

**Issue Analysis<sup>1</sup>: Holding Limits in California's  
Greenhouse Gas Emissions Cap-and-Trade Market**

**by**

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In this paper we discuss the current framework for limiting the ownership (“holdings”) of allowances by entities and offer a potential shift in that framework. As a general concept, we recommend more focus on the holdings of a firm *relative* to its compliance obligation rather than on a single holding limit and to allow trading of allowances held in compliance accounts under certain circumstances.

*Goals of Holding Limits*

The motivation for developing limits on allowance holdings is to provide a defense against a single firm using a large share of allowances to either exercise market power or manipulate the allowance market. In order to profitably execute such a strategy a firm would need to be able to a.) control enough allowances that withholding (or threatening to withhold) them from the market would impact prices and b.) retain enough permits beyond the withheld amount so that selling the remainder generated sufficient profits to offset the costs of acquiring all the allowances. By constraining the total allowances a firm is allowed to control, holding limits can be a blunt but effective tool for discouraging such strategies.

Importantly, holding limits are one of the primary tools available to ARB for discouraging and preventing manipulation and market power. While some attempts to withhold permits from the market may be prosecutable under Federal commodity regulations or State law, we can envision many strategies to remove allowances from circulation that may not be easily prosecutable. Further, we agree with the perspective that prevention is preferable to ex-post prosecution, possibly after a market disruption. It should be noted that all commodity markets rely upon transparency as another tool for discouraging manipulation, as we discuss in our concurrent paper on information policy.

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<sup>1</sup> The Emissions Market Assessment Committee (EMAC) was formed to provide independent analysis and advice to the California Air Resources Board (CARB) and staff on implementation of California's greenhouse gas (GHG) cap-and-trade (C&T) market. Issue analyses reflect the views of the EMAC at the time they are released. They are written in order to inform stakeholders of the EMAC's views in a timely manner and to invite feedback from interested parties. The EMAC will update its views as new information arises and circumstances change.

### *Current Holding Limit Framework*

One of the great challenges in developing a policy on holding limits is establishing a limit that sufficiently discourages manipulation while providing sufficient flexibility for firms in the market to execute legitimate compliance strategies. Economic theory provides little guidance on setting holding limit levels. In the context of the California emissions market, one concern is that in some price ranges, we believe that there is very little price-responsive abatement.<sup>2</sup> This means that a small reduction in available allowances could result in a sharp increase in prices *if the overall supply demand balance were to fall within this range.*

Another complication is that the firms participating in this market have very different characteristics. In the first compliance period the largest compliance entities face compliance obligations nearly 100 times that of the median compliance entity. This means that a holding limit that may easily be more than enough for most firms may still be constraining for some of the largest firms.

In order to accommodate this heterogeneity in firms, the current CARB framework has developed two types of ownership accounts: the holding account and the compliance account. This framework allows for large firms to hold large quantities of allowances, on the condition that those allowances be held in *compliance accounts*. Currently compliance accounts are “one-way” accounts. An allowance that is deposited into a compliance account can only be applied to offset the emissions of the firm associated with that account. In other words, allowances held in compliance accounts cannot be resold to other entities.

While *holding account* limits are a fixed number, set at about 5.8 million metric tons (MMT) until 2014, and rising to about 11.7 MMT in 2015, the *compliance* account portion of the holding limit is scaled to the compliance requirements of the firm. Thus a large utility may have many times its holding account amount held in its compliance account. This compliance account limit is set according to a calculation called the *limited exemption*. The limited exemption formula is dynamic, but is roughly scaled to the expected 3 year compliance obligation of the firm, based upon its emissions from previous years. Because of the timing of changes to this limit, there are times during a compliance cycle where a firm may be able to hold up to 200% of its annual obligation, and at times 133% of its three-year obligation in its compliance account.<sup>3</sup>

### *Proposed Changes*

We see two potential issues with the current framework. In theory, limits could be unnecessarily restrictive and limit efficient market adjustments to shocks to specific industries

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<sup>2</sup> As Appendix N to the Cap and Trade regulation details, the bulk of abatement is expected to come from complementary policies, the effectiveness of which will not depend upon the allowance price level. Table N-2 reports results from the Energy2020 model, which predicts that moving from the scenario of a \$15 permit price in 2020 to one of a \$60 permit price in 2020 can only be expected to induce 49 MMT of cumulative GHG reductions.

