International Carbon Action Partnership
ETS Detailed Information

USA - California Cap-and-Trade Program

General Information

Summary	**Status:** ETS in force **Jurisdictions:** California Initiated in 2012, the California Cap-and-Trade Program began its compliance obligation in January 2013. California has been part of the Western Climate Initiative since 2007 and formally linked its system with Québec's in January 2014 and with Ontario's in January 2018 (until the latter's termination in mid-2018). The California program covers sources responsible for approximately 80% of the state's GHG emissions. In 2017, legislation (Assembly Bill [AB] 398) was passed to provide direction on the cap-and-trade system post-2020 to help achieve California's climate goals.
Year in Review	In 2018, two major developments took place: **(1)** A set of reforms for the post-2020 period was approved by the California Air Resources Board (CARB) in December 2018, and is scheduled to come into force in April 2019. **(2)** Ontario's cap-and-trade program, to which California and Québec had been linked since January 2018, was terminated. The termination was addressed through measures that shielded the California and Québec programs from negative effects.
Overall GHG emissions (excluding LULUCF)	**Emissions:** 429.4 $MtC0_2e$ (2016)
Overall GHG emissions by sector	Sector Name — MtCO2e Electricity Generation (In State) — 42.67 Electricity Generation (Imports) — 26.28 Transportation — 174.01 Industrial — 100.37 Commercial — 23.04 Residential — 28.34 Agriculture & Forestry — 33.84 Not Specified — 0.79
Overall GHG reduction target	**By 2020:** Return to 1990 GHG levels **By 2030:** 40% reduction from 1990 GHG levels **By 2050:** 80% reduction from 1990 GHG levels
Carbon Price	*Current Allowance Price (per t/CO2e):* USD 14.91 (unweighted average auction price in 2018)

ETS Size

Emissions covered by the ETS	0.80
GHG covered	CO2, CH4, N2O, SF6, HFCs, PFCs, NF3, and other fluorinated GHGs.
Sectors covered and thresholds	**FIRST COMPLIANCE PERIOD (2013-2014):** Covered sectors include those which have one or more of the following processes or operations: large industrial facilities (including cement, glass, hydrogen, iron and steel, lead, lime manufacturing, nitric acid, petroleum and natural gas systems, petroleum refining, pulp and paper manufacturing, including cogeneration facilities co-owned/ operated at any of these facilities), electricity generation, electricity imports, other stationary combustion, and CO2 suppliers. **SECOND COMPLIANCE PERIOD (2015-2017) AND BEYOND:** In addition to the sectors listed above, suppliers of natural gas, suppliers of reformulated blendstock for oxygenate blending and distillate fuel oil, suppliers of liquid petroleum gas in California, and suppliers of liquefied natural gas. **INCLUSION THRESHOLDS:** Facilities ≥25,000 tCO2e/data year.
Point of regulation	Mixed
Number of liable entities	~500 entities (2015-2017) No information available yet.
Cap	The caps listed below are in MtCO2e. The cap decline factor is about 3.3% between 2018 and 2019 and is rising to an average of over 4.1% in the 2021-2030 period. **FIRST COMPLIANCE PERIOD (2013-2014): 2013**: 162.8; **2014**: 159.7 **SECOND COMPLIANCE PERIOD (2015-2017): 2015**: 394.5; **2016**: 382.4; **2017**: 370.4 **THIRD COMPLIANCE PERIOD (2018-2020): 2018**: 358.3; **2019**: 346.3; **2020**: 334.2 **FROM 2021 to 2031**, every compliance period will be three years. The annual caps are: **2021**: 320.8; **2022**: 307.5; **2023**: 294.1; **2024**: 280.7; **2025**: 267.4; **2026**: 254.0; **2027**: 240.6; **2028**: 227.3; **2029**: 213.9; **2030**: 200.5; **2031**: 193.8

Phases & Allocation

Trading period	The California Cap-and-Trade Program is structured around compliance periods (see “Compliance” below). A cap trajectory until 2030 has been set (see “Cap” above). Allowances are allocated and auctioned with calendar year vintages. Some allowances from future vintages are offered at each auction and may be traded but not used for compliance until the compliance date for the vintage year.
Allocation	Allowances are distributed via auction and/or free allocation. **Free Allocation:** *Industrial facilities:* Facilities receive free allowances for transition assistance and to prevent leakage. The amount is determined by specific benchmarks, production volumes, general cap adjustment factor, and an assistance factor based on assessment of leakage risk.

	Leakage risk is measured through emissions intensity and trade exposure and used to define assistance factors until 2018. From 2018, assistance factors are set at 100% for all sectors receiving free allocation. For the post-2020 period, AB 398 specifies an assistance factor of 100%, meaning there will be no differentiation based on leakage risk for sectors receiving free allocation. Recent regulatory changes also set third compliance period assistance factors to 100% for all sectors. There is no cap on the total amount of industrial allocation. Free allocation is provided for transition assistance to public wholesale water entities, legacy contract generators, universities, and public service facilities. **Consignment:** *Electrical distribution utilities and natural gas suppliers:* Utilities receive allowances on behalf of their ratepayers. All natural gas and electrical utilities must use the allowance value for ratepayer benefit and for emissions reductions. **Auctioning:** In 2018, about 50% of allowances were available through auction, including both allowances owned by CARB and allowances consigned to auction by utilities. The remainder of allowances was allocated for free.

