



# **US-CHINA** QUARTERLY MARKET REVIEW

SUMMER 2011



# US-CHINA QUARTERLY MARKET REVIEW

SUMMER 2011

## A COLLABORATIVE REPORT BY:



**American Council On Renewable Energy  
(ACORE)**

[www.acore.org](http://www.acore.org)

Lesley Hunter, Primary Editor & Contributor  
Tom Weirich, Contributor



**Chinese Renewable Energy Industries Association  
(CREIA)**

[www.creia.net](http://www.creia.net)

Ma Lingjuan, Editor & Contributor  
Li Junfeng, Contributor

## SECTION AUTHORS:



### **U.S. Market Focus**

Sungevity  
Danny Kennedy  
[dkennedy@sungevity.com](mailto:dkennedy@sungevity.com)

**COVINGTON**

COVINGTON & BURLING LLP

### **China Market Focus**

Covington & Burling LLP  
George Frampton  
[gframpton@cov.com](mailto:gframpton@cov.com)



### **U.S. Policy**

David Gardiner & Associates, LLC  
Bill White and Jeff Stein  
[bill@dgardiner.com](mailto:bill@dgardiner.com)



### **China Policy**

Pillsbury Winthrop Shaw Pittman LLP  
Judy Deng and Sylvia Burks  
[judy.deng@pillsburylaw.com](mailto:judy.deng@pillsburylaw.com)



### **U.S. Finance**

Citigroup, Inc.  
Michael Eckhart  
[michael.eckhart@citi.com](mailto:michael.eckhart@citi.com)



### **China Finance**

Troutman Sanders LLP  
Edward Epstein  
[edward.epstein@troutmansanders.com](mailto:edward.epstein@troutmansanders.com)

## OFFICIAL RESEARCH PARTNER:



Bloomberg New Energy Finance  
Dave Poritzky  
[dporitzky1@bloomberg.net](mailto:dporitzky1@bloomberg.net)

## US-CHINA PROGRAM

The US-China Program (USCP) of the American Council On Renewable Energy (ACORE) is dedicated to increasing understanding of the U.S. and Chinese renewable energy markets and fostering public and private sector partnerships between our two countries.

ACORE members who are leading voices in the U.S. and Chinese renewable energy industries are invited to join USCP as partners. Our partners actively shape program direction through consultation with other partners, the USCP strategic advisors, and ACORE staff.

We thank the USCP partners for their special effort toward this Summer 2011 US-China Quarterly Market Review (QMR).



Applied Materials  
*Bill Morin*  
*william\_morin@amat.com*



DuPont  
*Stanley Merritt*  
*Stanley.D.Merritt@usa.dupont.com*



GCL-Poly Energy  
*Shell Jiang*  
*Shelljiang@gclsolarenergy.com*



Hudson Clean Energy Partners  
*Yuting Zeng*  
*yuting.zeng@hudsoncep.com*



Orrick, Herrington & Sutcliffe  
*Clara Rodriguez*  
*clrodriguez@orrick.com*



Goldwind  
*Colin Mahoney*  
*mahoney\_ext@goldwindamerica.com*

## ■ U.S. POLICY: ELECTRIC TRANSMISSION POLICY

---

### OVERVIEW

The renewable energy industry is poised for a major lift, from newly announced reforms to regulations governing how to plan and pay for expansions and upgrades to America's aging and fragmented electric grid. These regulations promise to rationalize and accelerate the process for building infrastructure to connect vast, yet remote and largely untapped renewable energy resources to customers. Insufficient transmission is one of the most onerous barriers to the development of new renewable electricity generation. The broken transmission planning process has kept renewables out of the market for too long, preventing customers from accessing cleaner and lower cost electricity. This costly and unfair roadblock has prompted the Federal Energy Regulatory Commission (FERC) and regional transmission planning authorities to adopt new rules that should be welcome news for both project developers and ratepayers.

This section offers an overview on how updated transmission regulations will accelerate the market integration of renewable energy resources, provides examples of recently approved renewable energy transmission lines, and includes a brief discussion on the progress and ongoing challenges in regulations enabling the construction of transmission lines to utilize the nation's renewable energy resources.

### SHIFTING RENEWABLE ENERGY GROWTH TO THE NEXT GEAR

Renewable resources are the fastest growing sources of new electric generation in the country. In the first quarter of 2011, grid connected solar photovoltaic (PV) installations grew by 66% from 2010 (an additional

252 megawatts (MW)).<sup>1</sup> In addition, 31% of total new generation capacity in the United States will be for non-hydropower renewable energy—compared to 11% for coal and 3% for nuclear.<sup>2</sup>

Two main factors are driving this explosive growth: the falling costs of renewable energy technologies and expanding public policy requirements. Ernst & Young predicts the price of solar PV panels will drop to \$1 per watt by 2013.<sup>3</sup> In addition, over half the states have already enacted some form of a Renewable Portfolio Standard, many with ambitious targets and timetables over the next decade.

