

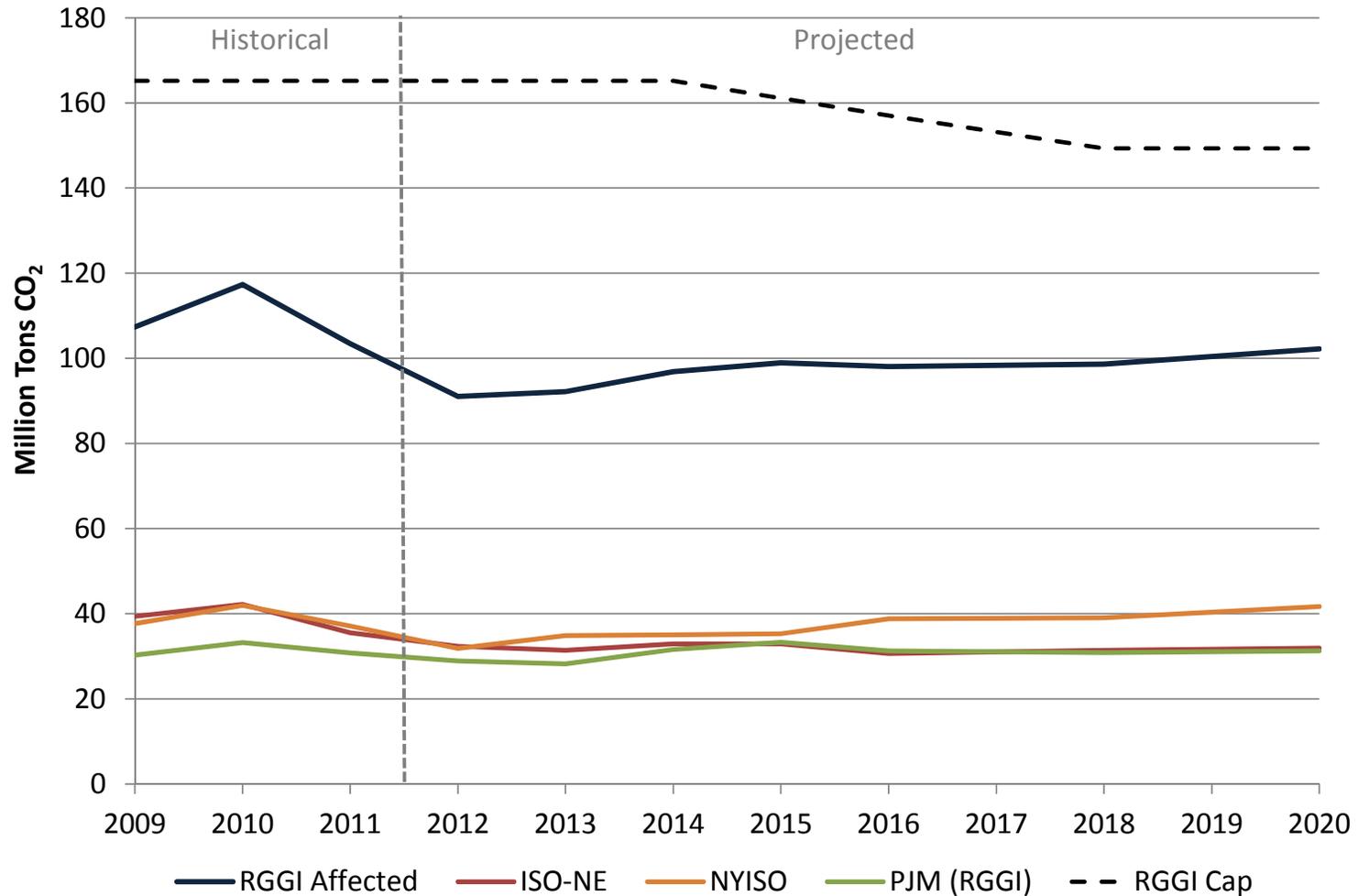
# **RGGI IPM Analysis: Amended Model Rule**

February 8, 2013

# RGGI Model Rule Scenario Analysis

## Reference Case Recap

- The chart shows historical and projected CO<sub>2</sub> emissions for the RGGI states and by ISO.



