



CRS

center for  
resource  
solutions

September 19, 2016

Mary Nichols  
California Cap-and-Trade Program  
California Air Resources Board (ARB)  
1001 I Street  
Sacramento, CA 95814

**Re: Comments of Center for Resource Solutions (CRS) on Proposed Amendments to the California Cap on Greenhouse Gas Emissions and Market-based Compliance Mechanisms**

Dear Chairman Nichols:

CRS appreciates the opportunity to submit these comments regarding proposed amendments to the Cap-and-Trade Regulation presented in the Initial Statement of Reasons (ISOR) and Proposed Regulation Order posted August 2, 2016. Our comments focus on future allocations to the Voluntary Renewable Electricity (VRE) Reserve Account and the proposal to remove the requirement that Renewable Energy Credit (REC) serial numbers be reported with specified renewable energy (RE) imports.

**Background on CRS and Green-e®**

CRS is a 501(c)(3) nonprofit organization that creates policy and market solutions to advance sustainable energy. CRS has broad expertise in renewable energy policy design and implementation, electricity product disclosures and consumer protection, and greenhouse gas (GHG) reporting and accounting. CRS administers the Green-e programs. Green-e Energy is the leading certification program for VRE products in North America. Stakeholder-driven standards supported by rigorous verification audits and semiannual reviews of marketing materials ensure robust customer disclosure and are pillars of Green-e Certification. Through these audits and reviews CRS is able to provide independent third-party certification of RE products. Green-e program documents, including the standards, Code of Conduct, and the annual verification report, are available at [www.green-e.org](http://www.green-e.org).

**Voluntary Renewable Electricity**

The following comments are related to ending allocations of allowances to the VRE Reserve Account in 2020.

1. VRE is an important driver of RE development in California.

Alongside state mandates like the Renewable Portfolio Standard (RPS) and carbon pricing programs like cap-and-trade, the VRE market has been a major driver of new clean energy development in the state, leading to more jobs and greater economic growth. The market leverages private, non-ratepayer funding to help speed the transition to RE sources, and it provides a pathway whereby the appetite for voluntary action can be channeled to in-state clean energy development.

Last year, around 520,000 megawatt-hours (MWh) of RE from California were used to supply Green-e certified voluntary sales, and California end-use customers purchased about 3.8 million MWh of certified VRE. Both of these numbers increased dramatically from 2014, by nearly 500% and over 50%, respectively. This shows strong demand for VRE in the state. It is also worth noting that Green-e certifies a majority but not the entirety of the voluntary market, which means that these represent conservative estimates of voluntary activity in the state. There are many large direct transactions, several community choice aggregation programs, and a large amount of distributed generation for onsite consumption that are not included in these numbers. Other reports show that, at a national level, corporate buyers invested in more than three gigawatts (GW) of new RE capacity in 2015,<sup>1</sup> and more than half of new U.S. utility-scale solar in 2016 will be built to serve voluntary customers.<sup>2</sup>

2. Voluntary means surplus to regulation.

Historically, VRE is not used to meet governmental targets, laws, or legal mandates. The voluntary market stands apart from and builds on compliance efforts. This enables the voluntary market to make an incremental difference often referred to as “regulatory surplus.” Also, many of the companies and individuals purchasing in California’s VRE market do so as part of their commitment to fight climate change. VRE buyers and investors therefore expect that voluntary generation will reduce emissions beyond the cap as a critical non-financial benefit. Our experience in the voluntary market has shown that emissions reductions beyond the cap, regulatory surplus, and moving the needle on climate change are significant drivers of voluntary demand.

Notwithstanding that avoided emissions due to RE decrease as the proportion of renewables increases over time, voluntary purchasers expect and deserve that whatever avoided emissions occur on the grid due to that generation will not just be making compliance cheaper and will be above and beyond what is required by law.

3. The VRE program (VREP) and Reserve Account<sup>3</sup> maintain the historical carbon emissions benefits for voluntary buyers that are otherwise removed by the cap and prevent a shift of compliance costs away from compliance entities toward voluntary purchasers.

