



Date: August 1, 2008

To: California Air Resources Board

From: Renewable Energy Marketers Association

Re: CARB Draft Scoping Plan – Cap-and-trade Allowance Allocations

The Renewable Energy Marketers Association has reviewed the CARB's Draft Scoping Plan and offers the following comments with respect to the cap-and-trade component of the Plan, and in particular the allocations approach.

The Renewable Energy Marketers Association (REMA) represents the collective interests of both for-profit and nonprofit organizations that sell or promote renewable energy products through voluntary markets, including renewable electricity and renewable energy certificates (RECs), to individuals, companies and institutions throughout North America.¹

The Draft Scoping Plan includes a strong mix of strategies to reduce greenhouse gas emissions, including market mechanisms, regulations and voluntary measures. REMA commends the ARB for the progress it has made to date in integrating such a broad range of policies and programs in a comprehensive plan. The details for each of these strategies must now be fleshed out, and we would like to narrow our comments to the proposed cap-and-trade program and its effect on voluntary markets (as opposed to compliance or RPS markets) for renewable energy.

The ARB's choice of emissions allowance allocation method(s) under the proposed cap-and-trade program will have a direct impact on the sale of renewable energy products through voluntary markets. Accordingly, REMA's members are directly affected by the Board's decision as are thousands of green power customers across California. REMA's comments, therefore, address issues regarding greenhouse gas emissions allowances and the method of their allocation.

¹ Members are 3Degrees, Bonneville Environmental Foundation, Community Energy, Conservation Services Group, Constellation NewEnergy, FPL Energy, Renewable Choice Energy, SmartPower, Sterling Planet, SunEdison and SunPower. The views expressed by REMA in this regulatory filing do not necessarily represent the views of each individual member company.

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The Voluntary Market for Renewable Energy is Significant

According to the National Renewable Energy Laboratory (NREL), there are some 55 marketers actively selling to small and large customers, and a dozen environmental brokers that facilitate REC transactions between buyers and sellers across the U.S. These providers are in addition to utilities that sell renewable electricity differentiated from standard electricity. Presently, there are nine utility green pricing programs within the state of California.² Of these programs, six rank in the Top 10 for one or more categories nationwide according to NREL. There are also thousands of photovoltaic (PV) providers in the U.S. who sell PV systems and associated RECs directly to end-use customers.

The market for green power (renewable electricity and RECs sold independently of electricity) is strong and growing. In 2005, U.S. consumers made voluntary purchases of renewable energy totaling about 8.5 million MWh, and 2006 purchases are estimated to total about 12 million MWh. The voluntary market grew by 62% in 2004, 37% in 2005, and 40% in 2006. Currently, the voluntary market represents nearly one-fifth of the overall renewable energy demand from both compliance and voluntary markets on a MWh-basis. If the voluntary market continues to grow at a rate of 35% annually, it will reach about 40 million MWh by 2010 and represent about one-quarter of the total U.S. demand from voluntary and compliance markets.³ Those 40 million MWh of renewable generation would result in a reduction of 31.2 million metric tons of CO₂.⁴ These data demonstrate that the voluntary market for renewable energy is larger than most people recognize.

Not everyone wants or has access to a utility-sponsored renewable energy option; some customers choose to purchase renewable power outside the utility offerings. This is particularly true for large customers. There is a large voluntary market for RECs unbundled from electricity and for on-site customer-owned renewable power driven by a commitment to renewable power development and a commitment to GHG reduction. In this regard, many businesses and an unknown number of residential consumers buy RECs separate from electricity, or invest in on-site renewable power. California has more corporate customers of voluntary renewable energy enrolled in the U.S. EPA Green Power Partnership than any other state with the exception of Texas. Of the approximately 950 organizations that participate in the EPA's Green Power Partnership, the California-based Partners represent 113 organizations or 11.9%.

² These are Anaheim Public Utilities, Burbank Water and Power, Los Angeles Department of Water and Power, PacifiCorp (Pacific Power), Palo Alto Utilities, Pasadena Water & Power, Roseville Electric, Sacramento Municipal Utility District, and Silicon Valley Power.

