



STRATEGIC CARBON RESERVE

Nicholas Institute Discussion Memo on H.R. 2454, American Clean Energy and Security Act of 2009

Brian C. Murray, Director for Economic Analysis, Nicholas Institute for Environmental Policy Solutions

What it does? The legislation sets aside allowances in a reserve and makes them available to the market to rein in unexpectedly high or extremely volatile allowance prices. By fixing the size of the reserve, long-term cap targets can be maintained while dealing with short-term variation in prices.

Why it is necessary? Cost concerns are probably the single largest barrier to adoption of climate legislation, especially for regions and sectors with high fossil fuel use. Compliance costs, as indicated by allowance prices, may be higher than anticipated if low carbon technologies are slower to materialize, or if offsets are slower to come to market, or economic growth and energy demand fluctuations lead to allowance demand spikes. Stakeholders see the need for some form of insurance against runaway price escalation and disruptive price volatility. The reserve can address this need by releasing more allowances into a tight market on a selective basis.

Waxman-Markey particulars. The goal of the reserve is to keep prices from rising above a certain threshold level set in the legislation. The strategy is to offer allowances at this threshold price as a minimum acceptable bid in a supplemental *strategic reserve auction*. If there is demand for auctioned allowances at this minimum bid price, this means that the reserve is helping contain prices that would presumably otherwise rise above this level. On the other hand, if the prevailing market price is below the minimum acceptable bid, there should be no demand for the reserve auction allowances. There are several key parameters in the Waxman-Markey strategic carbon reserve policy's design that are outlined in Table 1. We evaluate these parameters along with the basic reserve design in the strengths and weaknesses discussion below.

Key Strengths

- Provides price relief while maintaining fidelity to the long-term emissions cap.
- Tying initial reserve price to EPA price projections ties it to officially sanctioned estimates available to Congress at the time of their vote (though it may be appropriate to consider estimates from other government sanctioned sources such as EIA and CBO rather than rely on one study).
- Auctions are a proven and effective device for releasing the reserve allowances to the market and setting a minimum reserve price ensures that additional allowances are only used if they actually achieve the cost containment objectives
- Reserve balance gives a direct indicator of how the system is doing in meeting the emission targets within an acceptable price band

Possible shortcomings

- The reserve, as designed, cannot ... A maximum allowance price cannot be absolutely guaranteed. Since the reserve is limited in size, price relief is limited as well. If allowances are fundamentally short, due, e.g., to unanticipated technological hurdles or failure of the offset market to materialize, this could push up allowance demand beyond what could be met by the fixed reserve. That said, the initial size of the reserve and the reserve price threshold seem sufficient to provide a decent lever against all but the worst case scenarios at least at the beginning. And if worse cases occur and persist, presumably Congress would take broader actions to address.
- Using the 36-month rolling average as the price threshold determinant after three years could allow fairly significant price escalation after that point in time. The committee seems to have responded to these concerns at least partly by placing the price threshold 60% above the 36-month rolling average – the original draft had it at 100% above. Others contend that it is more appropriate for a Board or some other administrative authority to have adaptive control over this threshold price to reflect accumulated market experience and any unusual circumstances in, e.g., energy markets or macroeconomic conditions.
- The mechanism is somewhat complicated – for example, in how reduced deforestation credits can be used to supplement the reserve. Market operators and lawyers will be able to figure this out eventually, of course, but stakeholders and legislators are having a hard time grasping the details.

Other features

- Reserve can scale up to provide more relief by including additional international offsets, specifically reduced deforestation, rather than further cutting into the cap or creating new allowances.
 - Government acting as a de facto agent for holders of these international deforestation credits who wish to offer them for sale in the strategic reserve.
 - Supplemental allowances brought to the reserve this way are discounted by a factor of 20% (i.e., 20% of the allowances are retired rather than re-issued)

Summary

The strategic carbon reserve, while not perfect, is a reasonable supplement to other cost containment provisions in the bill such as offsets and allowance banking and borrowing. For stakeholders who place a high emphasis on firmly fixing emission quantities, it will be preferable to other cost containment options such as a pure tax or safety valve. The main reason for this is that it ultimately is conditioned upon a fixed emissions budget as the primary policy goal, whereas the other approaches strictly cap the price and therefore can break the emissions budget. The basic structure appears sound, though some stakeholders might push for tweaking here and there – such as making the mechanism for establishing the reserve price

be more adaptive and reflective of market experience rather than hard-wiring parameters in the legislation itself, and considering the possibility that the initial reserve itself be established with purely supplemental allowances instead of those already within the cap in order to provide more relief.

Table 1. Key strategic reserve parameters in Waxman-Markey

Parameter	Values
Initial reserve size	<p>Set aside amounts (within each year's cap)</p> <p>1% of allowances 2012-2019</p> <p>2% : 2020-29</p> <p>3%: 2030-50</p> <p>Total – 2.5 billion tons to start</p>
Ways in which the reserve can be supplemented	<p>Unsold allowances at regular allowance auction (maintains a price floor)</p> <p>Purchases from strategic reserve fund set up with auction revenues from strategic reserve auction</p> <p>International offset credits for reduced deforestation (initially to be exchanged at a 4:5 trading ratio, but rumored to go to 1:1 trading for first 5 years)</p> <p>If supplements take the reserve above its initial amt (2.5 billion), the new allowance will have a vintage year. Cannot issue new allowances that exceed in volume the number of allowances that were set aside initially from the cap to create the reserve.</p>
The minimum price at which allowances are offered in the reserve auction	<p>2012: 2 times the EPA price estimate for 2012 – currently EPA estimate is ~\$15/ton</p> <p>Rumored proposed change to 2 x price</p> <p>2013-14: 5% escalation on the 2012 price</p> <p>2015-: 1.60 x 36-month rolling average of market price</p>
Quantity sold at SR Auction/limits	<p>2012-2016: 5% of cap</p> <p>2017: 10% of cap</p> <p>Annual amounts broken into fourths for quarterly auction, can carry over between quarters, but not between years</p>
Use limits for compliance	20% of previous period's emissions obligation