Unlike fossil fuels, renewable energy depends on transmission lines to reach customers. Just as orange growers in Florida and potato farmers in Idaho rely on the interstate highway system to get their products to customers, wind, solar and other renewable energy developers need high voltage transmission lines to enter the electricity market. Some of America's best renewable resources—wind in the Great Plains and solar in the Southwest—are far from population centers where electricity is consumed. New high voltage transmission lines are essential to integrating the renewables needed to meet the growing demands of consumers and public policies.

Unfortunately, the system for planning, paying for, and building high voltage transmission lines is broken and still reflects the power demands of 50 years ago. The grid was not built to accommodate distant sources of renewable energy, and the balkanized and burdensome processes for building transmission have severely limited development of these resources:

---

1 [www.seia.org/cs/news\\_detail?pressrelease.id=1418](http://www.seia.org/cs/news_detail?pressrelease.id=1418)

2 Energy Information Administration, "Annual Energy Outlook 2011", p. 74, <http://www.eia.gov/forecasts/aeo/pdf/0383%282011%29.pdf>

3 <http://www.guardian.co.uk/environment/2011/jun/20/solar-panel-price-drop>

- ▶ At the end of 2009, 300,000 MW of domestic wind energy potential was available, roughly 9 times the amount of actual installed wind capacity at the end of 2009.<sup>4</sup>
- ▶ In the beginning of 2009, California alone had 13,000 MW of wind and 30,000 MW of solar waiting to connect to the grid.<sup>5</sup>

FERC has recognized the need to modernize the grid to meet state regulations, utility goals, corporate renewable energy targets, and changing consumer preferences. On July 21, 2011, FERC issued Order 1000 to create a new framework that will help electricity providers, regulators, customers, and other interested stakeholders to plan and pay for transmission upgrades that will expand renewable energy development across the country.

### ORDER 1000—WHAT THIS MEANS FOR THE RENEWABLE ENERGY INDUSTRY AND RATEPAYERS

By addressing longstanding barriers to transmission infrastructure, FERC Order 1000 will provide renewable energy investors and project developers with greater regulatory certainty and ratepayers with greater access to affordable renewable energy. At 600 pages, Order 1000 is not concise, but its most important provisions are easy to summarize:

#### PLANNING<sup>6</sup>

- ▶ All public utility transmission providers must participate in a large scale regional transmission planning process—including inter-regional coordination—ensuring that renewable energy infrastructure needs are addressed in a timely fashion in every region of the country.
- ▶ Planners *must* consider transmission needs driven by public policy goals, like Renewable Portfolio Standards (RPS).

- ▶ Planning must be open to stakeholders, be transparent, and consider cost-effective alternatives to meeting regional needs.

#### COST ALLOCATION<sup>7</sup>

- ▶ Regions must develop a cost allocation formula for facilities selected in the regional plan. Linking planning to cost allocation gives planning real meaning for investors and developers—planning will no longer be a “paper exercise.”
- ▶ Only ratepayers who benefit from transmission projects have to pay for them—those who do not benefit do not have to pay. Transmission developers get protection from “free riders”; ratepayers won’t finance facilities that do not help them.
- ▶ Regional cost allocation formulas cannot require that regional projects be paid for by the requestor—a.k.a. participant funding—ensuring that renewable energy developers will not bear the full costs of new transmission.

Order 1000 will protect ratepayers from inflated costs by ensuring that states and utilities with renewable energy mandates are able to access the most cost effective and economically competitive renewable resources. As such, FERC is upholding its statutory duty under the Federal Power Act to protect ratepayers from unjust or unreasonable electric rates.

### SUCCESSFUL REGIONAL TRANSMISSION PLANNING—OPENING MARKETS TO RENEWABLE ENERGY

FERC’s rule builds on recent efforts by Regional Transmission Organizations (RTOs) to expand and strengthen transmission planning in response to state and federal policies. These actions helped lay the groundwork for FERC’s rule.

