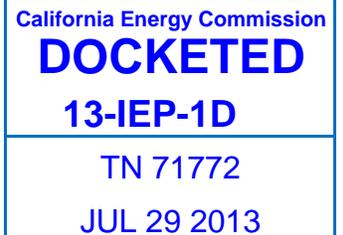


**STATE OF CALIFORNIA ENERGY RESOURCES CONSERVATION AND
DEVELOPMENT COMMISSION**

2013 Integrated Energy Policy Report (2013 IEPR)

Docket No. 13-IEP-1D
WORKSHOP
RE: Electricity Infrastructure

**COMMENTS OF ALTON ENERGY, INC. ON
ELECTRICITY INFRASTRUCTURE ISSUES RESULTING FROM SONGS CLOSURE**



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July 29, 2013

**COMMENTS OF ALTON ENERGY, INC. ON
ELECTRICITY INFRASTRUCTURE ISSUES RESULTING FROM SONGS CLOSURE**

I. OVERVIEW

Alton Energy congratulates all on the substantial progress made toward achieving significant integration of renewable energy into the California energy mix, consistent with the 33% RPS Goals for 2020, and the similar substantial cooperation and interaction between the Joint Parties, who among other things, have a Report in process for presentation to the Governor in September. Alton is however, very concerned that the substantial progress and success has diverted attention from the most critical Emissions Goals through 2050, which require an even stronger and more focused effort, than currently appears to be the case, based on all the discussion and presentations. If not corrected and incorporated into the presentation to the Governor, and in the 2013 IEPR, along with the efforts of the CPUC, and other Joint Parties, ultimate success is likely to be lost, or seriously impaired, needlessly.

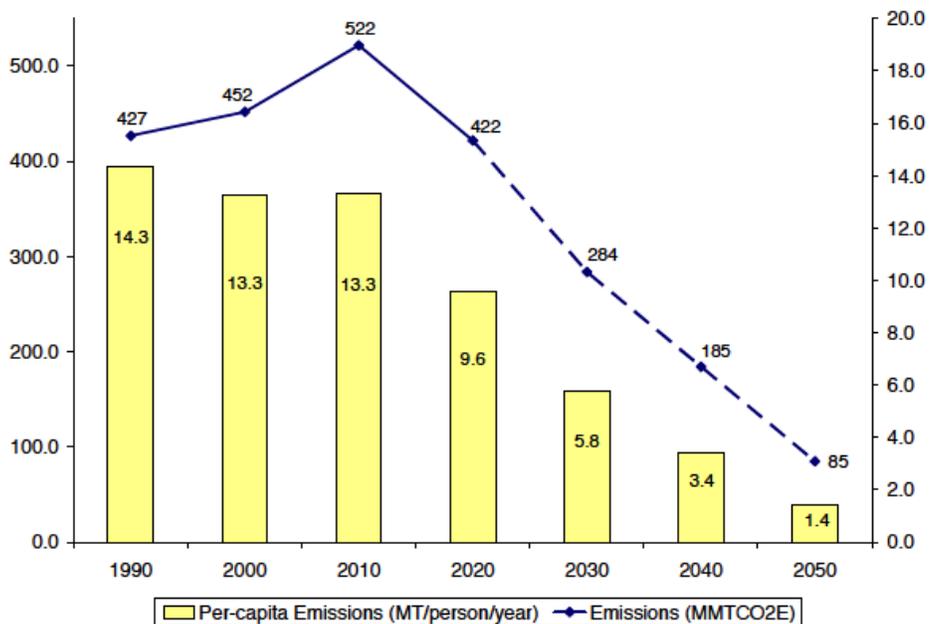
It appears clear that the current unfortunate “Silo” situation, in so many proceedings and processes, is creating a situation where the multitude of Parties are planning based on using the same very limited Carbon Emissions Allowances, and planning the use of resources that would have a normal retirement date far beyond the point where there will be sufficient Allowances to facilitate those resources being rational. There is no need to use those resources so heavily, if at all, if rational and effective planning is done now. Not only does such unfortunate use create a planning failure, it will waste ratepayer monies in likely stranded costs, and fail to return the substantial values to the ratepayers that are possible. Planning and procurement processes need to more effectively use the mass of cost effective zero carbon sustainable resources that are available, if the proper infrastructure, policies, and related implementation support is put into place, now.