We strongly support the preservation and continued use of the VRE Reserve Account mechanism and VRE allowance retirement to support the voluntary markets for RE in California. The 2016 ISOR accurately describes how cap-and-trade removes the ability of VRE to affect statewide emissions and how the VREP ensures that overall emissions reductions are achieved by VRE generation.<sup>4</sup> The VRE Reserve Account has wide support—when adopted in California, over 50 organizations publically supported such a policy, including energy companies, project developers, environmental and public health advocates, industry associations, academic institutions, and others. As shown in their comments to ARB,<sup>5</sup> this is because the VRE Reserve Account restores regulatory surplus, allowing VRE purchases to reduce emissions beyond the cap, and letting California enjoy the benefits provided by such a market.

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<sup>1</sup> See <http://www.aweablog.org/the-rise-of-the-non-traditional-energy-buyer/>.

<sup>2</sup> See <http://www.greentechmedia.com/articles/read/us-utility-scale-solar-market-fueled-bygrowth-beyond-renewable-portfolio-s>.

<sup>3</sup> 17 CCR § 95841.1

<sup>4</sup> 2016 ISOR, p.53

<sup>5</sup> See the Previous Comments on VRE Set-aside Mechanisms listed in April 12, 2016 CRS Comments in response to the March 29, 2016 Workshop on Cap-and-Trade Regulation Post-2020 Emissions Caps and Allowance Allocation.

4. Allocations of VRE allowances should continue beyond 2020 to ensure that the VRE Reserve Account is not depleted, which would remove historical benefits or raise costs for those unable to obtain allowances through the Reserve Account, both of which could damage voluntary demand and limit the size and benefits of the voluntary market for California.

We recommend that allowances continue to be allocated to the VRE Reserve Account beyond 2020 in order to ensure that it remains effective.

According to the ISOR, Staff does not propose to allocate any additional allowances to the VRE Reserve Account “because requests for VRE retirement have been much lower than anticipated.”<sup>6</sup> We submitted comments to ARB in April of this year outlining several reasons why past claims on Reserve Account may not be at all predictive of future demand.<sup>7</sup>

We suggested that there is likely a significant lack of awareness on the part of self-generating consumers (distributed generation facilities used for onsite consumption) and non-Green-e certified voluntary programs as to the VREP’s existence and/or benefits. We recommended additional outreach by ARB to the solar community and voluntary suppliers as well as consideration of an alternative, simplified procedure for allowance retirement in the VRE reserve account that does not require application.

We presented the launch of three large Green-e certified voluntary green pricing programs by the state’s investor-owned utilities (IOUs), as required by the California Public Utilities Commission (CPUC), as a significant source of new demand for VRE allowances. In January 2015, the CPUC directed the three largest IOUs in the state—Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas and Electric Company, which together cover nearly 80% of the state—to offer a Green-e Energy certified 100% RE option to their customers.<sup>8</sup> As such, these products will need to comply with Green-e requirements that participants sourcing from supply located in California or directly delivering to California must retire allowances through the VREP or retire California-eligible allowances independently on behalf of certified sales to voluntary purchasers.<sup>9</sup> We provided a back-of-the-envelope calculation of potential demand for VRE allowances from these three voluntary programs alone—approximately 562,392 metric tons annually, representing two-thirds of the total VRE reserve account in 2020.<sup>10</sup> We added this to current subscriptions to arrive at a conservative floor of what will be needed in the VRE reserve account annually: approximately 676,000 allowances.<sup>11</sup> This does not include potential

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Available online: [http://resource-solutions.org/site/wp-content/uploads/2016/04/CRScomment\\_3-29Workshop\\_4-12-2016.pdf](http://resource-solutions.org/site/wp-content/uploads/2016/04/CRScomment_3-29Workshop_4-12-2016.pdf).

<sup>6</sup> 2016 ISOR, p.54

<sup>7</sup> April 12, 2016. CRS Comments in response to the March 29, 2016 Workshop on Cap-and-Trade Regulation Post-2020 Emissions Caps and Allowance Allocation. Available online: [http://resource-solutions.org/site/wp-content/uploads/2016/04/CRScomment\\_3-29Workshop\\_4-12-2016.pdf](http://resource-solutions.org/site/wp-content/uploads/2016/04/CRScomment_3-29Workshop_4-12-2016.pdf).

<sup>8</sup> CPUC. Decision 15-01-051 January 29, 2015. Decision Approving Green Tariff Shared Renewables Program for San Diego Gas & Electric Company, Pacific Gas and Electric Company, and Southern California Edison Company pursuant to Senate Bill 43. Available online: <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M146/K250/146250314.PDF>.

