



Overweight California Carbon Allowances vs Global Equities

Recommended Since October 31, 2021

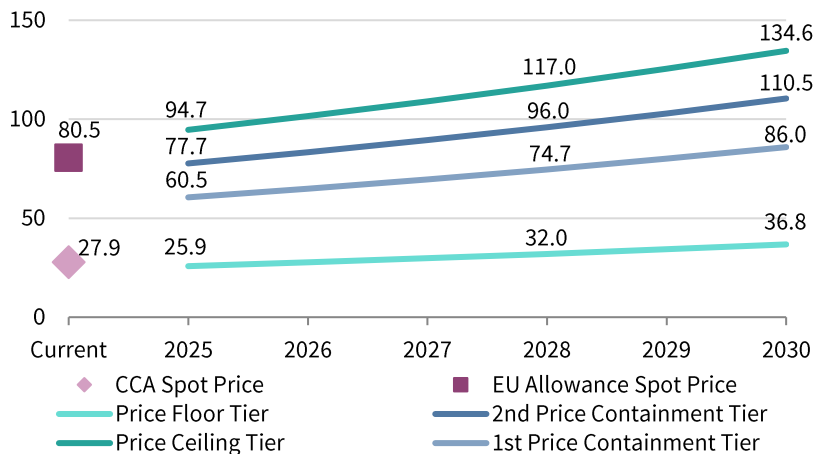
INVESTMENT THESIS: We believe California Carbon Allowances (CCAs) will outperform global equities, given our expectation that supply/demand fundamentals will drive CCA prices up to their first price containment tier. With CCAs priced near the program's floor, they offer highly asymmetric return potential. We prefer owning physical allowances over futures implementation. Regulated entities are allotted free allowances for a portion of their emissions and must purchase additional credits to satisfy remaining obligations.

- **KEY SUPPORT #1:** California projects that its cap-and-trade program will be needed to meet its emissions targets. Accordingly, the state must reduce CCA supply relative to demand. The California Air Resources Board (CARB) has provided more clarity on anticipated changes to tighten supply of allowances. CCA supply is expected to be cut by 180M between 2026, and the program is expected to be extended beyond 2030 through 2045. These changes will increase expected CCA deficits, which in more mature carbon markets have typically led to price increases.

- **KEY SUPPORT #2:** We anticipate that relative to equities, CCAs offer less downside risk with significantly more upside potential. The program includes a floor indexed by inflation plus 5% that limits downside risk, while reductions in supply relative to demand increase upside in contrast to global equities.
- **KEY RISKS:** Regulatory changes present the biggest risk to CCAs, although the program is well established and provides significant revenue to the state of California. As such, implementation delays and poor communication by CARB related to adoption of increased program stringency measures has put downward pressure on CCA prices. A recent executive order issued by President Trump, also presents legal challenges for the CCA program. The program has survived previous legal tests and enjoys strong bipartisan support in California. CCAs can also experience short-term volatility related to technical issues in the options and futures markets. Finally, global equity performance may exceed our expectations. From an implementation perspective, rolling futures cost an estimated 3%–5% annually, while options for owning physical allowances are limited.

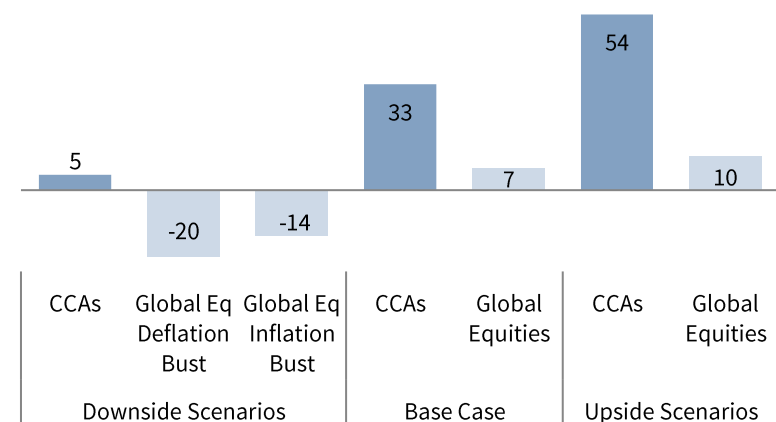
CCA PRICE COMPARED TO EU AND PRICE CONTAINMENT TIERS

As of June 30, 2025 • US Dollars



RETURN PROJECTION SCENARIOS: CCAs VS GLOBAL EQUITIES

As of June 30, 2025 • 3-Yr Annualized Average Compound Return (%)



Sources: Bloomberg L.P., MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: For the left-hand side chart, spot prices are based on near month futures contract prices. Price tiers increase by 5% plus inflation per year, which is assumed to equal US TIPS 10-year breakeven inflation. Price containment tiers are thresholds at which additional allowances are made available as a hedge against higher costs. For the right-hand side chart, for CCAs, the downside scenario assumes prices move to the 2028 price floor; the base case assumes prices move to the 2026 1st price containment tier; and the upside scenario assumes prices move to the 2026 price ceiling. For global equities, the deflation bust downside scenario assumes that normalized P/E ratios decline by 50% and the nominal normalized earnings growth rate averages -2% year-over-year. The inflation bust downside scenario assumes the same P/E contraction with an average growth rate of 6%. The base case for global equities assumes today's normalized P/E is unchanged during the period and the growth rate reflects recent averages. The upside scenario assumes that normalized P/E increases by a decile (or to the all-time max if current P/E ratios are already above the 90th percentile) and an average growth rate of 6%.