<sup>3</sup> This reflects the schedule for surrender of the three-year compliance obligation. An entity does not surrender the obligation until the November of the year following the end of the compliance period. The limited exemption allows the entity to begin accumulating for the new compliance period before its triennial surrender.

covered under the cap. Second, while the holding limits for *most* firms likely could be expanded without much increased risk of manipulation, for *some* firms the rules do allow for the accumulation of a substantial long position and to potentially profit from a temporary tightening of the allowance market. These two issues are related and tied to the current system's focus on compliance accounts.

Several stakeholders have argued that the requirements to hold any allowances in excess of the holding limit in compliance accounts could harm liquidity and restrict efficient trades. We see an important distinction between market-wide shocks (e.g. an economic boom) and shocks specific to one industry. Under a market-wide shock, the obligations of most every firm would rise or fall in tandem. Firms that have pre-funded their compliance may not be able to trade with other firms, but if everyone's compliance has risen relative to expectations, they would need to use the allowances anyway. If all firms had low compliance needs, then the inability to trade the allowances carries little penalty, as those allowances would have little value.

However, if one industry (e.g. refining) experienced a surge in demand, while another (e.g. electricity) had unexpectedly low compliance needs, then the fact that many allowances may be "stuck" in the compliance accounts of electricity firms can be inefficient and raise compliance costs. Similar problems could emerge if one firm had a negative shock (say a refinery outage or nuclear plant retirement) that raised or lowered their compliance relative to other firms in the industry. Again, this is only an issue if firms have pre-funded their expected obligations in compliance accounts. Then they would have less ability to adjust to these new conditions.

One might simply remove the distinction between holding and compliance accounts, and allow full trading from both accounts. However, current calculations for limited exemptions do allow some firms with large compliance obligations to theoretically accumulate, at least temporarily large positions. One purpose behind the original limitations on the compliance accounts was that any potential gains from withholding allowances from the market would be limited by the size of the holding account holding limit.

We believe that under many circumstances, however, these restrictions could be relaxed without a significant increase in the risk of market manipulation. In our view, the key issue is not whether a firm owns a large quantity of allowances but whether it has a large *long* position in excess of its compliance needs. We therefore suggest modifying the focus of the current framework to allow for additional flexibility for compliance account transactions while at the same time further limiting the ability of firms to accumulate substantial long positions. While there are other motivations for the restrictions on the compliance accounts, ARB and stakeholders should explore whether these can be accommodated by something less restrictive than a blanket proscription on selling any allowances from compliance accounts.

We believe this is a superior option to simply expanding the holding limit because it allows more flexibility to firms with the least incentive to manipulate prices upward: those firms without large long positions. For a non-compliance entity, the holding limit is equivalent to a limit on its long position, since it has no compliance obligation.

There are several options for such potential changes. We believe ARB should consider allowing some fraction of a compliance account to be eligible for resale to the entire market, or perhaps to firms within the same industry category. One option could be to permit allowances in compliance accounts to be consigned to either the current auction or a possible double-sided auction.<sup>4</sup> We would also recommend exploring limits on the incentive or ability of firms to achieve excessive long positions. Several tools are available for this also. For example, the limited exemption formula could be modified to further cap the absolute quantity or percentage of permits in excess of an annual or 3-year obligation that could be accumulated. Failing that, the relaxation on resale rules for compliance accounts could be restricted to firms that are not long according to measures of current or multi-year expected compliance obligations.

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<sup>4</sup> See related white paper on auctions.