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**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to
Develop Additional Methods to
Implement the California Renewables
Portfolio Standard Program.

Rulemaking R.06-02-012

**POST-WORKSHOP COMMENTS OF THE GREEN POWER INSTITUTE
ON TRADABLE RENEWABLE ENERGY CREDITS**

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Introduction

Pursuant to the October 16, 2007, *Administrative Law Judge's Ruling Requesting Post-Workshop Comments on Tradable Renewable Energy Credits*, the Green Power Institute (GPI) respectfully submits these *Post-Workshop Comments of the Green Power Institute on Tradable Renewable Energy Credits*, in Proceeding R.06-02-012, **Order Instituting Rulemaking to Develop Additional Methods to Implement the California Renewables Portfolio Standard Program.**

In these *Post-Workshop Comments*, we address the major issues presented in the ALJ's *Ruling*, including the basic characteristics of a market for unbundled, tradable RECs, the staff straw proposal for REC trading in California, REC attributes and the definition of a REC, and an improved contract standard term and condition regarding the REC.

Proposed Guiding Principles

Pages 2 – 3 of the ALJ's *Ruling* present a set of eight proposed guiding principles for the implementation of REC trading within the context of the California RPS program. We agree with most of the proposed principles, but we question the applicability of proposed principle no. 2: "REC trading should result in minimal disruption to the current RPS program." Of course, we are not in favor of disrupting the current program. Our point is that the transition to an RPS compliance system based on unbundled, tradable RECs is potentially a significant change, and its implementation might very well entail some amount of disruption at the outset. It might also be worth the disruption. It is likely that the Commission will be considering a range of alternatives as it considers the use of unbundled, tradable RECs. The minimization of disruption in the short term should not preclude what might be a superior solution for the long term. We recommend that the proposed second guiding principle for the implementation of a REC trading system be

dropped, at least insofar as implementing a possible one-time major changeover in the overall RPS program compliance mechanism is concerned. We believe it would be better to do it right, rather than to do it poorly but with minimal disruption.

Basics of a Tradable REC Market

WREGIS, RECs, and Implications for Policy

WREGIS, the electronic tracking system for renewable energy that has been developed in response to California Public Utilities Code (PUC) § 399.13, went operational in summer 2007. Beginning in 2008, or at the latest 2009, RECs, in the form of WREGIS Certificates, will become the principal means of demonstrating compliance with the California RPS program. When the state declares that WREGIS is ready to be used, all participants in the state RPS program will be obligated to use WREGIS for the reporting of renewable energy use. In cases where LSEs purchase bundled RECs, the LSEs themselves may hold the WREGIS generator account on behalf of the generator.

It is important to understand the implications that this has for the RPS program in general, and for the current effort to allow the use of tradable RECs for RPS compliance in the state. In particular, and regardless of whether the Commission decides to unbundle RECs, when California RPS compliance becomes based on WREGIS LSEs will demonstrate their renewable-procurement performance for each calendar year by the contents of RECs in their WREGIS retirement accounts. In other words, official adoption of WREGIS will mean that compliance with the RPS will be based entirely on RECs, regardless of whether unbundled, tradable RECs are ever allowed in the state.

WREGIS certificates, or RECs, will carry information about the generator of the renewable energy whose counting rights the certificate represents, such as whether the generator is California certified, the renewable resource used, and the time (month and year) when the energy was generated. However, WREGIS Certificates will not carry any information about their transfer pathway from their creation in a generator account to their retirement in an LSE retirement account, nor will there be any way to identify, from the

information on a WREGIS Certificate, whether it has ever been transferred separately from its underlying energy, or whether it has remained bundled. What this means, in essence, is that if California RPS rules require that some percentage of bundled RECs be present in an LSE's retirement-account holdings, compliance and verification with that particular rule will have to be performed outside of WREGIS. WREGIS cannot distinguish between bundled and unbundled RECs, nor do WREGIS Certificates contain their transfer history prior to retirement. Therefore, any compliance rules requiring such information will have to be monitored and verified outside of WREGIS.

Basic Economics of REC Markets

It is the opinion of the GPI that regardless of what decisions the Commission makes regarding the unbundling of RECs in the California RPS program, the dominant form of contracting for renewable energy supplies will continue to be via the use of long-term contracts for bundled energy and RECs. These are the type of contracts that the RPS program promotes, and without the RECs, LSEs do not gain the counting rights to the renewable energy. It is doubtful indeed that California LSEs will have much of an appetite for null energy over the next several years that they cannot count towards their RPS obligations.

