



Stress Testing the Market Stability Reserve under Kerry-Boxer

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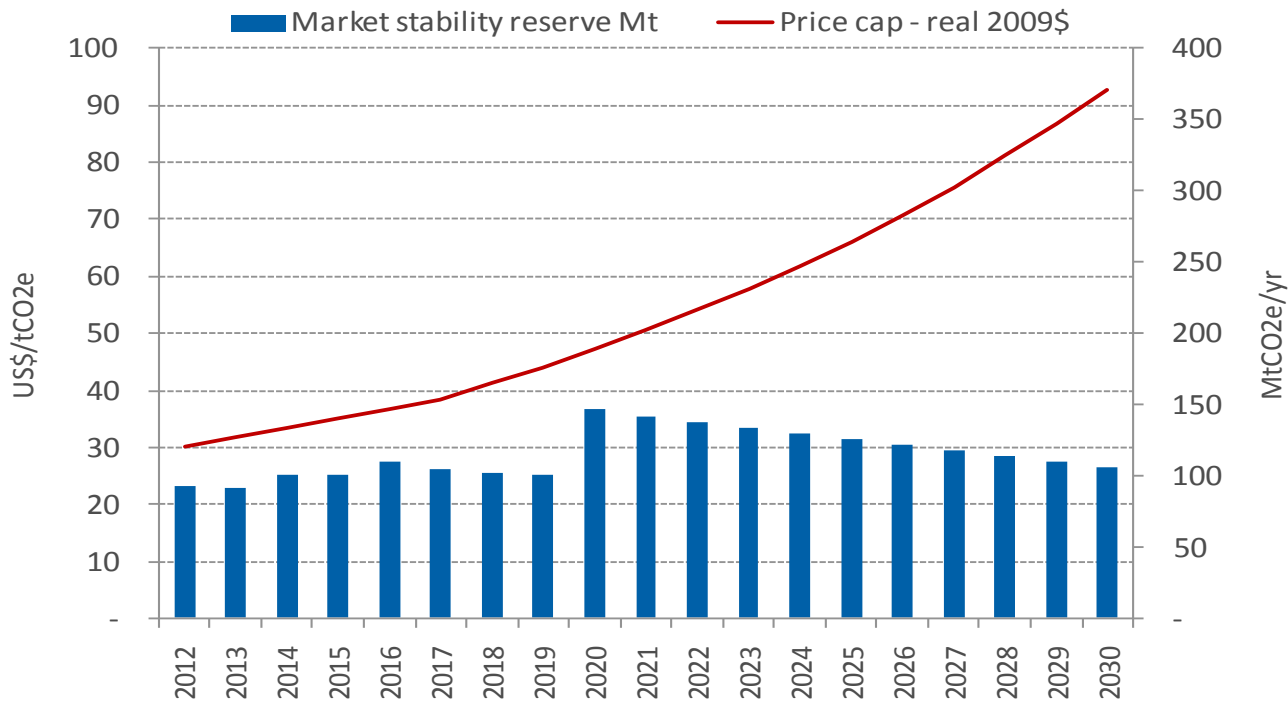
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The Kerry-Boxer Market Stability Reserve (Sec. 726)

- The “market stability reserve” would create a pool of emission allowances (set aside from each year’s limit) that could be injected into the market if a certain price level is reached.
- The program is designed to help contain costs and minimize price fluctuations by auctioning these additional allowances at a minimum set price (\$28/ton in 2012) that increases annually.
- Proceeds from these reserve auctions would then be used to buy domestic offsets or international forestry offset credits that would then be retired and added to the reserve total.