# RGGI Model Rule Scenario Analysis

## Scenario Assumptions – 91 Cap\_Bank\_MR & 91 Cap\_AltBank\_MR

Scenario Name	Cost Containment Reserve (CCR)	CCR Price Triggers (Nominal \$)	Results of Interim Adjustment for Banked Allowances	2012-2013 Projected Banked Allowances	First Control Period Banked Allowances
91 Cap_Bank_MR	<p><b>2014:</b> Up to 5M allowances</p> <p><b>2015–2020:</b> Up to 10 M allowances annually</p>	<p><b>2014:</b> \$4.00 (2014\$)</p> <p><b>2015:</b> \$6.00 (2015\$)</p> <p><b>2016:</b> \$8.00 (2016\$)</p> <p><b>2017:</b> \$10.00 (2017\$)</p> <p><b>2018-2020-</b> Increased 2.5% annually</p>	<p><b>2014:</b> 84 M Tons</p> <p><b>2015:</b> 70 M Tons</p> <p><b>2020:</b> 62 M Tons</p>	68 M allowances	47 M allowances
91 Cap_Alt Bank_MR	<p><b>2014:</b> Up to 5M allowances</p> <p><b>2015–2020:</b> Up to 10 M allowances annually</p>	<p><b>2014:</b> \$4.00 (2014\$)</p> <p><b>2015:</b> \$6.00 (2015\$)</p> <p><b>2016:</b> \$8.00 (2016\$)</p> <p><b>2017:</b> \$10.00 (2017\$)</p> <p><b>2018-2020-</b> Increased 2.5% annually</p>	<p><b>2014:</b> 84 M Tons</p> <p><b>2015:</b> 70 M Tons</p> <p><b>2020:</b> 62 M Tons</p>	68 M allowances	47 M allowances

# RGGI Model Rule Scenario Analysis

## Scenario Assumptions – 91\_Cap\_Bank\_MR & 91\_Cap\_AltBank\_MR

### Interim Adjustment for Banked Allowances

- For the modeling, we assume the projected 2009-2013 private bank of allowances is 115 M, an estimated 47 M first control bank and projected bank for 2012 and 2013.
- The modeling assumes that market participants do not bank allowances in 2012.
- The modeling assumes in 2013 that the market is aware of program changes and assumes 100% banking of available allowances.
- To correspond with the amended Model Rule the adjustment for the 47M first control bank is spread across 2014-2020 and the adjustment for the projected bank for 2012 and 2013 is spread across 2015-2020.

	2014	2015	2016	2017	2018*	2019	2020
<b>91 Cap_Bank_MR</b>	91	89	87	82	82	82	78
<b>Interim Adjustment for Banked Allowances</b>	84	70	68	64	64	64	62
<b>91 Cap_Alt Bank_MR</b>	91	89	87	82	82	82	78
<b>Interim Adjustment for Banked Allowances</b>	84	70	68	64	64	64	62

\* The 2018 model run year is representative of 2017-2019. The averaged 2018 input represents the policy (same as current policy) of a 2.5% per year reduction to the cap.

## RGGI Model Rule Scenario Analysis

### *Scenario Assumptions – Alternate Banking: 91\_Cap\_AltBank\_MR*

- The IPM model has perfect foresight.
- To examine different assumptions for how market participants might use banked allowances for compliance purposes, the states proposed alternate banking usage assumptions.
- The alternate banking assumes that market participants make decisions related to use of banked allowances for compliance on a shorter time horizon than projected by IPM using perfect foresight.
- Alternate banking scenarios were developed for the 91 Model Rule scenario.
- For this scenario, approximately two-thirds of the banked allowances are assumed to be used during 2014-17 (the end of the first control period after the change to the cap) and the other one-third are used thereafter.

## RGGI Model Rule Scenario Analysis

### *Scenario Assumptions*

- Model run years are 2012, 2013, 2014, 2015, 2016, 2018 (representing 2017-2019), 2020.
- Offsets can be used to meet 3.3% of a compliance obligation. Offset expansion triggers (stage one \$7 and stage two \$10 and international) have been removed.