Dr. Jurgen Weiss presented a very useful review of the economics of REC markets at the REC Trading Workshops in September. We wish to comment on a couple of points that he made, in the context of question nos. six and seven on page 7 of the ALJ's *Ruling*.

(6) If demand for tradable RECs for RPS compliance exceeds supply in the California REC market (at least in the near term), do you agree with Dr. Weiss's analysis that REC prices would tend to float to the RPS penalty amount (\$50/MWh)? Would prices float to any other price cap the Commission might implement?

We believe that the demand for RECs of all varieties in California, bundled or unbundled, will exceed the supply for the foreseeable future. That being the case, it is indeed likely that prices for RECs that are traded under short-term contracts and on the spot market will float toward the RPS penalty amount. However, there is an important potential twist

that might occur in the California market that is worth noting, due to the particular penalty structure that was adopted in D.03-06-071. The penalty for under-procurement of renewables is set at \$50 per REC, but it is also capped at \$25 million per year for each LSE. If a particular LSE has a deficit of greater than 500,000 RECs in a given year, it suddenly has no motivation at all to acquire any last-minute tradable RECs for that compliance period. It is entirely possible that one or more California LSEs will find themselves to be in that position over the coming years, and should this indeed be the case, there could be large swings in the overall demand for short-term RECs in California, with concomitant effects on short-term REC prices.

The price of tradable RECs on the short-term and spot markets will tend to trend toward the penalty-value level when the supply is limited compared to demand. If the Commission adopts a lower price cap on the amount that a utility can recover for a REC purchase that is lower than the penalty value, as is proposed in the staff straw proposal, then the short-term REC price will trend toward the price-cap. However, tradable RECs that are traded subject to medium- and long-term contracts will not show the same tendency to be priced at the penalty value, and should short-term REC prices indeed approach the penalty value, that would not be likely to have an effect on the prices of long-term, bundled RPS contracts. Those contracts have their own tendency to price towards the expected MPR, plus a possible premium for green based on the old SEP paradigm. That will not change as a consequence of whatever happens to short-term tradable REC prices in the state.

(7) Dr. Weiss presents an analysis of REC markets showing a bimodal pricing distribution, colloquially referred to as "boom-bust" pricing.

Dr. Weiss's analysis is geared to a market in which REC trades are all short-term in nature, and RECs have to be retired in the same year in which they are generated. California's system is already more sophisticated than that. California allows unlimited forward banking of over APT-procurement of renewables, and three-year backwards application. Increasing the temporal range of the usefulness of RECs tends to temper the

bimodal pricing structure, a fact that Dr. Weiss agreed with when asked about it during the September workshops. In addition, long-term contracts for RECs are not subject to the same boom-bust pricing tendencies as are spot prices for RECs. The bimodal pricing distribution tends to be a part of a short-term REC trading market, but there are ways to modulate that tendency, many of which involve the introduction of longer-term participation in the marketplace.

Staff Straw Proposal

The staff straw proposal, Attachment E to the ALJ's *Ruling*, provides the basic framework that is necessary to move forward with unbundled, tradable RECs in California's RPS program. In our opinion the staff straw proposal is more restrictive than it needs to be in a couple of areas, but it certainly moves the process forward, and provides the basis for the initiation of a tradable RECs market in the state.

Usage Limits on Tradable RECs

As we have asserted on a number of occasions in this proceeding, our belief is that, as a matter of principle, if an LSE acquires a California-certified REC, it ought to be able to count it towards its RPS obligation. We would prefer that there be no limits on the use of tradable RECs, but we recognize that the limits proposed in the straw proposal, which appear to be modeled on the limits the Commission has previously imposed on the use of short-term RPS contracts, are not onerous. We note that the WREGIS certificates (RECs) that LSEs offer in their retirement accounts towards an RPS obligation will not identify whether these certificates have ever been unbundled or traded. That will have to be tracked and verified, if the rules require this kind of information, outside of WREGIS.

Forward Banking of RECs

The Commission's original RPS Decision, D.03-06-071, permitted unlimited forward banking of over-procurement of renewable energy, a position that had broad support among the parties at the time of its enactment. We see no reason to change the rules on forward banking simply because RECs are allowed to be unbundled from their underlying

energy, and become tradable in their own right. We see no downside to the forward banking of RECs. There is no lack of demand for RECs in the California marketplace today, and their value is capped at the level of the under-procurement penalty, or lower, if the staff straw proposal is enacted with its proposed price cap (see below), so there is no motivation to hold onto RECs as long-term speculative instruments. We note that WREGIS certificates are permanently date stamped with respect to the month and year in which they are generated, and they never expire. Thus, WREGIS imposes no constraints at all on the forward banking of RECs.