<sup>9</sup> See Section A.5, p.30-33, of the Green-e Energy National Standard v2.8: <http://www.green-e.org/docs/energy/Green-eEnergyNationalStandard.pdf>.

<sup>10</sup> See the VRE reserve account annual allocation here: <http://www.arb.ca.gov/cc/capandtrade/guidance/chapter7.pdf>.

<sup>11</sup> 113,489 allowances retired by CARB through the VREP for RY 2014.

additional demand coming from the expansion of Community Choice Aggregation (CCA) programs in California delivering RE in excess of the RPS, increased use amongst onsite solar customers, or increased demand from commercial and industrial customers.

ARB has not conducted any analysis of future demand for VRE allowance retirement. Due to the potential loss of environmental benefit to the state should the VRE Reserve Account be depleted, and the minimal cost of continuing allocation (see further below), only an in-depth analysis of future voluntary demand showing that it can be met without future allocations could support a decision not to continue allocation.

Once the Reserve Account is depleted, VRE is no longer surplus to regulation and it no longer has an avoided emissions benefit. VRE will simply reduce emissions to free up allowances and lower the costs of compliance for regulated entities. This represents a shift in compliance costs away from regulated entities and onto those taking voluntary action. Alternatively, VRE purchasers would be forced to pay the price on carbon (i.e. buy and retire an allowance) in order to achieve regulatory surplus and restore their emissions benefits, which represents a significant increase in the price of historical VRE.

Without explicit recognition of the emissions reductions from the voluntary market, a principal driver of VRE investments may be lost. Voluntary demand for RE may suffer due to the loss of regulatory surplus and the change in benefits, from VRE that impacts statewide emissions to VRE that lowers the price of carbon. Or demand may suffer due to the dramatic increase in price of VRE that includes these historical benefits. Should demand suffer due to either of these outcomes, both the benefits of VRE beyond the cap and the benefits of VRE within cap-and-trade may disappear.

5. ARB Staff's responses and conclusions in 2011 Final Statement of Reasons (FSOR) related to ceasing allocations to the VRE Reserve Account after 2020 fail to acknowledge the value of VRE. The VREP program should not be transitional because voluntary buyers want to reduce beyond the cap and may no longer purchase or invest otherwise, resulting in a loss of emissions reductions for the state.

At several points in the 2011 FSOR, Staff describes the VREP as a “transitional” strategy or program.<sup>12</sup> Staff explains that it expects voluntary use of renewables to continue to increase regardless of whether it reduces the cap because “as allowance prices rise, and assuming that the cost of renewable electricity will continue to fall, electricity end-users will have increasing economic incentives to purchase electricity that is not subject to a carbon price, including voluntary renewables.”<sup>13</sup> In other words, they “expect renewable electricity and other low GHG-emitting generation to become the best economic choice for many businesses and homeowners as carbon costs rise.”<sup>14</sup> It explains further that “Our goal is to transition to 100 percent auction. To that end, it will be necessary for the voluntary sector to eventually participate in the program by registering as a voluntary associated entity, and to purchase and retire allowances on behalf of the voluntary contributions.”<sup>15</sup>

ARB Staff fails to recognize the value of VRE as a separate market and source of emissions reductions. Staff envisions that the price on carbon will work to incentivize low-emitting technology as it makes

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<sup>12</sup> See 2011 FSOR, p.621, 1546, 1552, and 2123

<sup>13</sup> 2011 FSOR, p.621

<sup>14</sup> 2011 FSOR, p.1546

<sup>15</sup> 2011 FSOR, p.2123

emissions more expensive, but that all emissions reductions will be captured under the cap. In that way, the cap is a ceiling for both emissions and emissions reductions. Staff argues that VRE will continue on the basis of this economic incentive. But since the voluntary market is currently reducing beyond the cap, what they are actually saying is that there is no need for a voluntary market once there is a price on carbon. We disagree. Our experience is that there will always be those that want to reduce beyond what is required by law. The state can and should facilitate that activity, but at the very least it should not harm or hinder it by forcing VRE purchasers to pay the price of carbon that should be borne by emitters. This is not only unfair, but it will likely disincentivize voluntary reductions. Continuing allocations to the VRE set-aside will prevent cap-and-trade from becoming the ceiling for reductions.

6. The allowance price effect of continuing allowance allocations to VREP is negligible. But there is great benefit to the voluntary market and to California.