# RESULTS

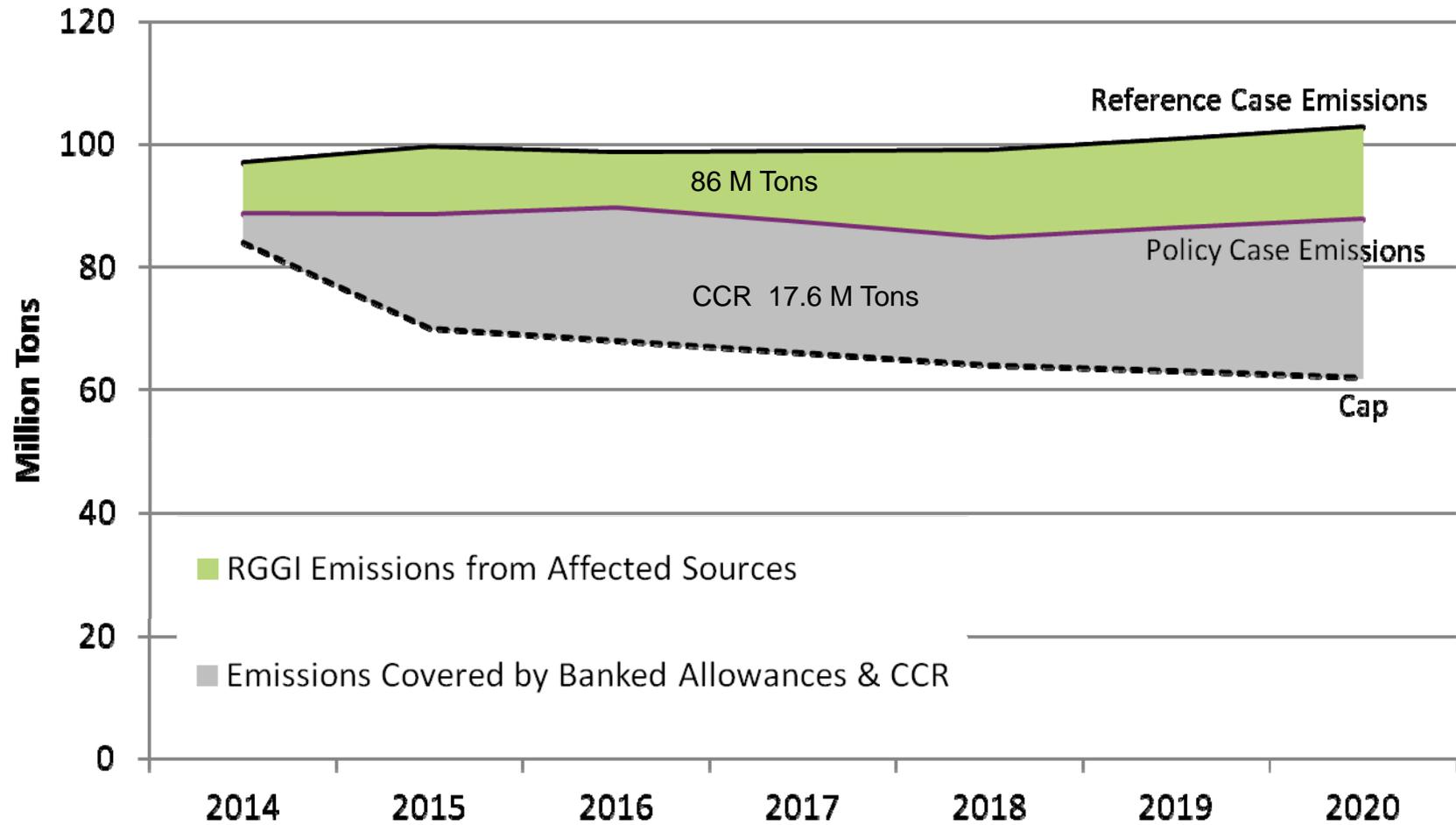
# RGGI Model Rule Scenario Results

## 91\_Cap\_Bank\_MR & 91\_Cap\_Alt Bank\_MR – Results Summary

Scenario Name	Allowance Price (2010\$) Projection (2014-2020)	Cumulative CCR Allowances Released	Offsets	Cumulative Emissions Reduction
91_Cap_Bank_MR	\$6.00 - \$8.40	17.6 M	0 M	86 M
91_Cap_AltBank_MR	\$3.60 - \$10.20	10 M	2.7 M	91 M