For the foreseeable future any concerns about forward banking of RECs would apply only to SDG&E, since the other IOUs, and most or all of the ESPs, are already being more than challenged to meet their current RPS procurement targets. SDG&E is the only LSE that has managed to get ahead of the curve with respect to its procurement targets, an achievement that we believe should be rewarded. They, like all California retail providers, face a considerable challenge in achieving full RPS compliance in 2010, and it appears unlikely to the GPI that they will be able to continue to generate an annual surplus of renewable procurement beyond 2009. In our opinion, concerns about forward banking of RECs, whether bundled or unbundled, are misplaced.

Earmarked Contracts

We commend the staff straw proposal for prohibiting LSEs from unbundling the first year of a bundled contract if it has been previously set aside for RPS earmarking. We urge that the Commission add a provision to the staff straw proposal to continue to prohibit unbundling of these contracts in subsequent years if the LSE is out of compliance with its current RPS obligations.

Price Cap

The GPI questions whether consumers are truly better served by having the Commission impose a price cap on the cost that can be recovered for a REC at \$35 per REC, when the penalty for under procurement is \$50 per MWh of deficit. Although we understand the

technical difference between cost allocation to customers vs. shareholders, we do not see how the customer is better served if the utility is forced to pay a \$50 fine for under-procurement of a REC in lieu of buying a REC for \$40 (assuming it is available), and thereby achieving its procurement obligation. We believe that it is in the best interest of the ratepayers to see their LSEs achieve their RPS programmatic obligations.

REC Attributes

Section 3 of the ALJ's *Ruling* on REC Attributes begins:

The possible development of a market for tradable RECs for California RPS compliance and the development of methods for compliance with AB 32 bring into sharp focus the importance of understanding all the attributes of a tradable REC. (*Ruling*, pg. 11.)

The Green Power Institute could not agree more. We have been urging the Commission to affirmatively define the suite of attributes that make up a California REC since the beginning of the implementation of the RPS program in 2003. This suite of attributes should include everything that a retail provider needs to acquire in order to comply with its RPS procurement obligations.

SB 107, which was enacted into law 2006, provides the statutory authority for the definition of a REC in California:

PUC § 399.12 (g) (1) "Renewable energy credit" means a certificate of proof, issued through the accounting system established by the Energy Commission pursuant to Section 399.13, that one unit of electricity was generated and delivered by an eligible renewable energy resource.

PUC § 399.12 (g) (2) "Renewable energy credit" includes all renewable and environmental attributes associated with the production of electricity from the eligible renewable energy resource, except for an emissions reduction credit issued pursuant to Section 40709 of the Health and Safety Code and any credits or payments associated with the reduction of solid waste and treatment benefits created by the utilization of biomass or biogas fuels.

WREGIS is the renewable energy tracking system established by the Energy Commission pursuant to §399.13. WREGIS will do its job by tracking RECs, which represent the exclusive counting rights to a unit (1 MWh) of renewable energy production at a

generating facility that is registered and certified as California-eligible by the CEC. The REC is the unit of currency for the California RPS program. A REC can be used to demonstrate compliance with a retail seller's RPS program obligation, or for the making of verifiable green-content product claims. All RECs are exactly the same insofar as counting them towards an RPS program obligation is concerned, and RECs cannot be split into individual components within the context of WREGIS (WREGIS tracks only whole RECs). The California RPS program treats all renewables equally, in order to promote competition and deliver renewable energy at the lowest possible cost to consumers. This principle should also be applied to the definition of a REC. In order for all California RECs to be interchangeable, and for RECs to be usable as the currency for the state's RPS program, all RECs must be identical in terms of what they contain, and what they represent.

This leaves open only the question of exactly what it is that a REC must contain in order to count in the California RPS program. Section 399.12(g)(2) of the California Public Utilities Code states that the REC includes all "renewable and environmental attributes" of renewable energy, without providing a definition of the term "renewable and environmental attributes." The relevant sections of Code from the original RPS legislation, SB 1078, provide the following guidance as to what the intended benefits are for the RPS program:

PUC § 399.11. The Legislature finds and declares all of the following:

(a) In order to attain a target of generating 20 percent of total retail sales of electricity in California from eligible renewable energy resources by December 31, 2010, and for the purposes of increasing the diversity, reliability, public health and environmental benefits of the energy mix, it is the intent of the Legislature that the commission and the State Energy Resources Conservation and Development Commission implement the California Renewables Portfolio Standard Program described in this article.