³ Bird, Lori, and Elizabeth Lokey. *Interaction of Compliance and Voluntary Renewable Energy Markets*, Golden, CO: National Renewable Energy Lab, October 2007.

⁴ Based on EPA's e-GRID data for the national average CO₂ emissions resulting from electric generation (0.78 metric tons/MWh). See <http://epa.gov/cleanenergy/energy-resources/egrid/index.html>.

Who's Buying Green Power?

A diverse range of companies are buying renewable energy or RECs. In California, examples include:

- Information Technology (e.g. Intel, Hewlett-Packard, Cisco Systems and Yahoo!)
- Wineries and Breweries (e.g. Sierra Nevada Brewing Co. and Rodney Strong Vineyards)
- Higher Education (e.g. Cal State University System, Loyola Marymount University and UC-Santa Cruz)
- Local Government (e.g. City of San Diego, City of Chico and City of Mount Shasta)
- Banking (e.g. Wells Fargo and Key Point Credit Union)
- Media (e.g. KNTV-TV11)
- Consumer Products (e.g. Shaklee Corporation and New Leaf Papers)
- Travel & Leisure (e.g. Los Angeles Convention Center and Sugar Bowl Ski Resort)
- Retail (e.g. Safeway and Macy's)
- Agriculture (e.g. Lundberg Family Farms)
- Industrial Good and Services (e.g. Lockheed Martin)
- Food and Beverage (e.g. Clif Bar and Earth Island)
- Transport & Shipping (e.g. FedEx and Los Angeles World Airports)
- Automotive (e.g. American Honda Motor Company and Toyota Motor Sales)
- Clothing & Textile (e.g. prAna)
- Plus organizations in Health Care, Telecommunications, Real Estate and Non-Profit Organizations

Depending on how it is implemented, a greenhouse gas cap can have a significant impact on voluntary renewable energy sales. Specifically, the treatment of renewable energy under a cap-and-trade program could undermine the voluntary green power market. A primary motivation for voluntary renewable energy purchases is to reduce the buyer's greenhouse gas (GHG) footprint. This benefit—the ability of individuals, companies, government entities and non-profits to reduce electric sector GHG emissions—would be eliminated if voluntary market purchases of renewable electricity and RECs are not somehow linked to the retirement of allowances or the reduction of the cap.

Therefore, with respect to the design of carbon cap-and-trade programs, REMA's primary objective is to ensure that any cap-and-trade program supports the ability of voluntary renewable energy demand to reduce GHG emissions. To accomplish this objective, voluntary demand for renewable energy must result in either retirement of allowances or in lowering of the cap. To be additional, emission reductions from voluntary sales should not be double counted by both the customer and the utility.

Our concern is that carbon regulations that prevent green power purchases from affecting GHG emissions levels may be adopted, undermining the environmental objectives of customers who voluntarily purchase renewable energy. A robust market for renewable electricity, RECs and distributed renewable energy generation already operates in California. Without an explicit provision for allowance allocation recognizing the GHG reduction benefits from renewable energy purchases under the proposed AB32 cap-and-trade program, California's voluntary renewable energy market may cease to exist

because the leading market driver – the ability to make a difference in reducing GHG emissions through consumer choice tied to market forces – will have been eliminated.

Measures to Reduce Emissions Should Be Comprehensive

CARB should not restrict its recognition of renewable energy benefits to actions by the utility sector just because we are accustomed to regulating utilities. Failure to recognize emission reductions outside the utility market would strip participants in the voluntary renewable power market of the ability to make independent GHG reduction claims, and undercut a free and competitive market apart from utilities.

Both the RPS and voluntary demand contribute to emissions reductions in the same way. Both create demand for renewable energy, both result in reduced fossil generation, both calculate emission reductions using an emissions factor (CO₂ lbs/MWh generated) for avoided emissions, and both can be verified using the Western Renewable Energy Generation Information System. The only difference is that REMA proposes that the voluntary market for renewable energy be recognized within the cap-and-trade program rather than separate from the cap-and-trade program, and that emission reductions be attributed to those non-RPS stakeholders making the renewable power purchase.