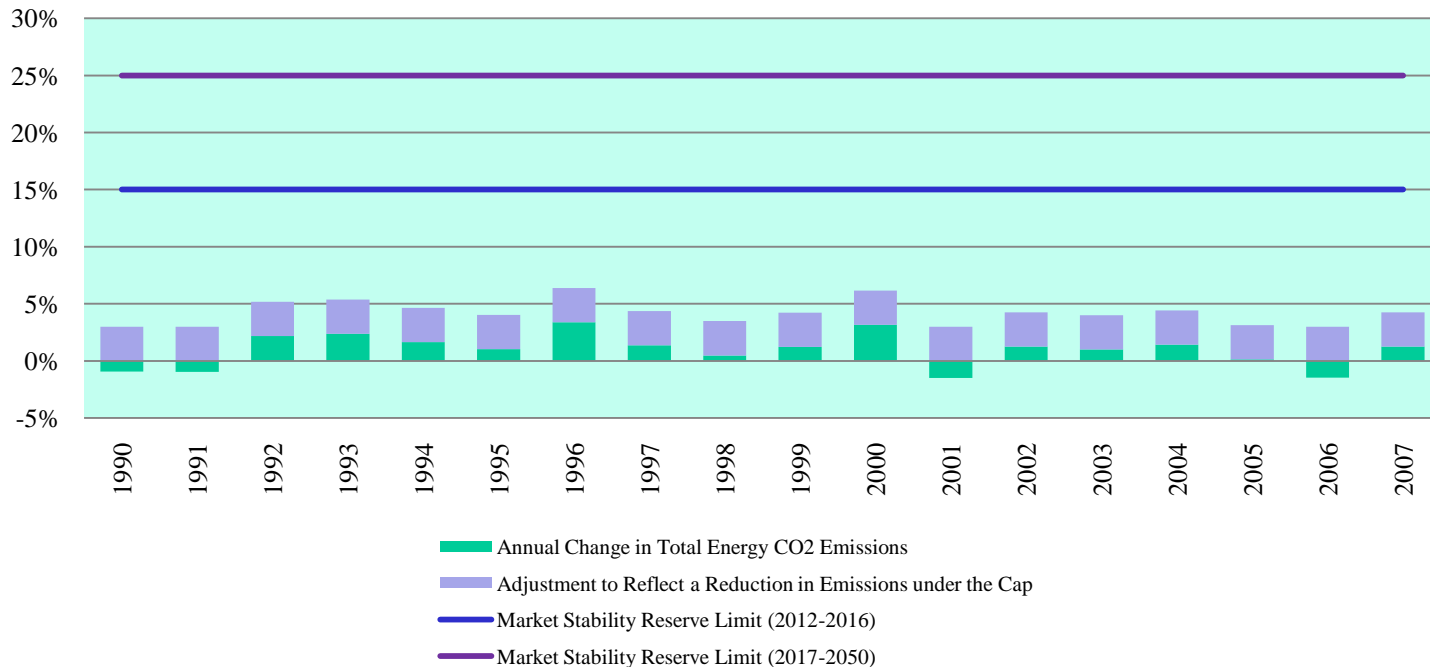
Note: Mt = million metric tonne, US\$ values are in \$2009

Source: New Energy Finance

The Reserve is large enough to absorb the expected fluctuations in CO2 emissions.

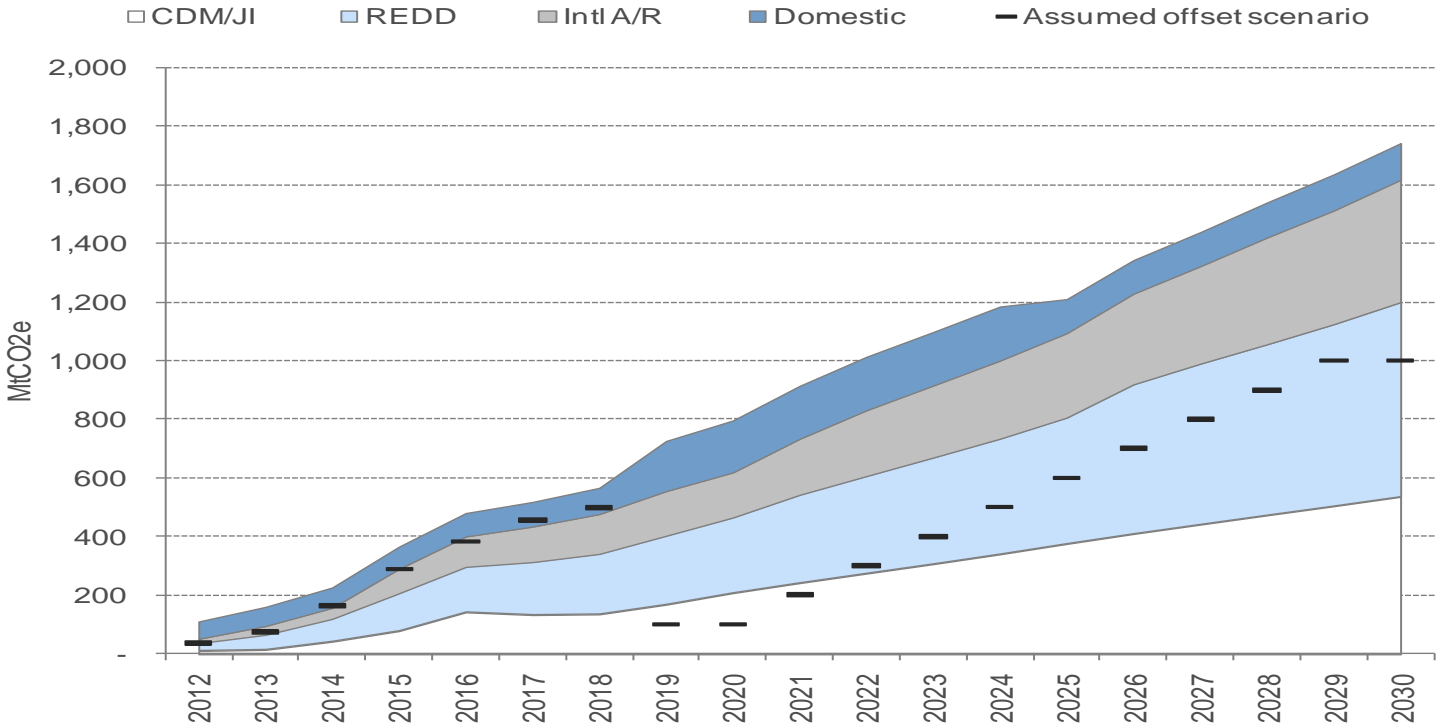
- The Administrator would have the authority to inject 15% of the allowances auctioned in a given year from the “market stability reserve” from 2012-2016 and 25% of allowances thereafter to keep prices contained below the de facto price cap.
- When adjusted up by 3% to reflect the need to reduce emissions under the cap, this injection of allowances represents 2.5 to 4 times as many allowances needed to meet the largest annual demand shock from increased CO2 output seen over this time period.