(b) Increasing California's reliance on eligible renewable energy resources may promote stable electricity prices, protect public health, improve environmental quality, stimulate sustainable economic development, create new employment opportunities, and reduce reliance on imported fuels.

(c) The development of eligible renewable energy resources and the delivery of the electricity generated by those resources to customers in California may ameliorate air quality problems throughout the state and improve public health by reducing the burning of fossil fuels and the associated environmental impacts and by reducing in-state fossil fuel consumption.

In other words, California statute explicitly specifies the following goals for the RPS program:

- Increase the diversity, reliability, public health, and environmental benefits of the energy mix
- Promote stable electricity prices, protect public health, improve environmental quality, stimulate sustainable economic development, create new employment opportunities, and reduce reliance on imported fuels.
- Ameliorate air quality problems throughout the state and improve public health by reducing the burning of fossil fuels.

In order to provide these benefits, the REC must contain all of the attributes of renewable electricity production in the areas of energy diversity, reliability, price stability, local economic development, and improved public health and environmental benefits, especially as they relate to the displacement of fossil fuel use. These attributes are common to all California RPS-eligible renewable energy. Renewable generators whose associated RECs are used to demonstrate RPS program compliance, or to substantiate a green product claim, should not be able to make any additional claims of saleable or usable benefits, credits, or offsets from their production of renewable electricity in any of these areas:

- Energy Diversity
- Energy Reliability
- Energy Price Stability
- Economic Development
- Fossil Fuel Displacement

All types of qualifying renewables in California provide a roughly equal package of these kinds of services on a per-MWh of renewable electricity-produced basis. These are the renewable and environmental attributes that should be included in the definition of a REC. Moreover, a REC that includes these attributes is essentially the same, regardless of the

renewable resource from which the REC was generated, consistent with its role as the unit of currency for the RPS program. It is also fully consistent with PUC § 399.12(g)(2), quoted above.

PUC § 399.12 (g) (2) points out that the waste reduction and waste treatment services that are provided as ancillary services by the production of energy from biomass and biogas fuels are **not** attributes included in the REC. Of particular importance to the bioenergy industries is that energy production from biomass and biogas, in virtually all instances, reduces the net biogenic greenhouse gas emissions associated with waste disposal. To the extent that the net benefits (net negative greenhouse gas profile) regarding biogenic greenhouse gases can be demonstrated, consistent with greenhouse gas accounting protocols currently under development in the state, and packaged into saleable commodities such as greenhouse gas offsets, these offsets are not part of the REC, and are the property of the generator, unless or until explicitly transferred to another party by contract. Including these offset credits as a component of bioenergy RECs would mean that bioenergy RECs would be fundamentally different (more valuable) than other RECs, a circumstance that would be inconsistent with the rules, procedures and goals that have been established for the California RPS program, and patently unfair to the bioenergy generators. It would also be self-defeating because it would remove incentives to develop new biomass and biogas generators, and because in any case it is questionable whether LSEs retiring these RECs would be able to provide any additional benefit to its ratepayers as a result of the offsets being attached to the bioenergy REC.

In 2004 the Commission adopted a set of standard terms and conditions for PPAs resulting from RPS solicitations (D.04-06-014) that included a non-modifiable term on “Definition and Ownership of RECs.” In response to AB 107 the Commission modified the term on Definition and Ownership of RECs (D.07-02-011, D.07-05-057), resulting in the language shown in Attachment F-2 to the ALJ’s *Ruling*. As it currently stands, the Commission’s standard term on Definition and Ownership of RECs begins:

“Green Attributes” means any and all credits, benefits, emissions reductions, offsets, and allowances, howsoever entitled, attributable to the generation from the Project, and its displacement of conventional Energy generation. Green Attributes include but are not limited to: Renewable Energy Credits, as well as:

Green Attributes is a new term that is introduced in this text presumably to represent the “renewable and environmental attributes” that are referred to in PUC § 399.12(g)(2) as the necessary ingredients of a REC. The definition in the standard term and condition goes on to explicitly claim a list of avoided emissions categories as components of Green Attributes, all of which are related to the avoidance of fossil fuels by the production of the renewable energy. The definition then explicitly **excludes** certain attributes from the set of Green Attributes that make up the REC, including the following:

(iii) fuel-related subsidies or “tipping fees” that may be paid to Seller to accept certain fuels, or local subsidies received by the generator for the destruction of particular preexisting pollutants or the promotion of local environmental benefits, or (iv) emission reduction credits encumbered or used by the Project for compliance with local, state, or federal operating and/or air quality permits. If the Project is a biomass or landfill gas facility and Seller receives any tradable Green Attributes based on the greenhouse gas reduction benefits or other emission offsets attributed to its fuel usage, it shall provide Buyer with sufficient Green Attributes to ensure that there are zero net emissions associated with the production of electricity from the Project.

