

April 12, 2018

Comments for  
California on  
Allowance Reserves,  
the Price Ceiling, Price  
Containment Points,  
and Allowance Pools

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**RESOURCES**  
FOR THE FUTURE

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**Comments for California on Allowance Reserves, the Price Ceiling, Price Containment Points, and Allowance Pools**

Submitted by:

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These comments address the design and implementation of price and cost containment in the cap-and-trade program, drawing on the presentation of preliminary concepts in the February 2018 background paper for discussion purposes from the staff of the Air Resources Board.

**Structure of the Post-2020 Allowance Reserve**

The current Allowance Price Containment Reserve has two advantageous characteristics that are worth noting and are valuable as part of the post-2020 design. One is that the Reserve is filled with allowances removed from the program under the cap, which makes it compatible with state emissions targets.

Second, the three price containment points, if they were triggered, would provide greater opportunity for efficient market dynamics than if there were only one price point at the maximum. The three price points enable an incremental (three step) expansion of supply. Compared with a single price point at the maximum, the multiple price tiers would lead to less price volatility because the supply of allowances is responsive over a larger range of prices. In this way, the current design with three incremental price points more closely resembles a typical commodity market in which the supply of a good will adjust to a change in the price. In a typical commodity market, if the price of a good increases one would expect to see the supply expand and more of that come into the market. Responsiveness of the supply to changes in price helps markets to achieve equilibrium more quickly and make adjustments more smoothly, which in turn provides more stable signals for investors.

It is advantageous to preserve these characteristics in the structure of the post-2020 Reserve, and may be useful to extend them to addressing the design of the new feature of a Price Ceiling and the Reserve Price (minimum auction price).

**Mechanics of Sales from the Price Ceiling**

Beginning in 2021, the program will have a Price Ceiling at which additional instruments would be made available to covered entities in sufficient quantity to enable compliance. The expectation is that these additional compliance instruments would represent real emissions reductions that were obtained outside the market, such as additional offsets from sources covered by existing protocols, other emissions reductions from new sources on natural and working lands, submission of allowances from other cap-and-trade programs, or elsewhere.

ARB staff is proposing that the instrument that would be available at the Price Ceiling would be a new type of instrument and have attributes that differ from an emissions allowance; for instance, although it would be used for compliance similar to how an entity surrenders allowances or offsets currently, it might not be transferable.

I wish to address how this new instrument would enter the market. One possibility is that a compliance entity might bring this instrument into the market as a result of private activities that presumably would be verified by the state as conforming with the integrity of the program. In that case there is a danger that the new instrument could disrupt the ability of the market to achieve equilibrium. This could occur if the new instrument could only be used for compliance after allowances in the Reserve are exhausted. If the cost of creating the new instrument were less than the cost of allowances in the Reserve, the compliance entity might prefer to comply using the new instrument rather than with allowances purchased from the Reserve. This could create a rationing problem in determining which entity would be the first to comply with allowances from the Reserve, and it could motivate arbitrage between these instruments that might be executed through creative contracts that undermine the transparency and possibly the efficiency of the market.

An alternative would be for the state, or a quasi-public agency, to be source of supply for the new instrument so that the cost to the compliance entity would be the same as for allowances from the top tier of the allowance Reserve. The supplier would in turn acquire tons of emissions reductions or their equivalent from sources outside those covered by the cap-and-trade program. The new instrument could seamlessly be made available in the same way as allowances from the top tier from the Reserve are made available for compliance.

In addition, it would be beneficial for the state to direct a small stream of spending drawn from the investment fund to make investments to generate emissions reductions or carbon sequestration by sources not covered by cap and trade, in addition to the offsets that are allowed under the program, and in advance of when the new instruments are needed. This would allow the availability and validity to be verified in advance so they can be more easily assimilated into the program if needed. *The Nature Conservancy* submitted comments to the Air Resources Board (March 16, 2018) describing how this might occur. This strategic use of the investment fund would contribute to the innovation goal of the cap-and-trade program by stimulating research and development of new approaches on natural and working lands. If the opportunities for emissions reductions are ultimately as plentiful and low cost as the scientific literature indicates, these activities could help the state achieve its emissions goal, and importantly these activities would create knowledge that could be applied in other jurisdictions and contribute to addressing climate change on a global scale. This approach would be consistent with California's efforts to engage the international community while preserving the rigor and integrity of the state's own emissions goals.

### **Mechanics of Sales from the New Post-2020 Reserve**

The sale of allowances from the Reserve occurs separately in time from the quarterly allowance auction. This difference in timing introduces possibilities for temporal inconsistency. The Reserve comes into use if the demand for allowances in a quarterly auction is greater than the supply at a price containment point. However, the allowances from the Reserve may not be made available for six weeks, during which time movement in the market might make their sale unnecessary. Whether this introduces a real possibility for strategic behavior or not, it could erode the transparency and performance of the market. If the Reserve sale is annual, it might exacerbate this possibility further.

Staff is seeking comment also on a possible modification that would require an entity's holding account to be empty before allowing the entity to purchase from the Reserve. The disadvantage of this structure is that if price reaches the lowest tier of the Reserve, the market would effectively cease to function. The unfortunate perception among compliance entities and the public would likely be that the market is in an emergency. However, this perception can be avoided if the Reserve is integrated with the auction. This is the approach used in the Regional Greenhouse Gas Initiative (RGGI). This design would simplify the program and improve transparency.