Not recognizing the benefits of voluntary demand for renewable energy would ignore a big part of the overall renewable energy market, as described above. Voluntary demand for renewable energy has developed over the last ten years, so it is an “off the shelf” solution that is ready to contribute to reducing emissions, and as the Draft Scoping Plan notes, all available mechanisms will be need to meet California’s long-term greenhouse gas reduction goals. What’s more, including the voluntary market within the cap-and-trade program is entirely consistent with cap-and-trade’s market-based approach.

Voluntary Demand for Renewable Energy Is Easily Measurable

In the power sector, emission reductions are quantified by metered output (MWh) and emissions rates (CO₂ lbs/MWh) of the emitting generators. It is no different for quantifying the emissions reduction benefits from generating (and consuming) emissions-free renewable energy. The renewable energy or renewable energy certificates (RECs) are based on metered output from eligible renewable energy generators and multiplied by the non-baseload emissions rate for the control area in which the renewable energy generator is located.⁵ It should not matter whether the claim is made by a utility purchasing renewable energy or RECs for RPS compliance, or whether the claim is made by a final consumer of renewable energy or RECs. Both have the same result. Both claims are based on the same standard measurements and the same emissions rates, and who makes the claim should not matter as long as no one is claiming the same reduction. Double counting can be avoided by relying on the Western Renewable Energy

⁵ Standard emissions rates for electricity generation may be determined using EPA’s Emissions & Generation Resource Integrated Database (eGRID), which provides data by subregions.

Generation Information System (developed by the California Energy Commission and others) for verification of REC ownership and retirement.

The Voluntary and RPS Markets Are Complementary

The voluntary and RPS markets work perfectly well together in many states, as long as the RPS is the floor (minimum required for the utility) and the voluntary is additional to the RPS. Most voluntary purchasers would have it no other way—they don't want to pay extra for something that is required and would happen anyway. This would be considered double-counting because both the obligated utility and the voluntary purchaser would be claiming the same benefit. California's SB 107 states plainly, "A renewable energy credit shall be counted only once for compliance with the renewables portfolio standard of this state or any other state, *or for verifying retail product claims in this state or any other state.*" Avoiding double counting, and ensuring that voluntary demand is additional to the RPS, is easily accomplished by the Western Renewable Energy Generation Information System (WREGIS). Each certificate issued by WREGIS has a unique identification number and can reside in only one account at any time. The owner of this account is the only one that has a right to make a claim on the certificate, whether for RPS compliance or for a retail green product. Once a claim is made, the certificate must be retired and the owner must indicate whether it was used for RPS compliance or for some other purpose.

Because voluntary demand is additional to utility RPS demand, California should encourage both markets, not prefer one over the other. A renewable energy certificate used for voluntary sales in California has an equal greenhouse effect to a certificate used for RPS compliance in California, and the method of valuing its greenhouse reducing effect is the same.

It has been suggested that if California raises its RPS to 33%, voluntary demand will fall because consumers will see that the mandates are doing the job for them. This view fails to recognize the multiple factors that motivate purchasers of green power. For example, most purchasers buy renewable electricity or RECs because they want to drive demand even harder than the floor set by the state mandates, and they wish to take personal responsibility for their energy use. In short, they want to make a difference. In addition, the corporate buyers that are driving the tremendous growth in the voluntary market are trying to meet individual corporate goals.⁶ Most of them are not covered by a greenhouse gas cap, and buying RECs or investing in on-site solar is a recognized way to reduce their carbon footprint. These rationales will continue even if the RPS minimum is increased.