Although stated in a somewhat convoluted manner, this text, in effect, enacts the exclusions in §399.12(g)(2) for §40709 emission reduction credits, and for credits associated with the reduction of solid waste and treatment benefits associated with bioenergy production. One gaping oversight in the exclusion in the standard contract term is that it lists “biomass or landfill gas” facilities, instead of the “biomass or biogas” facilities that are named in the statute. This unfortunate oversight places the status of biogas-from-manure projects in something of a legal limbo, and should be corrected forthrightly (see below, Standard Terms and Conditions). A more extensive rewriting of the definition would certainly help to clarify its meaning across the board.

We address here the questions on REC attributes posed on pages 12 – 13 of the ALJ’s *Ruling*:

(1) With respect to biogas that is an RPS-eligible resource, should the benefits of capturing methane in the production of the biogas be included in the attributes of the REC associated with the biogas?

The answer to this question is an unequivocal **NO**. The benefits of capturing and converting the methane in biogas absolutely should **NOT** be included in the attributes of the REC associated with the biogas! If these benefits, which are quite substantial, were to be lumped into the REC associated with energy production from the biogas, then this REC would have a greenhouse gas offset value that would be absent in other renewable RECs, and RECs would no longer be perfectly interchangeable in the California RPS compliance system. Moreover, it is questionable whether bundling this extra component into the biogas REC would be of any value to the ultimate holder of the REC, as the only currently legitimate uses of a REC are to demonstrate compliance with an RPS program obligation, or to make a renewable-content product claim. RECs cannot be split into their individual components, and they should not be usable as offsets or credits in the AB 32 greenhouse gas reduction program (see answer to question 4 below).

The exclusion clause in PUC §399.12(g)(2) explicitly states that “treatment benefits created by the utilization of biomass or biogas fuels” are not part of the REC. The Commission’s defined standard term for RPS contracts explicitly envisions the possibility that biomass or biogas (the text mistakenly states “landfill gas”) facilities might be given greenhouse gas offsets based on their destruction of methane in the fuel. We thought that this particular issue had been settled some time ago. Biomass- and biogas-related attributes upstream of the renewable energy production process are **not** part of the REC.

(2) How should the "net zero emissions" requirement in the last sentence of the Green Attributes definition in Attachment D-2 be applied to the capture of methane to produce RPS-eligible biogas?

Biomass and biogas energy generators emit significant quantities of biogenic greenhouse gases (CO₂) at the power plant, a characteristic that is unique to bioenergy among the renewables. On the other hand, biomass and biogas energy production converts what would otherwise be methane emissions from bioenergy resource handling or disposal into

CO₂ emissions, a major improvement from the perspective of total effective greenhouse gas emissions. Decision D.07-01-039 in the Commission’s greenhouse gas proceeding, R.06-04-009, acknowledges this benefit, finding, on pages 18 – 19:

