

Concentrating Solar

Quarterly Concentrating Solar Industry Update

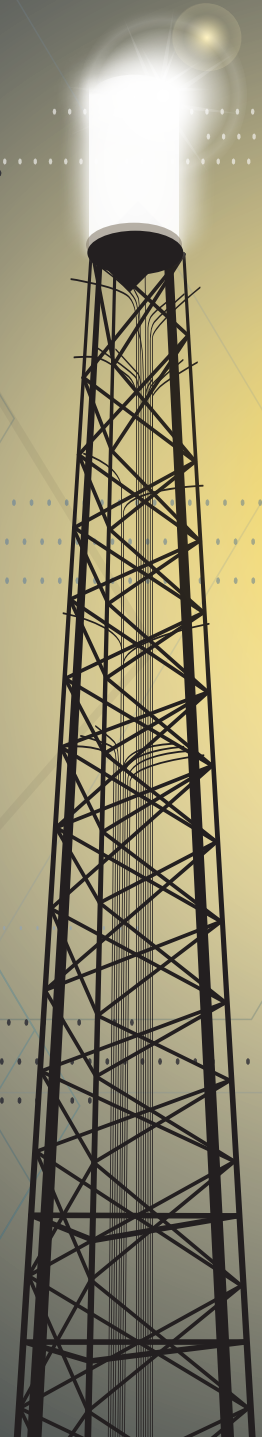
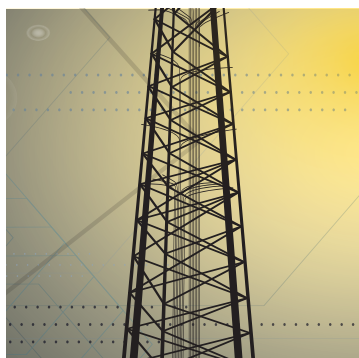
- 
- 4** Ausra shifts strategy towards steam
 - 5** Will a global transmission bottleneck stifle CSP growth?
 - 6** Interview with Gary Conley, Founder of SolFocus

TABLE *of* CONTENTS

FEATURES

- 4** Ausra shifts strategy towards steam
 - 5** Will a global transmission bottleneck stifle CSP growth?
 - 6** Interview with Gary Conley, Founder of SolFocus
-

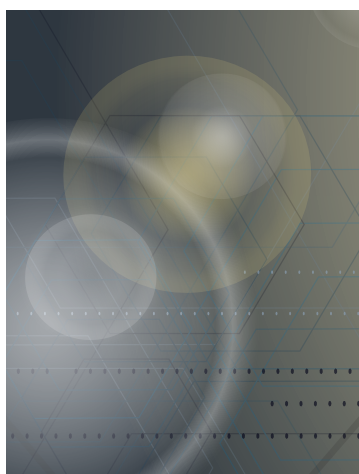


TECHNOLOGY NEWS

- 10** Surface Power's new solar collector enters commercial production
 - 10** The Fraunhofer Institute announces a III-V multijunction cell with a 41.4% conversion efficiency
 - 10** EERE receives record funding
 - 11** Amonix switches from silicon to multi-junction cells
 - 11** Taiwan based Arima EcoEnergy ships GaAs HCPV modules to Spain
 - 11** AORA builds first commercial installation using hybrid modular system
-

INDUSTRY NEWS

- 12** Spain continues to be a focal point for CPV demonstration
 - 13** The Global Environmental Fund partners with North African countries to construct gas and solar thermal hybrid plants
 - 14** The Global Economic Crisis; will it stall growth in the CSP and CPV industries?
 - 15** Greece addresses solar feed-in tariff backlog
-




COMPANY NEWS

- 16** BrightSource and Southern California Edison move to develop the world's largest CSP Installation
 - 17** Interview with SCHOTT Research Fellow Alex Marker
 - 18** Cogentrix buys Sunray Energy Inc.
 - 18** Australia helps fund Solar Systems CSP Installation
 - 19** Xcel Energy seeks bids for 600- MW, \$3.0-billion, CSP Installation
 - 19** Solar Millennium buys a 50% stake in Ibersol Electricidad Solar Ibérica S.L.
 - 19** eSolar licenses technology to Acme Group
 - 19** Energy Innovations brings on new CEO
-

- 28** **Project Corner**, Latest CSP and CPV announcements
-

- 29** **CSP/CPV CONFERENCE CALENDAR**
-

Will a global transmission bottleneck stifle CSP growth?

