

LARGE-SCALE SOLAR ASSOCIATION

Comments on renewable energy portfolio standard policies under consideration in Senate Bill 14 and Assembly Bill 64.

February 23, 2009

Large-scale Solar Association (LSA) is a utility-scale solar trade association whose member companies include, Abengoa Solar, Ausra, BrightSource Energy, Cogentrix, First Solar, Infinia, Iberdrola Renewables, OptiSolar, Solel, Stirling Energy Systems and SunPower.

The companies' technologies and models span both photovoltaic and solar thermal applications, and combined, their signed contracts with California utilities exceeds 5GW of capacity. The purpose of LSA is to further state and regional policies that support large-scale solar.

RPS PRICING

Current framework

The current RPS cost containment mechanism is based on a formulated benchmark price called the "Market Price Referent" (MPR), paired with an above-market cost cap mechanism called the Above Market Fund (AMF). While often mistakenly regarded as a failure of the RPS, LSA believes the *benchmark price* serves an important role by offering both procurement process stability and at least a modicum of price transparency. Indeed, with more than 5GW of signed utility-scale solar contracts in California, it's difficult to argue that the procurement process is broken.

The MPR is intended to reflect the market price of long-term power purchase agreements. As renewable power contracts provide public health, environmental and economic benefits beyond market power, renewable power priced at or below the MPR is a better value and deemed reasonable, while renewable power priced above the MPR may still be reasonable if its benefits over the market price of power are commensurate with the incremental higher price. The MPR has been paired with a fund to pay for renewable power contracts at higher cost, called the Above Market Fund (AMF); monies in the AMF derive from the Public Goods Charge, and the value of the fund was based on the collected charges rather than any estimate of the public value of renewable power contracts, and has been quickly exhausted. Investor-Owned Utilities (IOUs) are allowed, but are not required, to procure renewable contracts above the MPR after the AMF is depleted.

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Solar procurement

As we contemplate taking the next step towards a 33% RPS solution, some level of pricing consistency is crucial to both the investor and development communities. Funds will not be invested in developing renewable power unless there is some reasonable assurance that successful development will be rewarded with long-term contracts. We feel that a near-term extension of the benchmark price, decoupled from the AMF, offers the necessary certainty as the state transitions to new program mechanisms.

Development of utility-scale solar projects lies at the heart of this debate. Indeed, given the current economic and market instability, it is critical for California to send a clear signal that the pathway to new renewable generation in this state is both stable and predictable.

Integrating Solar into the California's RPS

Utility-scale solar provides large quantities of peak power over the many decades it is in service, well worth the capital-intensive, long-term investment it requires. It's relevant to note here that the state's RETI estimates that approximately 80% of California's renewable resource potential is solar-based. Multiple, world-wide studies have shown that innovation and deployment of solar technologies can be expected to substantially reduce solar costs, making it increasingly competitive with conventional resources in price while yielding the economic, public health and environmental benefits California seeks from its renewable power infrastructure.

California cannot realize its vast potential for solar power, enough to provide not only the state but much of the west, without the investment needed to nurture solar from its nascent stage into a fully competitive power supplier. Investment of utility-scale solar is currently a challenge, as the solar technologies investment marketplace is new and relatively variable, and the market is tight even for traditional investment opportunities.

The Role of a Pricing Benchmark

Although the MPR was not intended to be a pricing mechanism, it does serve the useful purpose of establishing a benchmark against which comparisons can be drawn. The MPR mechanism thus can - and has tended to - offset the investment challenges faced by the developing solar industry.

It is for these reasons that a short-term radical shift in the mechanism - even if justified on other policy grounds - could inhibit the expansion of utility-scale solar, stunting its well-recognized promise. The proposed pricing changes could not only inhibit the achievement of the RPS goal; it could substantially increase the cost of the RPS to California ratepayers over time, by chilling the investment needed to make RPS more cost-competitive with conventional resources.