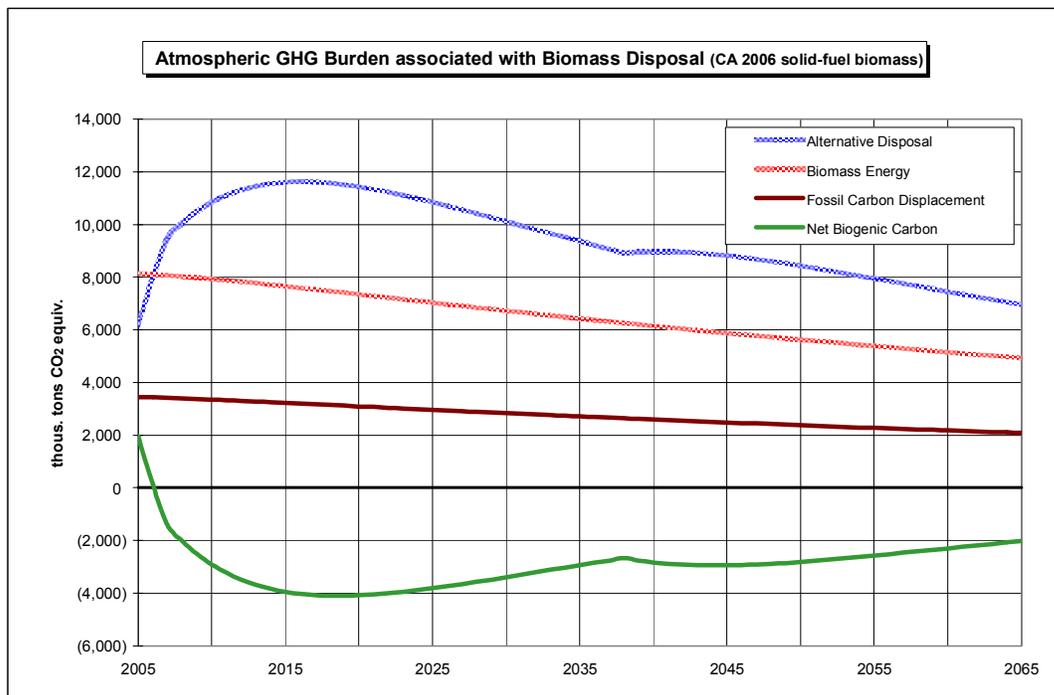
In particular, the record shows that electric generation using biomass (e.g., agricultural and wood waste, landfill gas) that would otherwise be disposed of under a variety of conventional methods (such as open burning, forest accumulation, landfills, composting) results in a substantial net reduction in GHG emissions. This is because the usual disposal options for biomass wastes emit large quantities of methane gas, whereas the energy alternatives either burn the wastes that would become methane or burn the methane itself, generating CO₂. Since methane gas is on the order of twenty to twenty-five times more potent as a GHG than CO₂, and since methane has an atmospheric residence time of twelve years, after which it is converted to atmospheric CO₂, trading off methane for CO₂ emissions from energy recovery operations leads to a net reduction of the greenhouse effect.

The instruction in the standard contract term for bioenergy producers to deliver “net-zero emissions” of greenhouse gases to the REC means that in order for a bioenergy producer to claim greenhouse gas offsets outside of the REC from the use or handling of bioenergy resources, the CO₂ emissions at the power plant must be netted out from the methane emissions that are avoided due to the handling of the fuel, before any offsets are created. We are confident that the accounting protocols for these kinds of offsets, which are currently under development in California, will ensure that biomass and biogas fuel-related greenhouse gas offsets can be created only for the **net** emissions benefits of bioenergy production. That being the case, the RECs generated by biomass and biogas producers will automatically meet the net-zero greenhouse gas emissions requirements of the standard definition of a REC.

The figure below illustrates how this works. In 2005, the California biomass power industry consumed 7.6 million tons (4.6 million bdt) of biomass fuel, and produced 3.95 billion kWh of renewable electricity. The industry emitted slightly over 8 million tons of CO₂ equivalents of biogenic greenhouse gas emissions in 2005 (red curve in the figure), while displacing approximately 3.5 million tons of fossil CO₂ equiv. (brown curve).¹

¹ The calculations in the model understate the amount of avoided fossil fuel emissions because the direct fuel energy that is avoided by the cogenerators in the California biomass fleet is not reflected in the model.

However, had the 7.6 million tons of biomass fuels not been used for energy production, their alternative disposal would have led to the blue curve in the figure, which includes both immediate (e.g. open burning) and delayed (e.g. landfill) emissions of biogenic greenhouse gases. The green curve shows the net impact on biogenic greenhouse gases of energy production from the biomass fuel used in California in 2005 (red curve less blue curve). By two or three years after the year in which the fuel was consumed the energy alternative produces a net benefit in terms of net biogenic greenhouse gases associated with the disposition of the fuel. From ten to twenty years after the year in which the fuel was consumed the energy production option provides a reduction in net biogenic greenhouse gases compared to alternative disposal of approximately 4 million tons of CO₂ equiv., which is in addition to the displacement of 3.5 million tons of fossil greenhouse gas emissions in the year in which the biomass energy was generated, which have decayed to about 3 million tons of CO₂ equiv. twenty years later.



From Morris, *Whitepaper: Bioenergy and Greenhouse Gases*, USFS publication in press.

