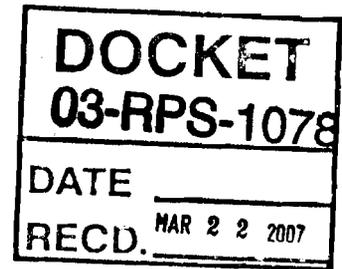


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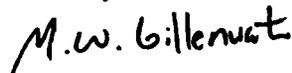
California Energy Commission  
Dockets Office, MS-4  
Re: Docket No. 06-IEP-1c and No. 03-RPS-1078  
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*RE:* Comments on the Committee Workshop on Incentives for Wind Repowering and Best Practices for Coordinating RPS with Carbon Market Design (Tuesday, March 13, 2007)

Integrated Energy Policy Report (IEPR) Committee:

Thank you for this opportunity to comment on the workshop referenced above. We were unfortunately unable to attend, but offer input to your questions listed in the workshop's Attachment A, under the heading **How should the RPS relate to a Future Carbon Market for California?** We will be brief and address our comments to each specific question below. We are currently working two papers that will address the issues your questions raise in much greater detail. Drafts of these papers should be available in roughly two months, at which time we would be happy to share them with your committee.

Sincerely,



Michael Gillenwater



Clare Breidenich

**Responses to questions:**

**How should the RPS relate to a Future Carbon Market for California?**

6. What is the relationship between regulatory programs and mandates for renewable energy, such as RPS programs or Renewable Energy Standard (RES) targets, and greenhouse gas emission reduction mechanisms operating or under development in other states and countries?

As you surely know, this is an enormously complex question. We will be addressing this issue in detail in forthcoming publications. A central issue is that renewable energy policies such as an RPS are a “second best” option for achieving greenhouse gas (GHG) emissions abatement. There has been some experience with coordinating and integrating renewable policies and GHG policies within and across jurisdictions within the European Union, and that experience can be instructive. RPS quotas and emission caps can work together to achieve emissions mitigation, but they must be coordinated and leakage issues within both schemes addressed, or regional approaches will only subsidize mitigation outside the region.

- a. Are there any circumstances in which a REC is used for RPS (or RES Target) compliance? If so, can it also be used in regulatory carbon markets? Does such an approach work well or can it be improved?

A REC is a tracking instrument and is not equivalent to an emission allowance. It is also important to distinguish direct emissions associated with generation facilities with the indirect emission reductions claims made within the REC markets and under the ambiguous REC definitions employed within both compliance and voluntary markets. We are currently developing a proposal on how to implement a load based cap and trade approach that can be integrated with an RPS. More information on the details of this approach will be available in the coming months in a discussion paper by myself and Clare Breidenich.

- b. Should the allowable cap for GHG emissions be reduced to account for the amount of renewable energy required by RPS targets? If so, how should it be done? What are the pros and cons of this reduction?

Yes. As in Europe, renewable targets and GHG targets can function separately, although emissions caps and RPS quotas should be set in a coordinated fashion. An RPS can best be seen as a mechanism by which to help meet an emissions target. Therefore, in setting a load-based cap for the electricity sector, policy makers should include the level of emission reductions expected under the RPS.

7. Where unbundled RECs are allowed to meet RPS program requirements, how is the resulting net energy treated for GHG emission reduction purposes?

This question has been debated and addressed under the California Emissions Performance Standard (EPS). As in Europe, the only practical approach that avoids conflicts between renewables and GHG policies as well as allowing markets to operate efficiently through the trading of unambiguous environmental commodities, is to follow the decision under the EPS. Thus, the treatment of null energy resulting from the unbundling of RECs depends on how certificates are incorporated into a load based cap and trade system. Under the approach that we will propose, null power should be assigned the same default emission rate as other system power. Our paper will include an approach to best address these issues, including the appropriate emission rate for system power, through the design of a load based cap in our forthcoming paper.

8. How should renewable energy used for RPS compliance be treated in a future regulatory carbon-market for California? How should RECs retired to show compliance with California's RPS be treated for carbon reduction mandates/markets?

As has been partially illuminated in the debated over the EPS, there are fundamental problems with the concept of including all indirect environmental attributes in a REC. Again, these problems have been resolved in Europe and under the U.S. SO<sub>2</sub> and NO<sub>x</sub> trading programs. Instead, only the direct emissions, if any, of renewable energy should be tracked for compliance purposes in RECs. When a load-serving entity surrenders RECs or other certificates to meet its RPS requirements, the direct emission rate of those RECs (which will be zero or minimal) should be applied to the corresponding load in order to calculate the LSEs emission burden under the carbon cap.