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Cost containment

“Renewables, but not at any price” is the common refrain attached to the 33% RPS goal. While laudable, this focus tends to neglect to reflect California’s need for new generation and transmission infrastructure, regardless of whether that infrastructure is renewable—and the sharp increases in the price of conventional generation and new transmission that the eastern markets have borne for some time. It also fails to recognize *value*, and the myriad economic, public health and environmental benefits that multiply as the state’s percentage of delivered renewable energy increases.

RPS as a Natural Gas Hedge

Among the most immediate economic benefits of renewable energy is its impact on California ratepayer’s exposure to high natural gas prices. Renewable energy provides both downward price pressure (by reducing natural gas demand) and a risk-free hedge against volatile and unlimited natural gas prices that expose ratepayers to unmitigated and at times unexpected price jumps. Long-term, fixed-price renewable energy contracts provide the best defense against this vulnerability.

Nearly 50% of the state’s electricity need is met through natural gas powered contracts. While the power prices of natural gas plant contracts are fixed, the cost of the fuel used to power those plants is passed through to ratepayers, with few tools available to cap those costs other than hedging contracts which carry their own costs and risks. Thus, ratepayers are exposed to capricious and volatile gas market fluctuations, the impacts of which were demonstrated most painfully during the energy crisis of 2001. Indeed, the state and its ratepayers continue to literally pay the price for those contracts. One of the primary reasons for RPS is to diversify the fuel source, reducing California ratepayers’ direct exposure to natural gas prices, but also reducing pressure on natural gas prices, lessening demand and therefore lessening the tendency for price increases and price spikes.

Cost Cap

It is both the charter and the responsibility of the CPUC to protect ratepayers from unreasonable contract decisions. If we are to truly shift from a fossil fuel based paradigm to a more stable and clean energy future, it’s crucial that the CPUC retain its ability to make sound decisions based upon real-time market needs and realities. A legislated cost cap on the RPS program pre-judges the boundaries of a market whose characteristics we can at best, only marginally predict today.

LSA supports general criteria for the CPUC to apply as it considers the total cost to ratepayers of the 33% RPS solution, and urges the legislature against creating an arbitrary cost cap applicable to renewables but not conventional power.

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Such a cap could have the unintended consequence of limiting cost-certain renewable energy contracts in favor of promoting further exposure to a volatile and expanded gas infrastructure. A fixed cap would be especially dangerous, as it would be extremely unlikely to keep pace with conventional power pricing and could promote expansion of California's conventional power infrastructure despite increases in renewables' cost-competitiveness with conventional power.

Proposed Solution:

- (1) Modify the current benchmark price to more appropriately value greenhouse gas emissions and the public health and other environmental benefits that accrue from renewable generation. This step is necessary in order to better offset the benchmark tie to fossil power, and to more accurately establish the value of renewables.
- (2) Continue the modified benchmark, decoupled from the AMF, until the state has achieved 20% of its delivered energy from renewable resources. This provides a minimal level of short-term certainty to investors and developers until the renewable marketplace stabilizes. This program consistency will also help to encourage continued investment in large-scale projects. Finally, it provides a "do no harm" approach until the cost impact and grid benefits of additional renewable generation are known.
- (3) Once the 20% delivered renewable energy goal has been reached, replace the benchmark with a thoughtful prudence review that reflects the state's experience with projects constructed to date. We propose that this review be less rigidly related to fossil fuel-based pricing, and include at least the following criteria:
 - a. Unique delivery characteristics of each renewable technology
 - b. Value of long-term gas hedging benefits
 - c. Projects location in a priority CREZ area
 - d. Value of environmental benefits, such as avoided emissions of toxic and other air contaminants, avoided greenhouse gas emissions, and avoided water use.