(3) Should a REC include avoided carbon emissions associated with conventional generation displaced by the renewable generation giving rise to the REC? As a policy matter, why or why not? Please include all factual information necessary to support the policy choice expressed. Identify any assumptions or predictions about AB 32 that are related to the policy preference expressed (e.g., “In a load-based regulatory framework in which emissions reductions from RPS compliance are included in the cap...”) Please also make clear what definition of “avoided emissions” is being used in the response.

(4) In view of the current uncertainties associated with the implementation of AB 32, what are the potential pitfalls, if any, both for the RPS program itself and the interaction of RPS with potential GHG regulatory methods, of determining that a tradable REC used for compliance with the California RPS includes avoided carbon emissions? Of determining that a REC does not include avoided carbon emissions?

Questions 3 and 4 ask a set of highly interrelated questions concerning the interaction of California’s existing RPS program, and the state’s emerging AB 32 greenhouse gas reduction program. We will address these issues together. AB 32 is concerned mainly with reducing atmospheric emissions of fossil carbon in both oxidized (CO, CO₂), and reduced (CH₄, hydrocarbons) forms. Beginning in 2012, fossil carbon emissions (measured as CO₂ equivalents) will have to be retired in conjunction with greenhouse gas emissions allowances that will be created by the state, regardless of whether this requirement is applied to generators, retail providers, or a combination of market participants. Each year the supply of allowances will be ratcheted down, forcing a sector-wide, and concurrently society-wide, decrease in total fossil fuel use.

The definition of a REC in the standard contract term for RPS PPAs states that Green Attributes include but are not limited to RECs, as well as a list of “any avoided emissions” in several categories, including greenhouse gases, that **might** be associated with the REC. The unanswered issue needing to be addressed here is whether, in any case, renewables generators who displace fossil fuel use somewhere else on the grid can claim offset credits for emissions avoidance based on the displaced fossil fuel use. If the answer is yes, then these credits would be incorporated into the standard REC, based on both statute (§399.12(g)(2)), and the standard contract term for RPS contracts. If the answer is no, then the REC would not carry any greenhouse gas emissions offset value based on the

displacement of fossil fuel use, although it would include the generalized attribute of fossil fuel displacement, as it should.

The GPI believes that as a matter of policy, avoidance of fossil fuel use due to renewable energy production, the benefit of accomplishing which is clearly a component of the REC, should **not** result in the creation of any tangible emissions offset credits that append to the REC. To do so would represent a form of double counting of the emissions that are being offset, and would, in effect, cancel the expected environmental gains of the RPS program. In addition, it would compromise the safeguards against double counting that have been built into WREGIS. In order to be counted toward an RPS program obligation or product claim in the state's RPS program, RECs in WREGIS are moved into the claimant's retirement account, which permanently retires the REC from further circulation in the WREGIS system. The retired REC is used once, for a single purpose, which is to be counted as a unit of renewable energy. However, if the REC also has a greenhouse gas offset value, then its retirement might be attributed to two different applications (i.e. counting towards an RPS obligation, and acting as a greenhouse gas offset credit for AB 32 purposes), which would constitute a form of double counting that WREGIS, which is based on whole RECs used only for counting as renewable energy, is not equipped to contend with.

The simplest way to understand how attaching greenhouse gas offset credits to a REC based on the displacement of fossil fuel use is a form of double counting is to consider a simple decision for a retail provider to contract for a block of energy, either from a new renewable generator, or a new fossil generator. If the retailer goes with the renewable option he purchases both renewable energy and the associated RECs, and the fossil generator does not get built. The anticipated emissions from the fossil generator are avoided because the renewable generator is built and the fossil generator is scrapped. This inherent benefit is part of the REC. However, if the state were to determine that the renewable generator should receive emissions offsets based on the avoidance of the fossil generator, then the RECs would acquire greenhouse gas emissions offset credit value, in

addition to its originally intended purpose to serve as counting rights to the renewable energy it represents. These offsets would then permit the emissions somewhere else on the grid of the very greenhouse gases that the renewable generator prevented, thus negating its contribution to the sector-wide reduction of fossil greenhouse gas emissions.

RECs carry no greenhouse gas liabilities of their own. Neither should they be usable as offsets or allowances for the fossil carbon emissions liabilities of the conventional generators or retail providers they displace. RECs can be used for satisfying RPS regulatory program requirements, or for making verifiable renewable-content product claims. They should not be useable for complying with the greenhouse gas emissions requirements of an AB 32 program, or as a greenhouse gas emissions offset, although the production of greenhouse gas-free renewable energy certainly contributes to the state's efforts to reduce sector-wide greenhouse gas emissions. RECs and greenhouse gas certificates are separate and independent entities. A multi-attribute tracking system, such as the NEPOOL system, tracks both. The WREGIS software designers, APX, who are also the NEPOOL developers, report that the WREGIS platform could be used as a launching point for the development of a WECC-wide multi-attribute tracking system, which would be able to track RECs, as well as greenhouse gases liabilities and allowances. However, regardless of how they are tracked, RECs, and greenhouse gas certificates (liabilities and/or allowances), are separate and distinct instruments.

