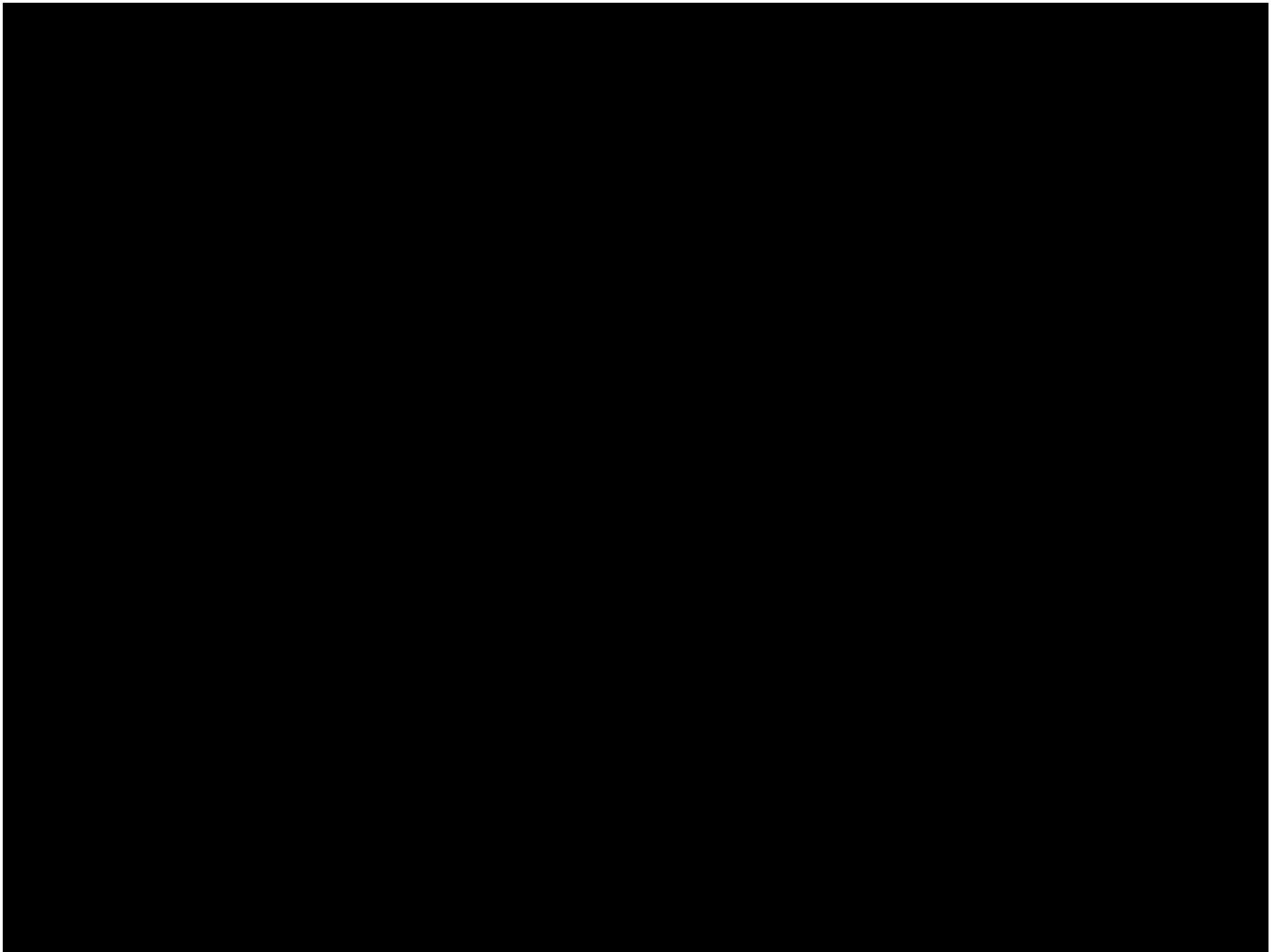
Over 7,000 MW Planned Worldwide



Long Distance Transmission: U.S.



the **POWER** of csp





For more information:

www1.eere.energy.gov/solar/csp

www.nrel.gov/csp

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(This presentation available at:
www.eesi.org and www.osa.org)