While we appreciate and respect the substantial progress, particularly in the recent 2012 LTPP Decision of February 13, 2013, the follow-up on steps are clearly lagging, and the start of success will be lost, if the focus and planning processes are not more clearly focused on the needs of through 2050. Outstanding solutions are available to facilitate great success, if only the current planning and processes are adjusted to facilitate an early near zero carbon future, ASAP.

II. INTRODUCTION.

It is essential that substantial near-zero carbon new generation be utilized widely instead of fossil generation in order to meet ARB GHG Emission Goals of reducing Emissions by 80% by 2050. Elimination of the need for new fossil generators, regardless of how efficient they may be, is essential in order to avoid substantial post-2020 stranded costs from the fossil generators that would be expected to operate beyond 2040 and 2050. These fossil assets would likely be under-utilized due to environmental constraints with escalating costs of emission allowances.

California's Adopted Carbon Emissions Reduction Goal through 2050¹ **(Possible with meaningful integration of Cost-Effective Bulk Energy Storage)** **(Not possible under electric sector business as usual)**



¹ California Air Resources Board (ARB) Scoping Plan: <http://www.energy.ca.gov/2009publications/ARB-1000-2009-009/>

With a 100+ year project life, bulk energy storage systems are able to offer a very cost-effective alternative to fossil procurement, ultimately providing the ratepayers with a cleaner more cost-effective energy supply. Optimized Bulk Energy Storage Systems can now provide a Firm Renewable Product that maximizes the system value of the renewable energy and creates dispatchable firm capacity, with very low or no carbon and very high renewable content.

Even when bulk energy storage is not directly integrated with renewables, there is substantial CO2 emissions reduction, and increased economic value, by simply charging during off-peak hours and nominally increasing the capacity factor of the most efficient CCGTs that will be economically dispatched to match this need. This avoids the on-peak emissions of the otherwise dispatched gas capacity that is higher polluting due to its very high heat rate, and inefficient dispatching cycles. There can be a net emissions reduction even when considering the round-trip efficiency loss of pumped hydro storage. Bulk energy storage expands the flexible capacity available to the electric system by utilizing the most efficient energy qualities of the existing generation fleet.