It is important to note that while the acquisition of bundled renewable energy will help retail providers meet both RPS obligations and their greenhouse gas emissions limits by contributing emissions-free energy to their supply mix (load-based point-of-regulation), even though no additional greenhouse gas offset credits are provided, the acquisition of unbundled RECs will help retailers meet their RPS obligations, but the acquisition of unbundled RECs will not provide any help in meeting load-based greenhouse gas emissions limits. Load-based emissions are based on the sources of the energy that are procured to serve load, and unbundled RECs in no way contribute to that process.

Standard Terms and Conditions

At the very least, it is essential to correct the last sentence of the REC definition in the RPS standard contract term and condition for RECs, changing the word “landfill gas” to “biogas” as follows:

If the Project is a biomass or **biogas** ~~landfill gas~~ facility and Seller receives any ...

A more complete overhaul and simplification of the language of the standard term and condition for RECs, adhering to the statutory language, might be as follows:

Proposed Standard Contract Term

Seller hereby provides and conveys all Renewable Energy Credits from the Unit(s) to Buyer as part of the Product being delivered, as such term is described in the applicable Transaction confirmation for the period set forth in such confirmation. Seller represents and warrants that Seller holds the rights to all Renewable Energy Credits from the Unit(s), and Seller agrees to convey and hereby conveys all such Renewable Energy Credits to Buyer as included in the delivery of the Product from the Unit(s).

Proposed REC Definition

“Renewable Energy Credit” means a certificate of proof, issued through WREGIS, that one unit of electricity was generated and delivered by an eligible renewable energy resource. A Renewable Energy Credit includes all renewable and environmental attributes associated with the production of electricity from the eligible renewable energy resource and its displacement of fossil fuel energy use, except for any emissions reduction credits issued pursuant to Section 40709 of the Health and Safety Code, and any offsets, credits or payments associated with the reduction of solid waste and treatment benefits created by the utilization of biomass or biogas fuels. If Seller receives any tradable credits or offsets based on the greenhouse gas reduction benefits attributable to its biomass or biogas fuel use, it shall provide Buyer with certification that its RECs have zero net greenhouse gas emissions, and that its fuel-related offsets or credits are created subject to approved state greenhouse gas emissions reporting protocols. One Renewable Energy Credit represents the counting rights associated with one (1) MWh of energy.

Conclusion

When the CEC and the PUC make the decision to adopt WREGIS as the basis for compliance measurement in the California RPS program, in effect it will convert compliance measurement in the program entirely to RECs, regardless of what decisions

might ultimately be made about allowing the use of unbundled, tradable RECs. Our recommendation is that this is the time to allow the unlimited use of tradable, unbundled RECs, even though we believe that it is unlikely that this will become a dominant practice in the California marketplace. If restrictions are placed on the use of unbundled, tradable RECs, this will require a compliance monitoring activity that is entirely outside of WREGIS, which does not provide information about the bundled or unbundled status of a REC. At the present time in-state delivery of out-of-state generated renewable energy also cannot be tracked in WREGIS, leaving its verification outside of the system, but WREGIS is currently studying building a delivery-tracking capability into the system in order to better serve California's, and several other states' needs. It may not be technically possible to do the same for the tracking of bundled RECs.

Dated November 13, 2007, at Berkeley, California.

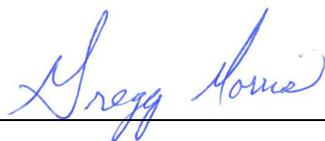
Respectfully Submitted,



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PROOF OF SERVICE

I hereby certify that on November 13, 2007, I have served a copy of the POST-WORKSHOP COMMENTS OF THE GREEN POWER INSTITUTE ON TRADABLE RENEWABLE ENERGY CREDITS upon all parties listed on the Service List for this proceeding, R.06-02-012, and for proceedings R.06-05-027, R.06-03-004, and R.06-04-009, as specified in the ALJ's *Ruling*. All parties have been served by email or first class mail, in accordance with Commission Rules.



Gregory Morris