Annual Percentage Change in Total Energy CO2 Emissions
(source EIA)



But is it large enough to cope with a supply based shock?

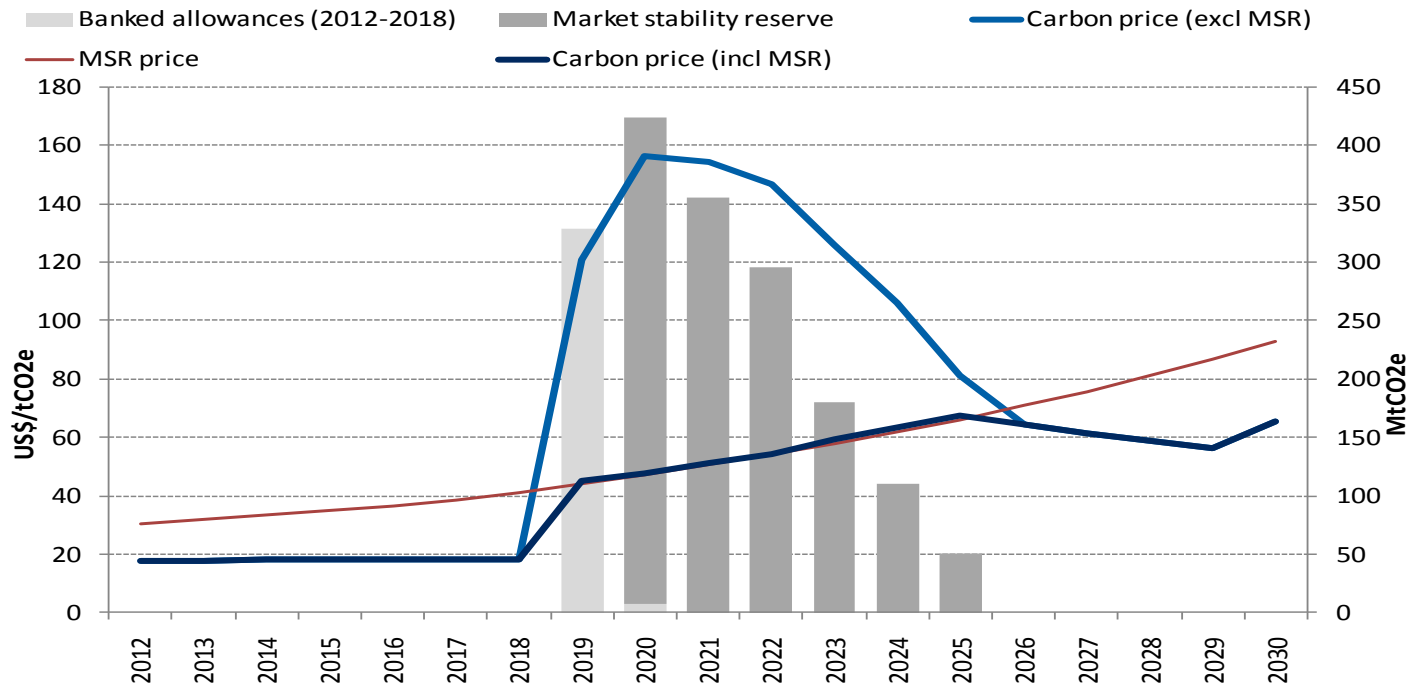
In order to also stress test the reserve from the supply side, NRDC has asked New Energy Finance (NEF) to model a scenario where offset supply suddenly drops (due to additionality concerns) from 700mln tons in 2019 (under NEF’s core offsets case) to 100mln tons and then built back up gradually over time. A supply shock that would reduce the total number of offsets available over the first 18 years of the program by roughly half.