III. ARB 2050 EMISSIONS REDUCTION GOALS: THERE IS A VERY LARGE NEED FOR FIRMED AND SHAPED NEAR ZERO-CARBON ENERGY

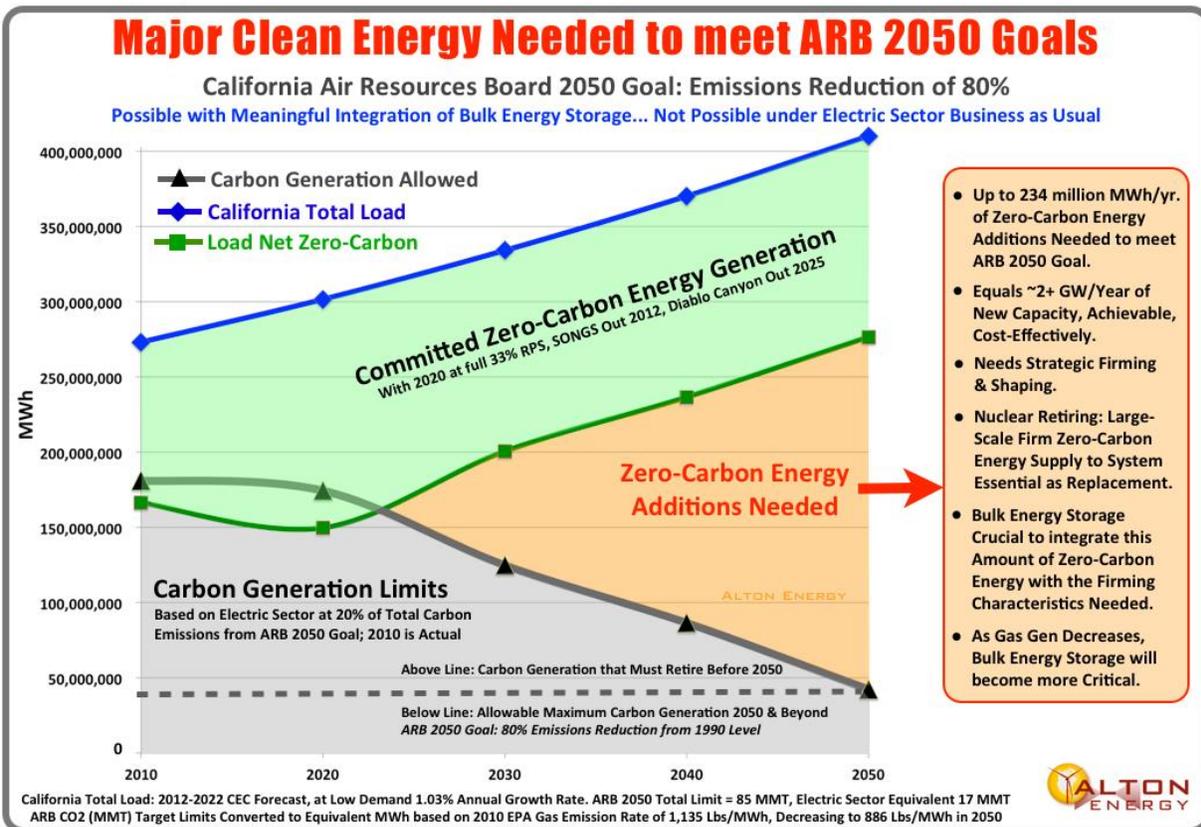
Emissions reduction needs to be a critical core driver behind the architecture of any meaningful Procurement Planning. It is nearly impossible to meet the ARB 2050 Goal without substantial and continued integration of carbon-free wind and solar that is firmed and shaped by large utility-scale Bulk Energy Storage.

Alton Energy submits the below graphic to demonstrate the massive scale of the zero-carbon energy that is needed through 2050.² The need is reasonably well accommodated through 2020 by the existing supply of Hydro and Nuclear, in combination with existing and committed renewable generation.

However, from 2020 to 2050, the need for additional new zero-carbon energy generation is substantial, about ~234 million MWh/year by 2050, requiring over 2,000 MW of new capacity per year (wind and solar, with storage) to meet this widening gap. There are limited viable solutions to meet the

² Alton Energy Analysis of ARB Emissions Goals through 2050, added to multiple past CPUC filings by Alton Energy

increasingly stringent ARB 2050 Emission Goals. However, such is possible with meaningful integration of bulk energy storage coupled with clean zero-carbon energy (wind + solar), but it will not be possible under Business as Usual. If gas power continues to be procured as the default, the emissions impact will preclude the possibility of reaching ARB 2050 Emissions Reduction Goals and cause substantial stranded cost from the gas generation as Procurement Planning awakens and shifts to a zero-carbon focus.



The renewable energy (in the Green Band in the above chart) is currently being integrated at low costs by coordination with Hydro Generation, and with CCGT and CT Gas Turbines (included in the Carbon Generation band of the graphic). Although it has been argued in CAISO and CPUC Forums that the 33% RPS generation in the system by 2020 may be adequately integrated with existing system resources, this perspective fails to adequately consider longer-term ARB 2050 Goal impacts. As California progresses down the path to reduced carbon emissions in the generation mix, it becomes clear that the ability of gas turbines to respond to the increasing need to integrate intermittent renewables will be extremely limited, and very expensive.

Bulk Energy Storage, and specifically Pumped Hydro, is the most cost-effective, proven, reliable

technology to meet this need. However, there are major market barriers that prevent bulk energy storage from being built in California, and until such barriers are removed there will not be energy storage of the magnitude that is needed to help transform the electric sector to meet ARB Goals. Time is of the essence.