A recent study by the National Renewable Energy Laboratory (NREL) found little evidence that the adoption of an RPS will negatively affect voluntary market sales. After examining four states with a long history of green power sales and with the introduction of an RPS, the authors concluded, "There is no apparent decline in sales once the RPS is adopted, at least to date. In fact, sales continue to grow over time. Furthermore, we found that customer participation rates in utility green power programs were higher on average

⁶ Nearly three-quarters of total green power purchases (by volume) in 2006 was attributable to nonresidential demand.

in states with an RPS than in those without. This finding was statistically significant based on an analysis of 2006 customer participation data provided by utilities.”⁷

Concerns have also been expressed that if California raises its RPS to 33%, there will not be enough renewable energy to satisfy both the RPS and voluntary demand. This is a static view that does not take into account the longer term dynamics of supply and demand. Another study undertaken by NREL found that the combined demand of 25 states with an RPS and national voluntary market demand for green power creates a near-term deficit in supply, but that the “results do not necessarily portend a long-term shortage as it is likely that, with continuing Federal and state support, the renewable energy industry can greatly ramp up deployment and production over the medium and long term.”⁸ Such an increase in renewable energy supply is the goal of both RPS standards and the voluntary market.

In California, a shortfall of supply relative to demand would lead to higher prices, which may dampen voluntary demand temporarily, but the RPS would not jump to 33% overnight. Similar to the NREL conclusion, supply can be expected to respond to higher prices. If state policy is to increase renewable resources, it does not make sense to jettison the voluntary market—that would be a zero-sum game.

A Cap-and-Trade Program Can Be Designed to Recognize and Credit Voluntary Demand for Renewable Energy

If, because of the design of the cap-and-trade regime, no direct reduction in GHG allowances can be attributed to new clean renewable generation sold to voluntary buyers, it is not only retailers of RECs, but also developers and owners of renewable energy facilities, whose effect on emission reductions would be ignored. Eliminating the role of voluntary renewable markets in reducing emissions is an unnecessary casualty of a poorly designed cap-and-trade system and represents a missed opportunity for non-covered entities (renewable energy generators) to cost-effectively lower the overall level of emissions through voluntary action.

A well-designed cap-and-trade regime can ensure a “best of both worlds” outcome where voluntary markets are additive to compliance targets. This is desirable because not all actors in the economy will be covered by the cap and because it respects the voluntary choice of corporations and individuals to reduce GHG emissions under the cap.

The Draft Scoping Plan does not address the voluntary market for renewable energy under the proposed cap-and-trade program. The Western Climate Initiative (WCI), with which the ARB intends to coordinate, leaves open the possibility of an allocation to (voluntary) renewable energy sales or purchases. In its recently released Draft Design of the Regional Cap-and-Trade Program, WCI Partners agreed that a portion of each state or

⁷ Bird, Lori and Elizabeth Lokey, *Interaction of Compliance and Voluntary Renewable Energy Markets*. NREL/TP-670-42096, October 2007.

⁸ Swezey, Blair, Jorn Aabakken, and Lori Bird, *A Preliminary Examination of the Supply and Demand Balance for Renewable Electricity*. NREL/TP-670-42096, October 2007.

provinces allowance budget could be used to support renewable energy.⁹ California should support and adopt this approach with a specific allowance allocation to new renewable energy sold in the voluntary retail market.

Therefore, we take this opportunity to suggest (below) how allowances should be allocated to cover voluntary purchases of renewable energy. Either of the two approaches we described could easily accommodate consumer, business and government and institutional demand for renewable energy to reduce carbon in the atmosphere.

1. Allowances Distributed for Free Should Be Allocated to Emitting Generators and New Renewable Generators Based on Output

Allowances could be allocated to generators/first deliverers (including the first deliverers of renewable generation) based on their proportion of total MWh generated or delivered (output-based allocation). This would be the most cost-effective approach. A California PUC Staff Paper found that “Numerous research studies support the conclusion that output-based allocation results in lower energy price increases relative to other emission-based or auction allocations.”¹⁰

If an output-based allocation were adopted, the CPUC Staff Paper recommends that rather than allocate to all generation, allowances should be allocated to emitting generators, but staff note significantly that “...a variation on this approach that warrants additional analysis is the inclusion of incremental generation from new renewable sources in the eligible generation. This approach would help counter the competitive disadvantage that renewables face under a fossil fuel-only output-based allocation method (Burtraw, Palmer and Kahn 2005).”¹¹