California's current definition of a REC and environmental attributes is incompatible with a load-based carbon market. To be applicable in a load-based carbon market, a certificate should track the direct emissions associated with electricity generation. Then an LSE purchasing and retiring a quantity of certificates can use the REC's emission rate for the corresponding load.

Shortly, we will propose a tradable certificate approach to a load based cap and trade scheme that will incorporate RECs into GHG markets through an unambiguously defined commodity that will directly provide economic incentives for renewable energy investments.

9. The Regional Greenhouse Gas Initiative (RGGI) plans to allocate a specified percent of CO<sub>2</sub> allowances to a public goods charge fund, with the proceeds from the sale of these allowances used to provide incentives for energy efficiency and renewable energy.

- a. Should California adopt a similar mechanism?

Yes if a generator-based cap and trade system is adopted. As work by RFF has shown, a portion of allowances should be auctioned and these funds directed to energy efficiency investments, especially to address the regressive nature of increased energy costs. We

have also seen in Europe, that if all allowances are grandfathered, that generators capture windfall profits.

No if a load-based cap and trade system is adopted. Under the RGGI system, allowances are distributed to generators. These generators receive windfall profits from free allocation, and generators have no incentive or ability to stimulate energy efficiency and renewable energy. Under such conditions, a public good set aside was desirable to reduce windfall profits and promote energy efficiency and renewable energy. Conversely, under a load-based approach, which California is pursuing, allowances are distributed directly to the load-serving entities. A public-good set aside is not necessary under a load-based cap because the cap itself encourages the LSEs to enhance investment in energy efficiency and renewables. Further, the regulation of retail electric rates limits the windfall profits to LSEs.

- b. The RGGI model rule also addresses how to allocate allowances to accommodate the voluntary market for renewable energy, where RECs are marketed as an option for individuals, events, and businesses to reduce their net carbon emissions.

- o How large is the voluntary market in California?

Estimates may be available from Lori Bird and Blair Swezey at NREL.

- o Is the voluntary market likely to affect the regulatory market? How?

As we have seen in the SO<sub>2</sub> and NO<sub>x</sub> allowance markets, the voluntary market has had very minimal impact on emission reductions once stringent caps are in place that put a significant price on pollutant emissions that far exceed transaction costs. The volumes of SO<sub>2</sub> and NO<sub>x</sub> allowances voluntarily retired are insignificant. The voluntary GHG market and REC markets may be different. Consumers' willingness to pay for the public good of GHG emission reductions may be higher than for acid rain or ground-level ozone pollutant reductions. But several studies indicate that once government takes significant actions, voluntary measures that voluntary measures significantly diminish as the public assumes the problem is now being addressed. Voluntary green power markets in Europe, however, continue to grow despite the implementation of the EU-ETS. However this policy has yet to produce a significant price signal in the emissions market due to the Phase I over-allocation problem.

- o Should California adopt a similar mechanism? Why or why not?

Again, a distinction must be made between a generator-based system and a load-based system. Under a generator-based system such as RGGI, renewable energy is by definition outside the cap. The RGGI model rule allows states to create set asides for voluntary RECs. However, no state that has announced its allocation decision intentions has indicated that it intends to use this provision. The important point with the design of this provision is that it does not change the cap. It is simply an allocation option within the

cap. For any state that chooses to use this provision, it is unclear what eligibility requirements regulators would use for RECs to be awarded allowances from this set-aside. One could easily see a flood of claims by voluntary market REC purchasers if eligibility was unrestricted. Additionality tests for new renewable generation capacity investments would be needed before a set aside allocation was made if this provision was to have a significant impact. It would also present an interesting way for individual parties to obtain additional allowances while circumventing a project offset crediting process. I for one would immediately purchase a number of RECs on the voluntary wholesale market for 50 cents a MWh in hopes of cashing in later when allowances are allocated.

Conversely, under a load-based system, in-system renewable energy is covered by the cap, and must therefore be accounted on the emission side, not the allowance side. So the question of allocating allowances for voluntary market RECs is moot, since generators generally should not get an allocation. Instead, the question should be whether voluntary purchases of REC can be double counted by an LSE when calculating its emission burden. If consumers are given access to the REC market, then they can purchase and retire RECs, thereby removing them from the market and preventing LSEs from being able to count this renewable generation toward the emissions associated with their load.

California should not adopt a similar mechanism.

10. As California moves forward to implement AB 32 and Executive Order S-20-06, what are the advantages and disadvantages of allowing the IOUs to meet post-2010 RPS requirements with unbundled RECs?

We will be addressing the advantages in our forthcoming discussion paper. Key disadvantages include addressing issues with electricity imports and exports, more flexibility for small LSEs (e.g. community choice aggregators), and additional finance options for renewable investors.