Allow Energy Storage with Firm Low Carbon Energy to Compete

Recent events, particularly the unexpected, unplanned, early retirement of the SONGS Nuclear Generating Station in Southern California, along with the planned retirement of most of the nearly 17,000 MW of Once Through Cooling (OTC)³ Coastal Impacting generators creates a substantial need for new generation. The big question being addressed now is: How will the needed generation capacity be procured? With Storage-Firmed Wind and Solar; or with new Natural Gas fired Combustion Turbines that will preclude the needed emissions down-ramp toward ARB Goals?

It has now been demonstrated in multiple Proceedings that California will have an increasing Flexible Capacity need, and the requirement for Fast-Ramping characteristics for an evolving electric grid, with details being defined. Most importantly, there is an urgent need to drastically cut the carbon emissions of our future power sector. Bulk energy storage, plus intermittent renewables, is the only well proven technology to achieve these goals cost-effectively. Such must be allowed to compete in the actual procurements for needed energy and capacity in California.

California does not need new carbon emitting resources if we can accelerate the integration of the next generation near zero carbon solutions able to offer the equivalent operational characteristics, and be most cost-effective. Any procured new gas generation should be limited in quantity, short in contract duration, and of extremely high efficiency.

IV. INFRASTRUCTURE NEEDS TO SUPPORT NEAR ZERO CARBON ENERGY

There are a number of relatively low cost, but very high impact infrastructure upgrades and changes that can be made that will facilitate the most cost effective utilization of California's substantial near zero carbon sustainable energy resources.

³ http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/

Extend and Integrate the LA Basin Local Capacity Area by more effectively utilizing already in place infrastructure, and increase its effectiveness by focused upgrades and additions. Others have discussed the West LA Basin infrastructure upgrades, but some additions to what is being discussed would likely be very beneficial. Upgrading Pardee, in addition to Mesa, from 230 KV to 500 KV, utilizing already built 500 KV lines to Pardee, and link Pardee to Mesa. In addition, any additional upgrades to include Antelope, Whirlwind, and Windhub 500 KV Substations (already linked to Vincent and Pardee) such that the LA Basin Local Capacity Area includes the massive Zero Carbon Resources interconnected at these substations, along with the substantial potential early pumped storage from these same substations, recognized in the CPUC Storage Proceeding, but so far being excluded from the current limited scope of procurement in that proceeding. Effectively utilizing these resources, coupled with a variety of planned zero carbon development, can fill the needs being suggested for gas fired generation, causing needless carbon emissions, with so many negative consequences on California

In the West LA Basin there are massive infrastructure assets in place belonging to both SCE and LADWP, however, these resources are far too loosely integrated, and we believe it is very likely that California would benefit by much tighter integration within the LA Basin of these two sets of infrastructure, and would allow far greater cost effective delivery of zero carbon energy into the LA Basin, instead of the large amount of new Gas Fired, Carbon Emitting Generation that is being simply assumed, without a rational and meaningful evaluation of the benefits of utilizing the much cleaner, likely lower cost, zero carbon energy, firmed and shaped by pumped hydro storage, that can be made available via these improved infrastructure, if the focus on the future is shifted to achieve the needs of 2030, 2040, and 2050 more effectively.

ALTON ENERGY, INC.

/s/

Jonathan Word
Director of Strategic Operations
ALTON ENERGY, INC.

Date: July 29, 2013

Alton Energy, Inc. Overview

Alton Energy is a California Developer of Near Zero Carbon Sustainable Energy Projects. The Alton Team was the Originating Developer Team of the Alt Energy Center in Tehachapi, now the worlds largest on line and operating wind project, generating substantial zero carbon energy in California. The Team was also very active and heavily involved with the TRTP 4,500 MW Transmission Project. Team members have been recognized by AWEA with a Lifetime Achievement Award, a Technical Achievement Award, and an Operating Achievement Award, and by UWIG with a Transmission Achievement Award. The Team has a long history contributing to the successful implementation and successful operation of clean energy in California.

Going forward, Alton has a development pipeline that can deliver over 10 million MWh of firm dispatchable zero carbon energy to serve California Loads, and to help provide the needed Flexible Integration of clean energy, in the low carbon years 2030 and beyond.