REMA strongly supports this variation of output-based allowance allocation to include new renewables. New renewable projects that meet the definition of “renewable electricity generation facility” contained in California Public Resources Code 25741 should receive the allowance allocation, except that to accommodate the first deliverer approach such facilities would not be limited only to in-state facilities. In this way, new renewable generators would have control of some allowances that they could sell to emitting plants that require additional allowances, or they could sell them along with RECs to retail consumers with an interest in reducing their carbon footprint. The latter disposition would enable the retail purchasers to satisfy their goal and expectation that their purchases of renewable energy reduce GHG emissions, and would encourage greater voluntary purchases of renewably generated electricity. If unbundled RECS are sold to the voluntary market, the remaining energy should not be eligible to meet the

⁹ See Section 8.2 of Western Climate Initiative, Draft Design of the Regional Cap-and-Trade Program, July 23, 2008.

¹⁰ Murtishaw, Scott, Adam Langton and Karen Griffin, “Joint California Public Utilities Commission and California Energy Commission Staff Paper on Options for Allocation of GHG Allowances in the Electricity Sector, R.06-04-009 and D.07-OIIP-01.” April 16, 2008. p. 27.
<http://docs.cpuc.ca.gov/efile/RULINGS/81554.pdf>

¹¹ Ibid., p. 31.

utility's RPS compliance obligation to ensure additionality and to avoid double counting of emission reductions.

We believe the merits of this modified output-based approach include the following:

- It strengthens market-based mechanisms to help achieve emission reductions.
- It builds on the market growth and momentum that voluntary demand for renewable energy has already achieved.
- It supports and substantiates consumer expectations that their voluntary actions create emission reductions.
- It is consistent with state policy to strongly encourage renewable energy development.

This approach could also work well for entities other than the first deliverers of electricity, such as smokestack industries, with an emissions compliance obligation. In this case, such covered entities would be motivated to purchase renewable electricity and its attributes (or tradable RECs if they are allowed) as long as such purchases include the emissions allowances that have been allocated to the renewable generator. In this way renewable energy can become a true compliance strategy integral to the cap-and-trade program.

2. Allowances Could Be Retired by the Cap-and-Trade Administrator on Behalf of Voluntary Market Demand for Renewable Energy

An acceptable alternative to the modified output-based allocation described above is similar to the approach taken by the RGGI states. If allowances are allocated only to emitting generators, the allocation design could include explicit provision to retire allowances on behalf of voluntary renewable energy demand before the remainder is distributed. Prior to each compliance period, the Air Resources Board or regulatory agency would estimate the anticipated volume of voluntary renewable energy purchases from all eligible renewable energy facilities for an upcoming compliance period and retire the appropriate number of emissions allowances on behalf of the voluntary renewable energy market before allocating the remainder.¹²

After the end of each compliance period, entities (including generators, retail marketers, certifying organizations and purchasers) would report the total volume of their eligible voluntary renewable energy market sales to end use customers located in California, to the ARB. Under the first jurisdictional deliverer obligation proposed by the CPUC and favored by the WCI, a deliverer that delivers energy from a generator located outside California would also be eligible, provided that the generator meets other renewable energy eligibility definitions. In addition to documentation of the delivery, ARB could

¹² Eligible renewable energy could be defined by reference to RPS definitions, and could include a generator vintage threshold to encourage the purchase of energy from newer facilities. In most RGGI states, the cap-and-trade administrator will allocate a predetermined number of allowances for voluntary demand for renewable energy; in a few states renewable energy providers or a state agency will submit evidence of prior demand and a projection of demand for the compliance period.

rely upon the WREGIS tracking system to verify renewable generator eligibility and to avoid double-counting.¹³

At the end of the compliance period, ARB would "true up" the difference between the total volume of estimated voluntary renewable energy market sales and the total volume of actual voluntary renewable energy sales from eligible renewable energy facilities by adjusting the deduction for the voluntary renewable energy market for the next compliance period accordingly.

In this way, the renewable generators are not issued allowances at all, but the regulatory agency (ARB) would retire allowances based on retail REC purchases, thus enabling the purchasers to make a difference with their renewable power purchases and to make claims about reducing greenhouse gas emissions as a direct result of their actions.