4 AWEA Wind Power Outlook 2010, pages 3-4

5 AWEA—SEIA, “Green Power Superhighways: Building a Path to America’s Cleaner Future”, February 2009, p. 6

6 <http://www.ferc.gov/media/news-releases/2011/2011-3/07-21-11-E-6-factsheet.pdf>

7 Ibid. at

### MIDWEST INDEPENDENT TRANSMISSION SYSTEM OPERATOR (MIDWEST ISO)

This past fall, the Midwest ISO (a regional transmission organization covering portions of twelve states in the Midwest), filed a regional transmission cost allocation plan with FERC, which was later approved. The plan, called the Midwest ISO “Multi Value Project” (MVP) plan, establishes a set of transmission priority projects to address reliability and renewable energy needs. Projects deemed MVPs have their costs spread throughout the Midwest ISO footprint for each state proportionate to that state’s energy demands. The approval of MISO MVP has already benefited major renewable energy transmission projects reflecting unique regional and individual state needs, such as:

- ▶ **Michigan’s “Thumb Loop Project”:** The project connects Michigan’s best wind resources to high demand areas, reducing costs of complying with the state RPS. The line also relieves congestion that costs ratepayers millions every year.
- ▶ **South Dakota-Minnesota “Brookings Line”:** The line will connect wind from South Dakota and Western Minnesota to the Minneapolis-St. Paul metropolitan area.

### SOUTHWEST POWER POOL

Last summer, FERC approved the regional cost allocation plan submitted by the Southwest Power Pool (SPP), which covers the wind rich Great Plains and Texas Panhandle. SPP’s so-called “Highway-Byway” plan allocates costs based on voltage. For the largest lines generating the broadest benefits—those over 300 kV—costs are allocated across the entire region; costs of smaller lines are shared among smaller groups of ratepayers.

- ▶ **Kansas Electric Transmission Authority Project:** A new high voltage transmission line that will free up almost 3,000 MW of wind generation between Kansas and Nebraska.<sup>8</sup>
- ▶ **Kansas V-Plan, Oklahoma-Kansas-Texas:** A new high voltage transmission project that will deliver 2,500 MW of wind resources from these states to the grid.

### BEYOND RULE 1000: HURDLES REMAIN FOR TRANSMISSION INFRASTRUCTURE SITING

Despite major breakthroughs at the federal and regional levels regarding planning and cost allocation, siting remains a serious source of cost and delay. Each state has veto power over the construction of transmission lines, magnifying risks for multi-state lines to reach renewable energy. At the federal level, agencies like the Department of the Interior (DOI) and the Bureau of Land Management (BLM) are taking steps to improve coordination and expedite approvals for siting renewable energy projects and transmission lines on federal lands.<sup>9</sup> These reforms are especially important in the solar and geothermal rich remote areas of the West.

DOI and BLM will continue to use their regulatory authority over public lands to expedite the siting transmission needed for renewables on appropriate public lands. By July 2011, DOI and BLM had already designated 19 priority renewable energy projects, including:

- ▶ Abengoa Mojave Solar, California, which will develop 250 MW of accessible new solar generation capacity and 17 miles of transmission on public lands.<sup>10</sup>
- ▶ Devers-Palo Verde No. 2 Transmission Line project, Nevada-California, a 500 kV line that will enable the integration of up to 3,600 MW for numerous solar energy facilities in California and Nevada.<sup>11</sup>

8 [http://www.eei.org/ourissues/ElectricityTransmission/Documents/TransprojRenew\\_E-M.pdf](http://www.eei.org/ourissues/ElectricityTransmission/Documents/TransprojRenew_E-M.pdf)

9 [http://www.blm.gov/wo/st/en/prog/energy/renewable\\_energy/priority\\_projects.html](http://www.blm.gov/wo/st/en/prog/energy/renewable_energy/priority_projects.html)

10 <http://www.renewableenergyworld.com/rea/news/article/2011/07/4-major-u-s-projects-get-federal-approval>

11 *Ibid.* at

**LEGISLATIVE AND LEGAL CHALLENGES**

Despite progress on the regulatory front to accelerate renewable energy transmission development, recent legislation introduced by Senators Corker (R-TN) and Wyden (D-OR) would strip regions of their ability to address regional transmission needs for renewable energy development by imposing a new and unprecedented cost-benefit test on regional cost allocation.

State barriers also exist. Earlier this year the Wyoming state legislature enacted a moratorium on the use of eminent domain for low voltage interconnection lines for wind energy. In Nevada, the Governor vetoed legislation that would have allowed for an expedited process for renewable energy developers to export power to high demand markets in Arizona and California.

Finally, FERC Order 1000 itself faces legal and implementation challenges. Some incumbent utilities will likely file legal motions to stop or curtail implementation of the rule. Ratepayers and stakeholder will need to be educated about the benefits of transmission to ensure they do not oppose cost-effective investments in renewable energy infrastructure during regional planning processes.

Order 1000 is great news for the renewable energy industry and for ratepayers—as overdue transmission investments increase supply, improve reliability, and reduce prices. But even a dramatic reduction in the decade-plus timeframe for building new high voltage lines today will take several years to bear fruit. Supporters of renewable energy who can stay engaged in FERC’s new regional transmission planning processes will be rewarded for their perseverance.