Continuing allocations to the VRE Reserve Account is cost neutral for compliance entities: the decrease in supply of allowances and corresponding increase in price is offset by the decrease in demand for allowances due to reductions from voluntary renewable energy and corresponding decrease in price. But there is great benefit to the voluntary market and the cost of VRE. Likewise, discontinuing allocations to the set-aside is benefit neutral for compliance entities: the increase in supply of allowances that are no longer being set aside and corresponding decrease in price is offset by the increase in demand for allowances as VRE no longer pays for reductions and those costs shift to compliance entities, increasing the price. But there is great cost to the voluntary market.

The effect on allowances prices is illustrated graphically below.<sup>16</sup>

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<sup>16</sup> This was initially presented to ARB in a June 7, 2010 Coalition letter to Kevin Kennedy, CARB Office of Climate Change on the issue of off-the-top treatment of voluntary renewable energy purchases. Available online: [http://resource-solutions.org/site/wp-content/uploads/2015/08/CRS\\_on\\_allocation\\_7\\_7\\_2010.pdf](http://resource-solutions.org/site/wp-content/uploads/2015/08/CRS_on_allocation_7_7_2010.pdf).



7. Continuing allocations of VRE allowances will keep voluntary, private investment in the state.

The VRE Reserve Account provides a pathway whereby the appetite for voluntary action can be channeled to clean energy development in California, and avoids a situation whereby the willingness to invest in voluntary action is diverted to out-of-state projects. If the Reserve Account is depleted, the reduction in benefits or the additional cost of allowance retirement to the voluntary purchaser may reduce demand and preclude certified sales from generation in the state. Voluntary buyers in California would instead procure their certified renewable energy from outside of the state in the future. Continuing to allocate to the VRE Reserve Account will ensure that this demand can be met by resources in the state—allowing California the opportunity to maintain the private investment dollars that may otherwise go elsewhere—and this could prevent a loss of revenue from voluntary purchasers for in-state generation.

In 2015, California customers demanded 3.8 million MWh of Green-e certified VRE that is surplus to regulation. This is demand that could be met with in state generation, if allocations continue. Around 520,000 MWh from California was used to supply Green-e certified sales. This is supply that reduced

emissions beyond the cap, from facilities that can continue to see extra revenue from voluntary purchasers, if allocations continue. That revenue could be lost if allocations cease.

8. Continuing allocations of VRE allowances will prevent a loss of emissions reductions in the state.

VRE is no different from RPS RE in terms of its effect on the grid, and both are recognized as increasingly important tools to reduce emissions in the state. The VRE Reserve Account allows consumer preferences for RE to drive more reductions than those achieved by policy mechanisms alone. The increased clean energy development puts the state in a better position to meet our more ambitious long-term goals. Should the VRE Reserve Account become depleted, the capped level becomes the ceiling for emissions reductions.

Ultimately, the state has little if anything to gain and all of the benefits of VRE to lose by discontinuing allocations of VRE allowances after 2020, both environmentally and economically. There is no significant cost savings to compliance entities. There are more allowances (emissions) in the market. There is a risk of damaging voluntary demand, either as VRE is brought under the cap, in which case there is no advantage in terms of capped emissions, or as the cost of VRE that reduces statewide emissions increases, in which case there is no benefit to statewide emissions. Conversely, continuing allocations to the VRE Reserve Account imposes little if any cost, maintains voluntary demand and private investment in the state, and reduces emissions for the state.

**REC Reporting Requirement for Specified Source Imports**

The following comments are related to the proposed removal of the requirement to report REC serial numbers for electricity importers to claim a compliance obligation for delivered electricity based on a specified source emission factor or asset controlling supplier emission factor. This is the proposed change to Sec. 95852.b.3.D (p.126) of Proposed Regulation Order.

We submitted comments to ARB in March of this year explaining the risk of double counting associated with removal of the existing REC reporting requirement for specified imports.<sup>17</sup> Those comments are summarized below along with additional information.

9. There is risk of double counting with other state programs if the REC is not required with specified renewables imports. The proposed removal of the existing REC reporting requirement for specified imports increases this risk of double counting.