Source: New Energy Finance

Even with low offset supply, the “market stability reserve” will limit price increases.

- Under this very low offsets case scenario, the market stability reserve is still able to contain allowance prices at the minimum reserve auction price (note without a market stability reserve prices are forecast to rise to nearly \$160/ton by 2030).
- NEF modeling results estimate that during the six year period of low offset supply 336Mt of banked allowances and 1,409Mt of MSR allowances would be used to cap the price. This would represent 87% of the total MSR allowances available prior to 2025 or about 2/3rds of the allowances if borrowing were permitted.
- After 2025 prices stay below the price cap as offset availability ramps up again.

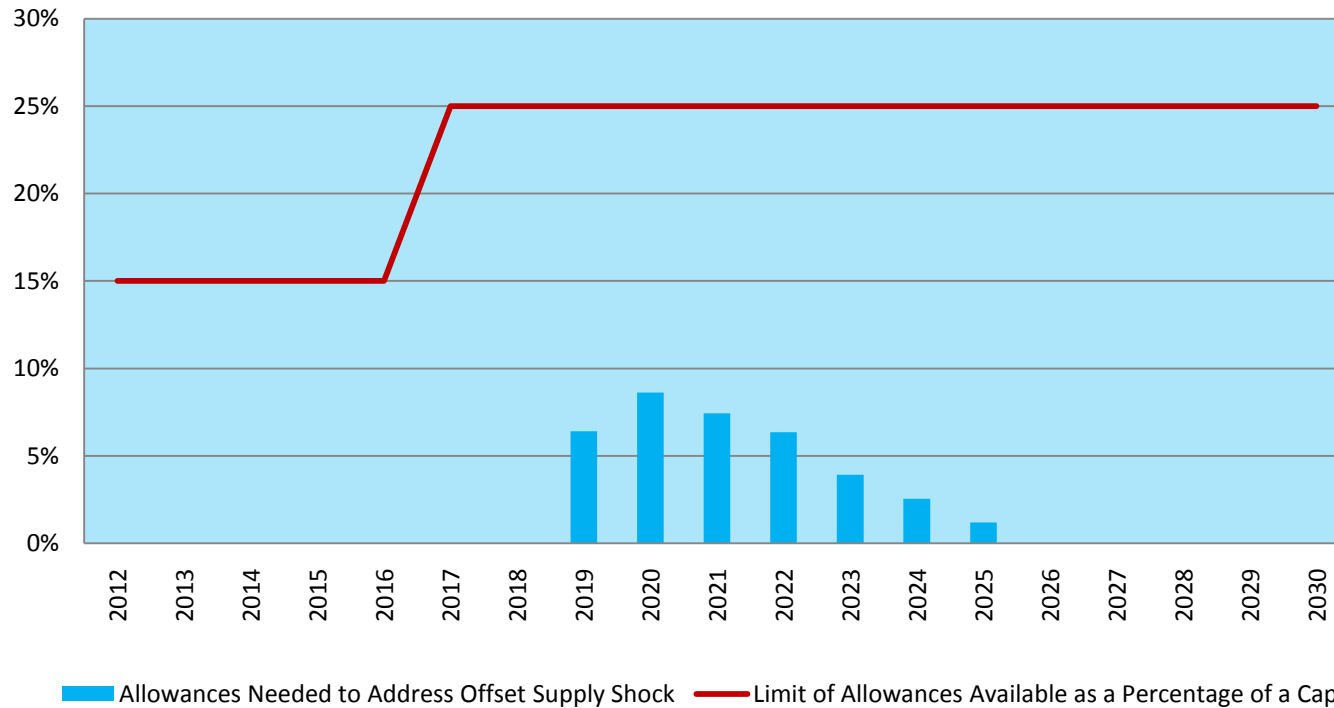


Source: New Energy Finance

In this case, the reserve auction limit is still 3-5 times larger than needed to meet this supply shock.