Flexibility

Banking and borrowing	Banking is allowed, but the emitter is subject to a general holding limit. Borrowing of future vintage allowances is not allowed.
Offsets and credits	**QUANTITATIVE LIMIT:** Up to 8% of each entity's compliance obligation. **QUALITATIVE LIMIT:** Currently, six domestic offset types are accepted as compliance units originating from projects carried out according to six "protocols": **(1)** US forest projects; **(2)** Urban forest projects; **(3)** Livestock projects (methane management); **(4)** Ozone depleting substances projects; **(5)** Mine methane capture (MMC) projects; and **(6)** Rice cultivation projects. **FROM 2021:** AB 398 lays out two significant changes to the offset program from 2021 onwards: **(1)** The share of offsets that can be used to fulfillthe compliance obligation will reduce to 4% between 2021-2025 and will remain at 6% thereafter. **(2)** At least half of the offset usage limits post-2020 would need to result in direct environmental benefits (DEBS) in the State of California. The DEBS requirement is operationalized through a performance standard, which defines DEBS eligibility by offset activity type. Offset projects implemented outside of California may still result in DEBS based on scientific evidence and project data provided. For example, afforestation projects outside California could also provide benefits within California by improving the quality of waters flowing through the state. Recent regulatory amendments specify the exact criteria that will be used for determining DEBS.
Market Stability Provisions	**Auction Reserve Price:** USD 15.62 per allowance in 2019. The auction reserve price increases annually by 5% plus inflation, as measured by the Consumer Price Index. **Reserve:** An Allowance Price Containment Reserve allocates allowances from various budgets (1% from budget years 2013-2014; 4% from budget years 2015-2017; and 7% from budget years 2018-2020). AB 398 requires two-thirds of the reserve allowances that remain on 31 December 2017 to be used to populate the two price containment points starting in 2021. The reserve sale administrator can sell accumulated allowances on a regular basis in three equal price tiers. For 2019, these prices are USD 58.34, 65.65, and 72.93. Tier prices increase by 5% plus inflation (as measured by the Consumer Price Index). Through 2020, if all the allowances in the reserve are sold, allowances from future years are transferred to the reserve and made available for sale.

	Price Containment Points: AB 398 reforms the price management provisions starting in 2021: two price containment points triggered at increasing price levels will be filled with remaining APCR allowances. A third price level will be a price ceiling. At this level, allowances (or if no allowances remain, price ceiling units) can be bought in unlimited quantities, with the revenues having to be invested in real, permanent, quantifiable, verifiable, enforceable, and additional emissions reductions on at least a metric tonne for metric tonne basis. In 2021, the two cost containment reserve trigger points and the price ceiling will be set at USD 41.40, 53.20, and 65.00, respectively.

Compliance

Compliance Period	Between two and three years. All allowances for emissions from the whole compliance period must be surrendered by 1 November (or the first business day thereafter) of the year following the last year of a compliance period. A share of allowances (usually about 30% of last year's emissions) must be surrendered annually. **FIRST COMPLIANCE PERIOD:** 2013-2014 **SECOND COMPLIANCE PERIOD:** 2015-2017 **THIRD COMPLIANCE PERIOD:** 2018-2020 **FOURTH COMPLIANCE PERIOD:** starts on 1 January 2021 and ends on 31 December 2023, and each subsequent compliance period will be three years long.
Monitoring, Reporting, Verification (MRV)	**REPORTING FREQUENCY:** One year **VERIFICATION:** Emission data reports and their underlying data require independent third-party verification annually for all entities covered by the program (generally defined as entities with emissions that equal to or exceed 25,000 tCO_2e per year). **OTHER:** Reporting is required for most operators at or above 10,000 tCO_2e per year. Operators must implement internal audits, quality assurance, and control systems for the reporting program and the data reported.
Enforcement	Penalties may be assessed pursuant to 'Health and Safety Code Section 38580' (misdemeanor, fines, and possibly imprisonment). There are separate and substantial penalties for mis- or non-reporting under the 'Mandatory Greenhouse Gas Reporting Regulation.'

Linking

Links with other Systems	California linked with Québec's ETS on 1 January 2014. The two extended their joint market by linking with Ontario on 1 January 2018 until the termination of Ontario's system in mid-2018.

Other Information

Institutions involved	California Air Resources Board (CARB)
Evaluation / ETS review	Pursuant to requirements in existing legislation (AB 32, AB 197, and AB 398), CARB must update the California Climate Change Scoping Plan at least every five years and must provide annual reports to various committees of the legislature and the board.

	These updates and reports provide opportunities for future review of the cap-and-trade Program's progress in meeting the 2030 target.
Revenue	Since beginning of program: USD 9.47 billion Collected in 2018: USD 3.02 billion **Revenue From Auction of California-owned Allowances:** Most of California's revenue goes to the Greenhouse Gas Reduction Fund, of which at least 35% must benefit disadvantaged and low-income communities. The fund also invests the proceeds in projects that reduce GHG emissions. **Revenue From Auction of Utility-owned Allowances:** Electric and natural gas utilities are allocated allowances, a portion of which must be consigned to auction. Auction proceeds must be used for ratepayer benefit and for emissions reductions.
Implementing Legislation	Global Warming Solutions Act of 2006 (AB 32) AB 398 Current regulation can be found on the CARB website

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