ARB should not ignore the mechanisms and instruments used in the broader electricity market for tracking RE delivery in the design and implementation of California's cap-and-trade program. There will be double counting of zero-emission power if energy is imported without the REC, counted as zero emissions specified power, and then the associated REC is counted as zero emissions by another program, e.g. toward the Oregon RPS. RECs are therefore critical in this context to prevent double counting with other programs and policies. RECs are the currency for zero-emission electricity delivery and consumption in state compliance markets and the voluntary renewable energy market. Where neighboring state programs count renewable energy, using RECs, that is also being counted as zero-

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<sup>17</sup> March 4, 2016. Comments of Center for Resource Solutions (CRS) in response to February 24, 2016 Workshop on Potential Amendments to the Greenhouse Gas Mandatory Reporting and Cap-and-Trade Regulations. Available online: [http://resource-solutions.org/site/wp-content/uploads/2016/03/CRScommentstoARB\\_3-4-2016.pdf](http://resource-solutions.org/site/wp-content/uploads/2016/03/CRScommentstoARB_3-4-2016.pdf).

emissions power delivered to California, this affects the integrity of both state actions equally. One could characterize this as leakage for California's cap-and-trade as it allows null power (electricity without RECs or for which the RECs are sold out of state) to be imported without emissions.

The Western Renewable Energy Generation Information System (WREGIS) cannot currently be used to prevent this double counting. WREGIS does not create e-tags. Rather, they are provided to WREGIS and imported into the WREGIS system. Account holders who have signed up for the functionality are responsible for matching their e-tags to their RECs. E-tag information is considered confidential, unless the account holder chooses to release such information to their counterparties. This means that certain parties can see e-tags with RECs in WREGIS but only if the account holder has matched their e-tags and RECs and only if the account holder has chosen to release that information. This is not sufficient to prevent double counting. Even if states or Green-e could require that regulated entities/sellers with WREGIS accounts match e-tags to RECs and make this information available in WREGIS, there would be no way to see if the underlying power associated with RECs was imported into California by a previous or different seller or importer.

10. Removal of the existing REC reporting requirement for specified imports increases the risk of double counting within the Clean Power Plan (CPP).

The CPP is another reason not to remove the requirement for REC reporting for imports. Thinking about the same scenario as above, if Oregon (or any other state in the Western Electricity Coordinating Council) were also to adopt a mass-based state measures plan and include its RPS as a state measure, it could get CPP compliance credit for electricity that was counted as zero emissions in California, resulting in double counting between California and Oregon within the CPP. In other words, Oregon can use the REC for RPS compliance, which is a state measure under the CPP, while at the same time, California also counts the electricity from that same unit of generation toward its CPP compliance using cap-and-trade.

11. Standardization of REC serial number reporting and better enforcement of the requirement would help to mitigate administrative challenges associated with the existing REC reporting requirement for specified imports, which nevertheless do not compel its removal.

To avoid inconsistency in REC serial number reporting among reporters, we recommend that ARB standardize REC serial reporting, such that it allows ARB Staff to identify individual RECs reported with specified imports.

Regardless of whether the import is counted as specified by rule if the entity is a generation providing entity (GPE), REC serial number reporting is required and ARB Staff must address any non-conformance to the requirement.

12. The existing REC reporting requirement for specified imports could, in fact, be strengthened in order to prevent double counting with other state programs.

Ideally, ARB must ensure that RECs associated with imported electricity do not leave the state once a MWh is imported without emissions. REC reporting, as opposed to retirement, is only appropriate to prevent double counting if the importer is not itself delivering to load and the REC stays in state and the electricity is not wheeled out of state as zero-emissions electricity. If the importer is delivering directly to end users, including for the RPS, then retirement of the REC should be required to prevent double counting. And if the REC is traded out of state to be used in a different system by either the importer, an



in-state load-serving entity (LSE), or other entity after the REC has been reported by the importer to avoid a compliance obligation, then there is double counting.

We recommend that the list of REC serial numbers associated with specified imports be given to WREGIS and that WREGIS be used to confirm that those RECs were retired in California or by a California user at the time of compliance. We have significant experience with helping states use tracking systems to verify different regulatory requirements. We would be happy to help ARB and WREGIS create the functionality needed.

Please feel to contact us with any questions about these comments, or if we can otherwise be of assistance.

Sincerely,

A handwritten signature in black ink, appearing to read 'Todd Jones', with a stylized flourish at the end.

Todd Jones  
Senior Manager, Policy and Climate Change Programs