As with the previous example, this could also be adapted to encourage other covered industries to purchase renewable energy as a compliance strategy. If the rules were written correctly, the covered entities could demonstrate compliance without actually owning the allowances if they were retired on their behalf.

Allocating Allowances for Voluntary Demand for Renewable Energy is Compatible with Allocating Allowances by Auction

Recognition of and support for the voluntary renewable energy market could be accomplished in the same way as described in Option 2 above—by retirement of allowances by the ARB—if California were to combine this approach with auctioning allowances. The estimate of voluntary renewable energy demand would be made prior to the beginning of the compliance period and before the auction. The equivalent allowances would then be retired. After the close of the compliance period, proof of voluntary renewable energy purchases would be required, and if different from the projected purchases, the difference would be trued up.

If purchases exceed the projection, then the difference would be added to the projection of voluntary renewable energy demand for the next compliance period; if purchases are less than the projected amount, then the difference would be deducted from the next year's projection.

RGGI Provides a Clear Model for Recognizing Voluntary Renewable Energy Purchases in a Single-Sector Cap-and-Trade Program

The Regional Greenhouse Gas Initiative (RGGI) states have established rules for allocating allowances to recognize voluntary demand for renewable energy.

¹³ The Western Renewable Energy Generation Information System (WREGIS) is a multi-state tracking system for RECs supported by the California Energy Commission. Renewable energy used to satisfy the requirements of the California RPS would not be eligible because the voluntary demand must be incremental to make a difference, and because the mandatory demand of the RPS is already taken into account in modeling emissions and setting the cap.

Nine out of ten participating states will allocate a portion of each annual budget for retirement for voluntary purchases of renewable energy.¹⁴ This will be done in a fashion similar to that described in Option 2 above. Most states will allocate allowances to a Voluntary Renewable Energy Market Account, controlled by each state's cap-and-trade administrator. Based on documented voluntary purchases of renewable energy, the administrator will retire those allowances. In addition, RGGI illustrates that this approach is compatible with auctioning allowances because all of the RGGI states plan to auction the vast majority of allowances. California could adapt this approach to account for allowance retirement across regulated sectors within the cap-and-trade program.

The Proposed Scoping Plan Should Include Specific Language Recognizing the Role of Voluntary Renewable Energy in Reducing GHG Emissions

The Renewable Energy Marketers Association appreciates the opportunity to present these views on the allocation of allowances to support voluntary renewable energy markets. We emphasize that what we propose is not that unusual, and there are detailed examples in other state rules. Wisconsin and Pennsylvania, for example, have proposed output-based allocations, including allocating allowances to renewable generation, as part of their Clean Air Interstate Rules, and northeastern states participating in RGGI have proposed or adopted the approach of administratively retiring allowances on behalf of demonstrated voluntary demand for renewable energy.¹⁵

The AB 32 Scoping Plan that ARB plans to release for public comment in September should include more explicit language that indicates its specific intent to ensure that the voluntary market for renewable energy will play a role in greenhouse gas emission reductions, preferably through one of the options we have described above.

We believe that the ability of customer choice to meaningfully contribute to GHG reductions is at stake without an allocation to account for voluntary renewable energy sales. The importance of allowing individuals, private companies, local government and non-profits the ability to take pro-active measures to stem the threat and consequences of global climate change cannot be overstated. We are at a historic moment in time and all viable, cost-effective options to reduce GHG emissions should be encouraged. Voluntary renewable energy markets offer citizens and businesses the power of choice—a fundamental value in our society – and leverage market forces to encourage technology innovation and improvement. We believe it is essential to encourage individuals and organizations to make meaningful choices about their electricity supply, and in so doing, to help address climate change, reduce air pollution, and support the transition to a cleaner energy future.

The views expressed by REMA in this regulatory filing do not necessarily represent the views of each individual member company.

¹⁴ The tenth state, Delaware, has not yet published its proposed rules.

¹⁵ Bird, Lori, Edward Holt and Ghita Levenstein Carroll, "Implications of Carbon Cap-and-Trade for US Voluntary Renewable Energy Markets." *Energy Policy* 36 (2008) 2063–2073, June.