DLR TRANS-CSP Study Applied to North America

Hank Price
March 8, 2007

Presented at the 2007 Parabolic Trough Technology Workshop held
March 7-8, 2007 in Golden, Colorado.
NREL/PR-550-41422  March 2007
TRANS-CSP Applied to North America

Energy directly from the sun on a surface directly facing toward the sun.

- Seattle
- San Francisco
- Los Angeles
- Salt Lake
- Dallas
- Chicago
- Boston
- Miami

Sandia National Laboratories, Albuquerque, NM
National Renewable Energy Laboratory, Golden CO
Operated for the United States Department of Energy
Southwest Power Market Transmission Flows

Transmission Flows

Generation
- Solar
- Hydro
- Coal
- Nuclear
- Gas

Power Flows

Direction of Flow
Southwest Power Market
Transmission Flows

Energy directly from the sun on a surface directly facing toward the sun

Transmission Flows

San Francisco
Seattle
Salt Lake
Chicago
Dallas
San Francisco
Seattle
Salt Lake
Chicago
Dallas

500 km
600 km
1500 km
1500 km
3000 km
3000 km
1000 km

Southwest Power Market
HVDC Transmission

• Can be used to transmit CSP power >3000km.
• Can reach all major population centers in North America from the Solar regions in the U.S. Southwest and Mexico.
• Will add 1.5¢/kWh or less to the cost of CSP.