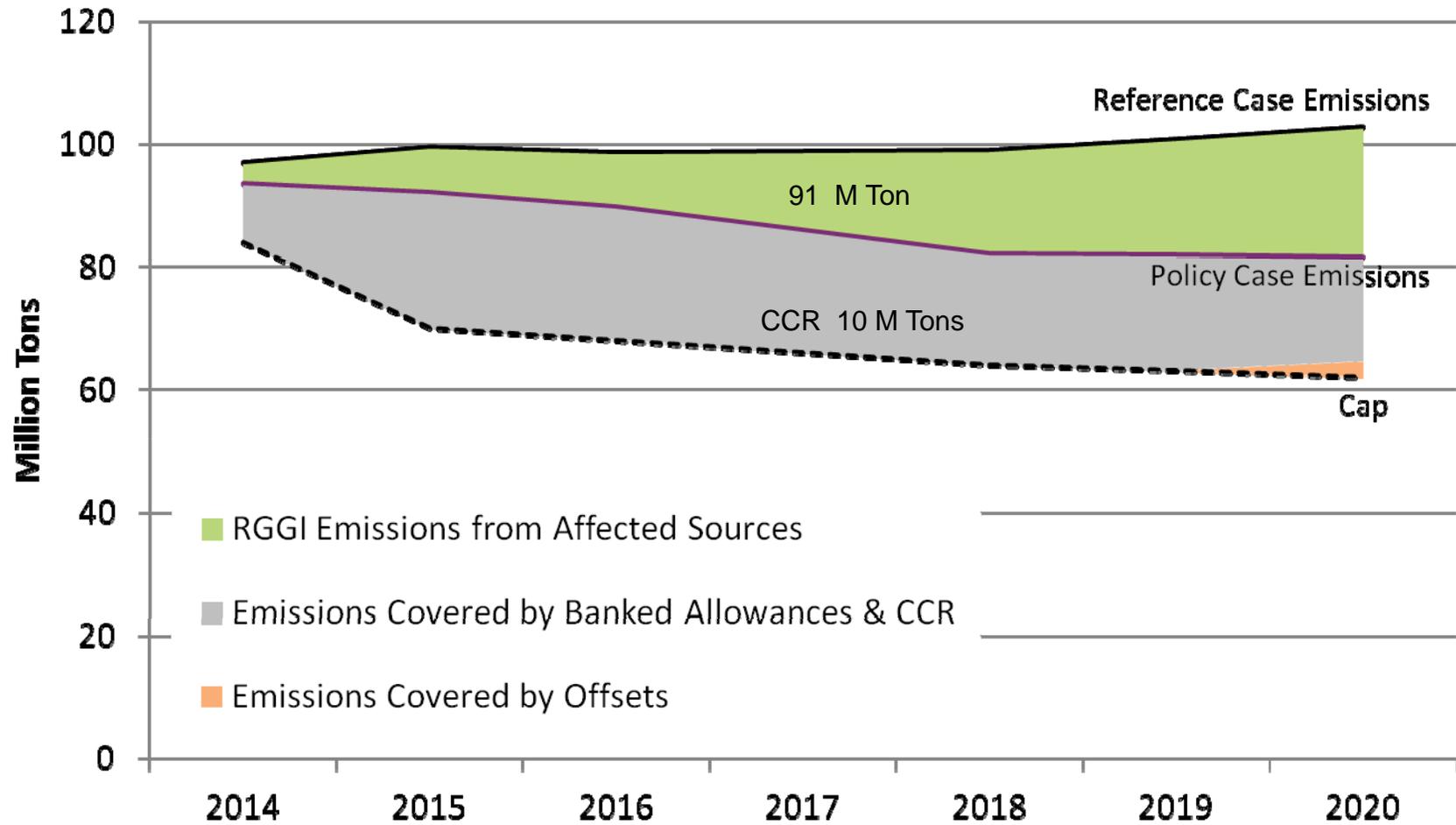
# RGGI Model Rule Scenario Results

## *Sources of Emission Reductions 91 Cap\_Bank\_MR*



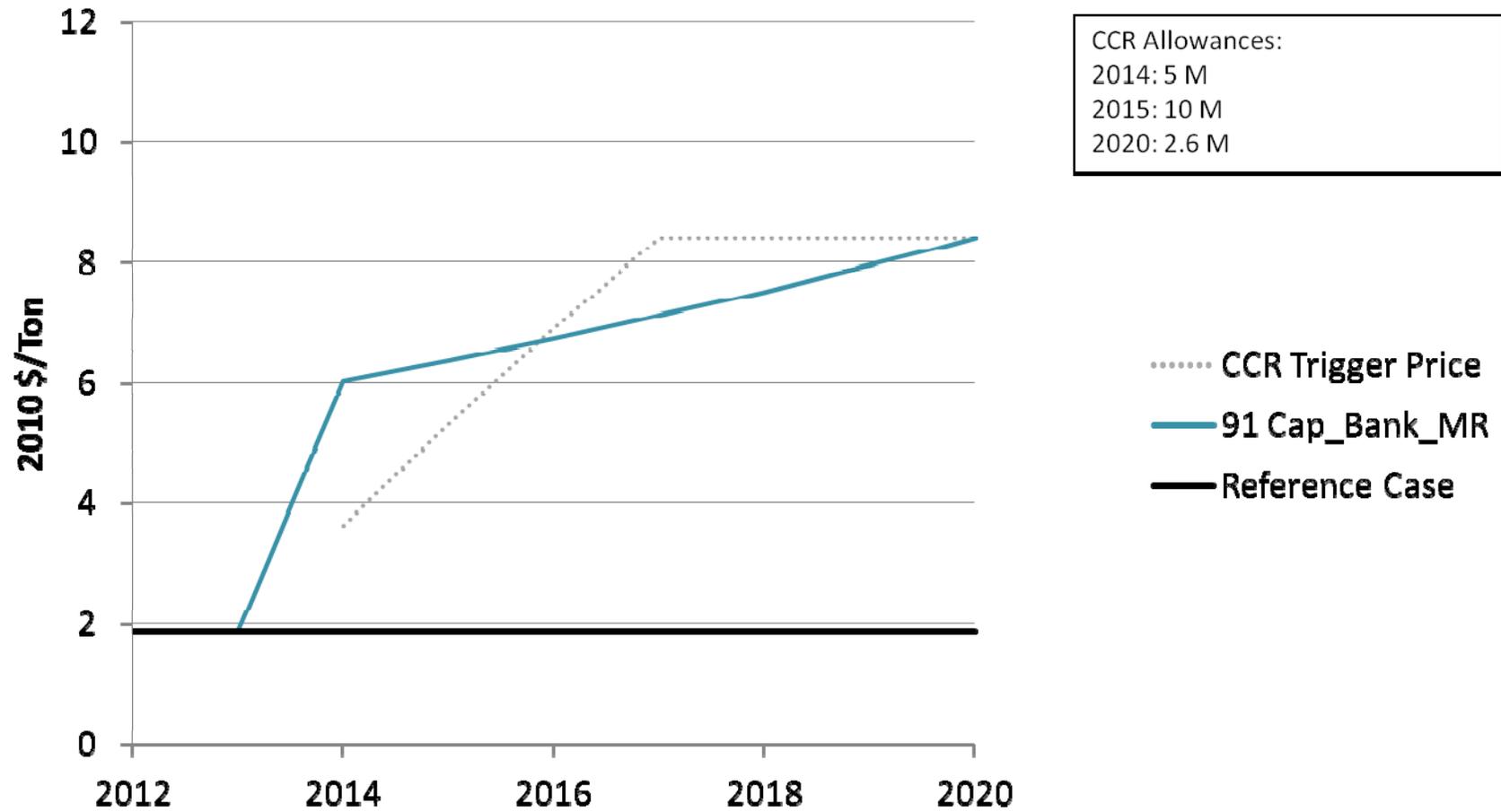