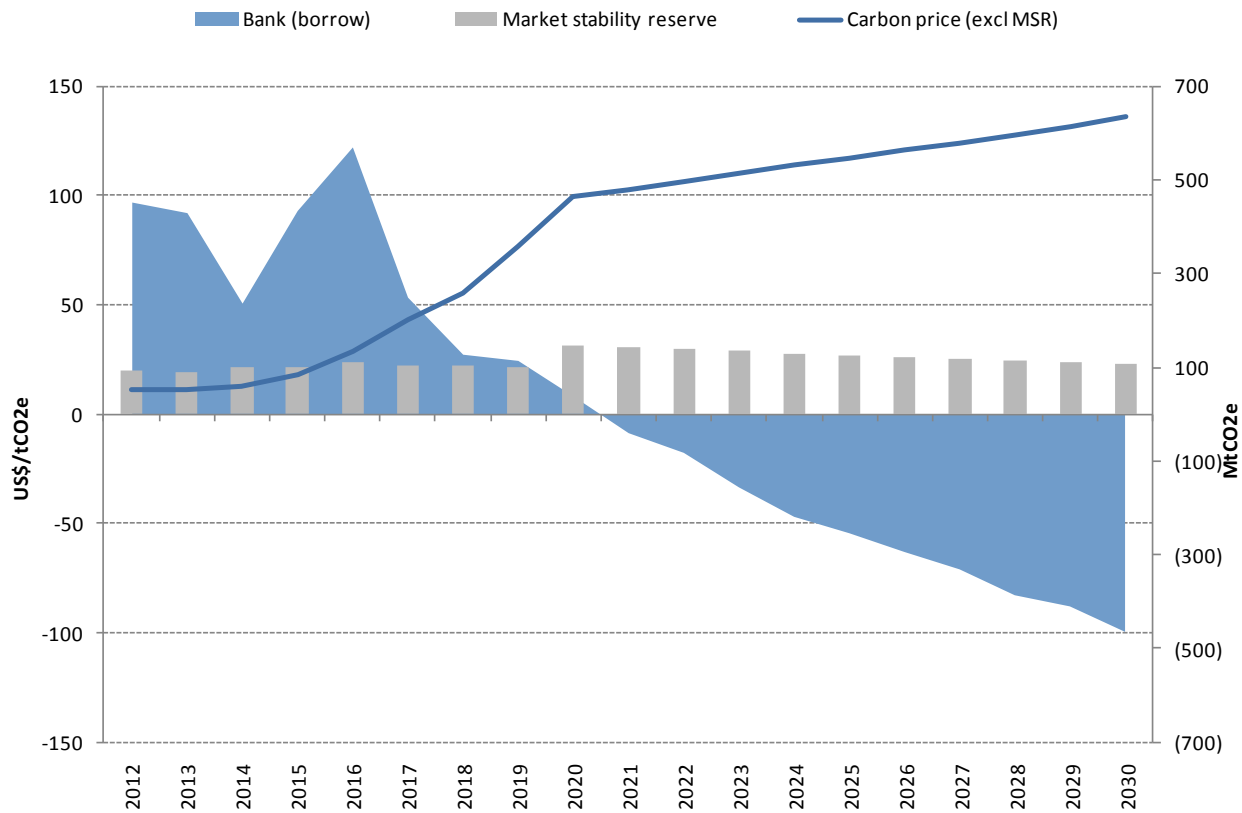
- Under this unlikely offset scenario, the market stability reserve is still able to meet this supply shock using less than a third of the auction limit under the Boxer-Kerry climate bill.

**Allowances Needed to Maintain the Market Stability Reserve as a Percentage of the Cap under Kerry-Boxer
(source New Carbon Finance)**



Banking and Borrowing is also expected to reduce pressure on market stability reserve.

Temporary price spikes may also be mitigated by less banking / more borrowing in the system given how large these flows are expected to be relative to the market stability reserve.



Source: New Energy Finance

Conclusions:

- The market stability reserve appears to respond well to both supply and demand shocks to emissions volumes.
- Under both scenarios, the 15-25% limit on allowances available for auction appears at least two to three times larger than what is needed to contain prices and a result should allow the “market stability reserve” to serve as an effective cap on allowance values.
- Banking and borrowing are also expected to help reduce temporary pressure on the “market stability reserve” and lower volatility.

Recommendations:

- While Sec. 726 (b)(1)(B) appears to allow the “market stability reserve” to borrow allowances from future vintages to maintain the de facto cap, the language in the bill might be made more explicit on this point.