If allowances were made available from the Reserve at specified price points, this can be understood to function similarly to the Reserve Price (auction price floor) that already applies to all allowances sold in the auction, but at a different price point. The Reserve Price ensures that no allowances will sell below the auction price floor. By analogy, the three tiers of the allowance Reserve bring additional allowances into the market only at the price points applicable to each of the three Reserve price tiers. Hence, an equivalent outcome could be achieved if these allowances were offered in every auction at their specified price points, which would be analogous to the approach in RGGI. If the auction price were to rise to these price points, the allowances from the Reserve would enter the market and be distributed without creating a distinction among the allowances that could be used for compliance.

In RGGI, the cost containment reserve price has been reached in previous auctions and the allowances that were available at the price point entered the market. This was accomplished with minimal additional transaction costs, and was not interpreted as a signal that the market was in emergency. Instead, the allowance market resembled a typical commodity market by bringing additional supply into the market when the price reached the higher level. California might usefully consider this simplification in the design and implementation of the Post-2020 Allowance Reserve and Price Ceiling. With a three step Reserve as reflected in the program currently, the state could consider integrating their availability within the quarterly auctions through the use of appropriate Reserve Prices applied to each tier.

#### **Relationship Between Allowance Distribution and Price Points**

The staff document seeks comment on the allowance distribution from the Reserve and the price points relative to the Reserve Price (price floor) and Price Ceiling. It seems intuitive that the allowances would be spread equally between the three Reserve tiers, and the price points would be equal steps below the Price Ceiling, and would be substantially above the Reserve Price.

However, there is an opportunity for the state to further improve the transparency and efficiency of the allowance market by making the supply of allowances responsive to the auction price over a greater range of prices. I would describe the supply of allowances in the auction currently as the "intended cap," that is, not including any allowances that might be drawn from the Reserve. Over a large range of auction price outcomes, the intended cap is fixed. The supply of allowances does not respond to a change in the demand for allowances or their price.

A modification to this design would be to introduce gradations to the Reserve Price (price floor) that would apply to the allowances available within the intended cap. I propose the state consider introducing two price steps with prices that are somewhat above the floor. These price steps would each be associated with a specific quantity of allowances. At prices below each of the price steps, a set number of allowances would be withheld from auction. The price steps above the Reserve Price could be set in a symmetric fashion to the price containment points that apply to the three Reserve tiers. This would reduce the number of allowances that enter the market if the price is near the current Reserve Price (price floor). If the demand for allowances is sufficient to push prices up to the next price step, an

additional quantity of allowances would be available. And again, an additional quantity would be available at the next price step.

The introduction of multiple price steps would make further progress in helping evolve the allowance market to resemble a typical commodity market, and thereby improve its transparency and performance. In its recent program review, RGGI has taken a step in this direction with the introduction of its Emissions Containment Reserve, which applies a reserve price (minimum price) to approximately ten percent of the allowances that are offered for sale in the auction. The price floor in the auction remains in effect and applies to the remaining ninety percent of allowances that are offered for sale.

There are many strong advantages to introducing a price-responsive supply schedule that have been addressed in the scholarly literature, beginning perhaps with Spence and Roberts (1976). This is not the place to review all of those advantages, but it is worth highlighting three points.

One advantage addresses the perspective that it is time for the allowance price to do more work in motivating a larger share of the emissions reductions that are necessary, a perspective that is reflected in the recent Scoping Plan. A price-responsive supply curve is an elegant way to provide the signal for this to occur, while allowing it to occur in a gradual way. In contrast, a one-time increase in the price floor might introduce more challenging transition issues.

Second, many observers have expressed concern about the large volume of allowances that exist in private and public accounts, and some have suggested a one-time cancelation of allowances. While this may have merit, the introduction of higher prices through price responsiveness in the supply of allowances would also provide incentives and would do so in a gradual way. In contrast, a one-time cancelation of allowances might introduce transition issues.

Third, an emissions trading program is terrific at improving cost effectiveness within the state's portfolio of climate-related programs. However, an emissions cap has the unintended effect of undermining the incentive for subsidiary jurisdictions (local governments), organizations and individuals to take additional action to reduce emissions because the emissions cap determines not only the maximum emissions, but when the price is away from the price floor or the Reserve price points, the intended cap determines the actual emissions that occur. Then, actions taken by subsidiary jurisdictions, organizations and individuals do not make an additional contribution. This is referred to as the "waterbed effect," where emissions reductions in one location enable emissions increases at another. Indeed, this flexibility is what makes the trading program cost effective, but an unintended consequence of flexibility is that it undermines the incentive for behavioral changes and other voluntary contributions to addressing climate change. The effect of those type of voluntary actions is to reduce the price of allowances in the market but not to reduce the emissions that actually occur under the cap. As has been recognized in the RGGI, a price-responsive supply curve can remedy this dilemma and help preserve the incentive for individual action while preserving the integrity and cost effectiveness of the emissions market. For these and other reasons, I encourage the introduction of additional price points in the supply of allowances.

Thank you for the opportunity to share these views with the California Air Resources Board.

Sincerely,

A handwritten signature in black ink that reads "Dallas Burtraw". The signature is written in a cursive, flowing style.

Dallas Burtraw  
Darius Gaskins Senior Fellow