# RGGI Model Rule Scenario Results

## Sources of Emission Reductions 91 Cap\_AltBank\_MR



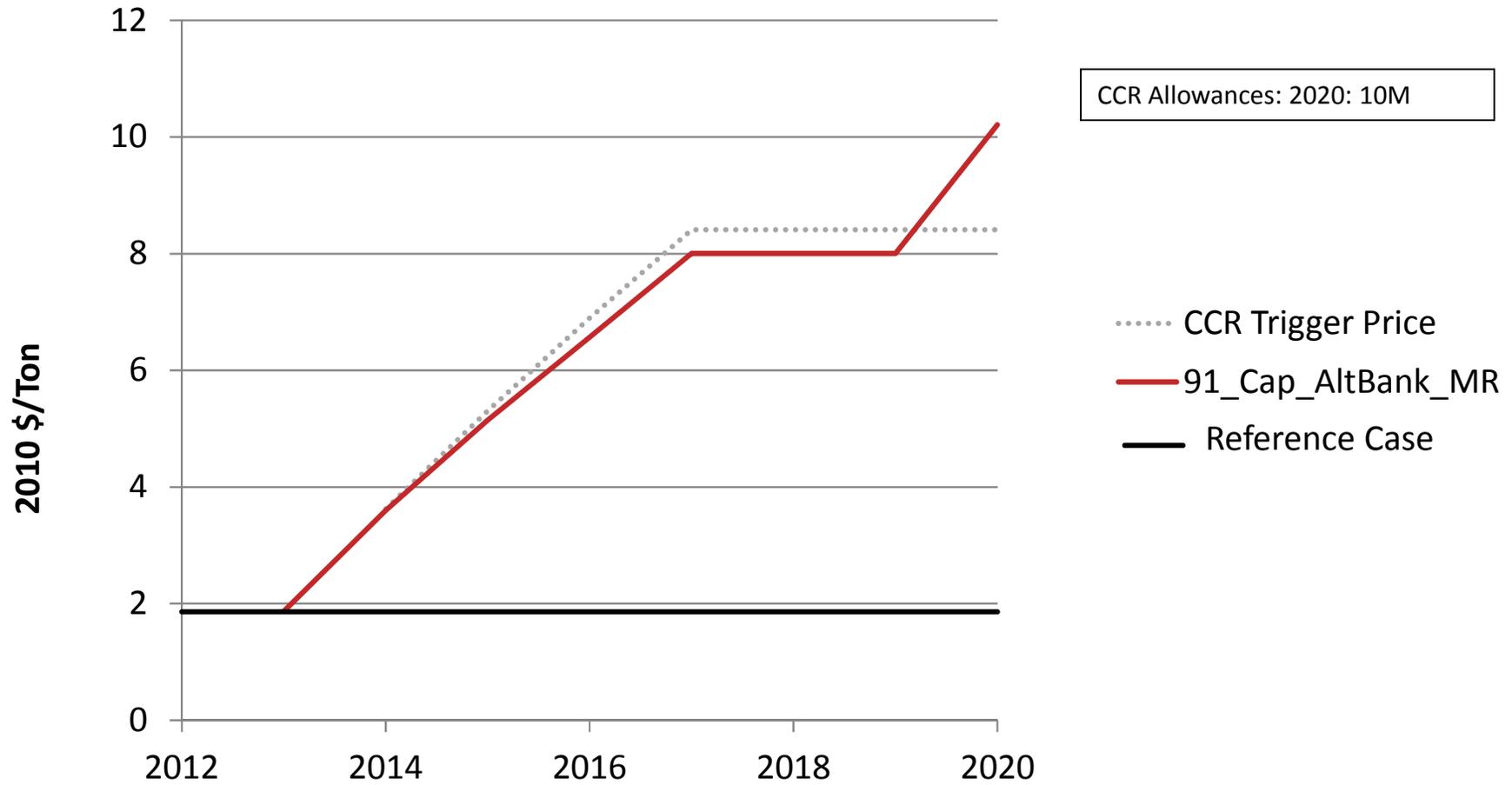
# RGGI Model Rule Scenario Results

## *Allowance Prices 91\_Cap\_Bank\_MR*



# RGGI Model Rule Scenario Results

## *Allowance Prices 91\_Cap\_MR Cases*



# RGGI Model Rule Scenario Results

## *Allowance Prices 91\_Cap\_MR Cases*