 With BrightSource proposing a 400-MW power tower in the Mojave and Stirling Energy Systems proposing a 300-MW dish installation in the Imperial Valley, California's deserts are becoming ground zero for CSP development. These environments, where both significant land and sunlight are available, are among the most appropriate areas in the world for concentrating solar thermal plants. In most cases, unfortunately, the sites lack available transmission capability. This is no small problem. High capacity transmission lines can cost up to \$2-million a mile to construct. Moreover, the low capacity grids that border many deserts are often unable to handle the high voltages put out by CSP installations. Add to the mix the many bureaucratic and political obstacles that can prevent or stall the construction of new transmission, and it becomes clear that the slow rate of transmission construction threatens to constrain the growth of the CSP industry.

"It is going to take longer to build out transmission than it will take to build CSP plants because of the many agencies and the bureaucracy involved," says Tom Mancini, the leader of Sandia Lab's CSP research team. "This means utilities and the government, both nationally and on the state level, will have to consider investing more capital into building transmission in order to get CSP generated power to market."

The stimulus package President Obama signed into law on February 17 has \$11-billion in loans directed at upgrading and expanding transmission lines as well as an additional \$6.5-billion in loans to the Western Area Power Administration and the Bonneville Power Administration for transmission related projects. In February 2009, the European Union announced

it would spend €4.4-billion EUR on offshore transmission connecting Britain, Western Europe, Scandinavia, and North Sea wind farms.

Transmission projects still face regulatory hurdles. In the U.S., FERC and states with varying regulations must approve of plans for new transmission lines. If the new lines pass over government land, and most of them do, planned siting must also be sanctioned by federal land administration agencies such as the Bureau of Land Management (BLM). Projects must also make it through a number of state referendums that empower environmental groups and local citizens to challenge the siting of lines they fear might interfere with park land or affect property values. International transmission construction in Europe is similarly difficult due to the varying regulations of different countries and the lobbying power of local groups who see transmission towers as eyesores.

"The industrial world is aware that it needs more transmission, but everyone's reaction to construction is 'Not in my back yard,'" says Peter Meisen, President of the Global Energy Network Institute, "Underground lines would be great but the required coolants all too often make them prohibitively expensive."

Both the 400-MW Power Tower project BrightSource has proposed for Ivanpah Lake in San Bernardino, and the 750-MW Solar Two project proposed by Stirling Energy for Imperial County, require the construction of new transmission lines. In December 2008, the California Public Utilities Commission approved San Diego Gas & Electric's (SDG&E) plan to build the Sunrise Powerlink Transmission Project, a \$1.9-billion, 500-kV transmission line needed to connect the

Solar Two installation to the coast 120 miles away. The route proposed for the line, a path through the Borego desert and a forested valley, concerned local activists who lobbied SDG&E to build the new line along an existing transmission corridor. SDG&E agreed to build the Powerlink along the old corridor even though doing so forced the utility to change existing energy routes for fear of losing two transmission lines in the event of a wildfire. As long as local communities remain demanding of, and litigious towards, transmission developers, transmission planning will continue to take as long as eight or nine years.

Making transmission for solar thermal plants a priority for the government and for utilities will be difficult. In order to stimulate investment in transmission lines built to serve CSP installations, developers need to prove the commercial viability of CSP as an affordable energy generating technology.

"The developers working on projects right now know how they are going to deal with the transmission issue," say Dr. Mancini, "but after a few gigawatts of CSP are installed, it is unclear how developers and utilities will deal with the proximity and capacity problems."

In May 2008, the Western Governor's Association began an effort to address future transmission problems by launching the Western Renewable Energy Zones Project (WREZ), an initiative designed to locate and build transmission capacity in areas with large renewable energy potential. The WREZ is currently in its modeling stage, but once plans solidify the permitting and construction process for any multi-billion dollar project is expected to take around ten years.

■ Andrew Burmon

Quarterly Concentrating Solar Industry Update

About Navigant Consulting

Navigant is an independent consulting firm providing specialized professional services to assist clients in identifying practical solutions to the challenges of uncertainty, risk, and distress. We focus on large industry sectors that are typically highly regulated and are undergoing significant change.



©2009 Navigant Consulting, Inc. All rights reserved. 07-00689A

Navigant Consulting is not a certified public accounting firm and does not provide audit, attest, or public accounting services. "NAVIGANT" is a service mark of Navigant International, Inc. Navigant Consulting, Inc. (NCI) is not affiliated, associated, or in any way connected with Navigant International, Inc., and NCI's use of "NAVIGANT" is made under license from Navigant International, Inc. *See www.navigantconsulting.com/licensing for a complete listing of private investigator licenses.