TRADABLE RENEWABLE ENERGY CREDITS (TREC's)

Issue:

Renewables, and in particular solar power, can bring a wealth of economic, public health and environmental benefits to California. Absent assurances that California customers will actually receive the energy that solar power produces, those benefits will be paid for by California but enjoyed elsewhere; California will have lost an important opportunity to improve the state's public health, environment and economy.

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RPS Permitting the unlimited use of unbundled, undelivered out-of-state Tradable Renewable Energy Credits (TRECs) that can be used to attain the RPS is inconsistent with California's goal of reducing in-state greenhouse gas emissions, improving public health, creating green jobs and protecting ratepayers from gas price volatility. TRECs that are not associated with energy delivered to California may not provide any of the benefits intended by the RPS; TRECs from jurisdictions without greenhouse gas caps may not even reduce overall greenhouse gas emissions. Additionally, from the LSA's business-development perspective, unbundled, out-of-state, undelivered TRECs fail to provide sufficient basis for the development of utility-scale solar projects.

An abundance of non-CA, undelivered TREC-only contracts in the RPS could preclude in-state solar development. It could also undermine efforts to construct much-needed transmission to allow California to make use of its abundant renewable resource areas for its own consumption, as well as for export throughout the West. It is for these reasons that LSA supports a limit to out-of-state, unbundled and undelivered TRECs.

SB 14 currently accomplishes this by placing boundaries on the delivery definitions, and by requiring renewable power generated out of state be delivered and consumed in California. AB 64 proposes a 50% unbundled REC limit, ramping down to 10% over time, which could delay California development of renewables while promoting renewable infrastructure development elsewhere at this critical time for the renewable industry.

From a practical standpoint, LSA believes some allowance of out-of-state, unbundled and undelivered TRECs is reasonable, particularly for smaller load-serving entities with variable load and for larger load-serving entities that need flexibility to fill gaps in their portfolio. Ultimately, the western renewable energy market should be integrated to promote reliability and make use of differing times at which renewable energy peaks in differing areas, allowing California to develop more renewable energy as a partner in a larger region than it could sustain alone. For this reason, LSA would support limited use of out-of-state unbundled undelivered RECs for RPS compliance.

Proposed Solution:

Limit out-of-state, unbundled REC's to 20% of the new RPS goal (that is, 20% of the delta between the current 20% RPS goal and the proposed 33% RSP goal).

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TRANSMISSION AND SITING

Issue:

It is estimated that 101,000 GWh of renewable power is required to meet the RPS goal of 33% by 2020. The Renewable Energy Transmission Initiative has identified more than twice this amount of “cost effective” renewable resources within and immediately adjacent to the state. Significant hurdles exist in terms of coordinating relevant state and federal agencies, complying with environmental laws, and addressing other planning challenges.

At least two new transmission lines, in addition to transmission upgrades, are required to meet the existing RPS goal of 20% by December 2010, and a minimum of five additional transmission lines are likely required to achieve 33% by 2020. To date, the planning, permitting and construction of each line has taken seven years or more, and the process has become notorious for controversy and delay. If we are to achieve our RPS goals, this cannot continue.

Proposed Solution:

LSA recommends expediting traditional processes for planning, siting, permitting and interconnection, and up-front and equitably shared cost recovery for new renewable transmission.

- Transmission owners must be promptly assured of cost recovery for such lines, to avoid delaying construction during lengthy regulatory processes.
- Innovative transmission technologies that reduce environmental and visual impacts must be encouraged.
- New legislation should provide that transmission lines necessary to to serve RPS contracts or implement RETI are deemed needed, allowing the permitting of such lines to focus on environmental analysis of routing, and eliminating the need to assess non-wires alternatives.
- Lastly, permitting processes must be governed by clear milestones and progress closely monitored to ensure that California can rely on the advanced transmission infrastructure it needs to support a reliable, clean energy future.

Contact Information

Shannon Eddy

Executive Director.

Large-scale Solar Association

Shannon@consciousventuresgroup.com

916.731.8371 office

916.307.5176 fax