Low-Carbon Fuel Standard (LCFS)
Updated June 2017

Overview

Investments in cleaner transportation will help California meet its aggressive greenhouse gas reduction goals. The Low-Carbon Fuel Standard (LCFS) aims to address emissions in the transportation sector by promoting cleaner fuels and reducing the carbon intensity of transportation fuels in California by at least 10 percent below 2010 levels by 2020.

The LCFS is one of the main greenhouse gas reduction measures adopted to implement AB 32, the California Global Warming Solutions Act of 2006,[1] which calls for the state to cut greenhouse gas emissions to 1990 levels by 2020, and is a key part of Governor Brown's goal of cutting petroleum use in the state in half by 2030.[2] The California Air Resources Board (ARB) adopted the LCFS regulation in 2009, subsequently amended it in 2011, and approved its re-adoption in 2015.[3] The program aims to transform and diversify the transportation fuel pool, reduce petroleum dependency, and reduce emissions of air pollutants and greenhouse gases in California.

LCFS applies to fuel that is sold, supplied, or offered for sale in California, and to any person responsible for that transportation fuel. Providers of clean fuels that already meet the 2020 standard may opt-in to LCFS to generate and sell credits to regulated fuel suppliers that do not meet the standard.

Utility Customer Rebates

The electric and natural gas utilities began to distribute customer rebates in 2017. The electric and natural gas utilities in California can generate LCFS credits by providing low-carbon transportation fuels: electricity for electric vehicles, and natural gas or renewable natural gas for compressed natural gas (CNG) or liquefied natural gas (LNG) vehicles. The utilities sell these credits and return the revenue to their customers driving electric or natural gas vehicles as compensation for the customers' contribution to California's transition to cleaner transportation fuels.

The California Public Utilities Commission (CPUC) directed the large investor-owned utilities (IOUs) to establish customer rebates as means of distributing the LCFS credit revenue. The rebate amount that customers receive can vary depending on the utility, plug-in electric vehicle (PEV) adoption within the given service territory, natural gas fuel consumption, the price of LCFS credits, program administrative costs, and the number of PEV or natural gas-fueled vehicle rebate applicants.[4] Each utility takes a slightly different approach to returning the value of the credits, as described below.

Electric Rebates

Drivers that own or lease plug-in electric vehicles (including both pure battery electric vehicles and plug-in hybrids) and are residential customers of Pacific Gas & Electric (PG&E), Southern California Edison (SCE), or San Diego Gas & Electric (SDG&E) are eligible to receive rebates through the Low-Carbon Fuel Standard program.

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[1] Information on the implementation of Assembly Bill 32 - https://www.arb.ca.gov/cc/ab32/ab32.htm
[2] California's 2030 climate commitment, cutting petroleum use in half by 2030 - https://www.arb.ca.gov/newsrel/petroleum_reductions.pdf
[3] LCFS information is available on ARB's website: https://www.arb.ca.gov/fuels/lcfs/lcfs.htm.
[4] PG&E AL 3763-G/4925-E

- PG&E Clean Fuel Rebate – One-time rebate.[5] PG&E calculates the rebate amount by approximating the expected revenue available from the sale of LCFS electric credits in a given rebate period,[6] subtracting the expected administrative costs and any contingency amount, and dividing that all by the expected number of qualified applicants.[7]
  - **2017 Credit – $500**
  - **Eligibility –** Only one rebate will be given per vehicle, each applicant must have paid the vehicle's current registration fees, and the vehicle must be registered to the address on the PG&E account.

    Application – Applicants will need their PG&E account number and current vehicle registration card. The application is located here.

- SCE Clean Fuel Reward Program – One-time rebate. SCE calculates the rebate amount based on a conservative estimate of PEV adoption, rate of customer participation, and future LCFS credit price.[8]
  - **2017 Credit – $450**
  - **Eligibility –** SCE customers who own or lease a PEV with a Vehicle Identification Number (VIN) registered to the same residential address on their active SCE account, as well as a current vehicle registration. Over the lifetime of the vehicle, each PEV can qualify for up to three rebates, eligible when the ownership transfers. Each owner can qualify for one rebate (unless all three have already been exhausted for that PEV).
  - **Application –** PEV owners must provide proof of ownership by uploading the permanent vehicle registration. The application is located here.

- SDG&E Electric Vehicle Climate Credit – Annual credit of at least $50 per PEV credited to the electric bill, until the funding period ends in 2020.[9] SDG&E calculates the revenue distributed to each vehicle owner by dividing the net cost (LCFS revenues – program implementation costs) by the number of PEV owners receiving rebates.[10]
  - **2017 Credit – $200**
  - **Eligibility –** SDG&E customers who own or lease a PEV, which is registered to their residence.
  - **Application** – Applications for the 2017 program ended in May of 2017. Customers must re-enroll each year to continue receiving rebates. A copy of the California vehicle registration card or new vehicles dealer notice of temporary identification, and an SDG&E residential account number are both required. For the 2017 credit, the

[5] "Rebate amounts are subject to change at any time and maybe greater or less than the current value posted in the application in the future." - PG&E Clean Fuel Rebate Terms & Conditions.
[6] "Rebate Period" is the time period that corresponds with the calculation of an annual on-bill rebate - https://www.pge.com/nots/rates/tariffs/tm2/pdf/GAS_3575-G.pdf at 21
[7] https://www.pge.com/nots/rates/tariffs/tm2/pdf/ELEC_4711-E.pdf at 4.
[8] https://www.sce.com/NR/sc3/tm2/pdf/3194-E.pdf at 12.
[9] Rebate amount outlined here - https://www.sdge.com/clean-energy/electric-vehicle-climate-credit
[10] http://regarchive.sdge.com/tm2/pdf/2716-E.pdf at 8.

registered owner of the EV must live in the area served by SDG&E as of February 28, 2017. Those who qualify will receive a credit on their SDG&E bill by the end of September 2017 or sooner. Applications are located here.

Natural Gas Rebates

- PG&E Clean Fuel Rebate for CNG – Annual, on-bill rebate, the amount of which will vary based on individual CNG consumption. To calculate the amount of the rebate returned to customers, PG&E takes the total amount of revenue to be distributed for a given rebate period and divides it proportionally among each CNG customer based on each one's total CNG fuel consumption during the rebate period.[11]
  - **Eligibility –** Eligible customers must have an active PG&E CNG account at the time of the rebate distribution, and have purchased CNG through this account from a PG&E fueling facility within the rebate period.
  - **Application** – Eligible customers will automatically receive the Clean Fuel Rebate as an annual credit on their bill, so there is no need to apply.

- SoCal Gas and SDG&E CNG Rebate – Each utility will apply the revenue it receives from its LCFS credits to reduce the rates customers pay at the utilities' CNG stations. The programs will begin in mid- to late-2017. More details to come.

ARB's LCFS Program and Utility LCFS Credit Generation

On January 18, 2007, the Governor issued Executive Order S-1-07, which called for a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020. Pursuant to AB 32 and Executive Order S-1-07, ARB developed the LCFS regulation, and began implementation on January 1, 2011.

To achieve the overall LCFS target, ARB sets annual carbon intensity (CI) standards for gasoline, diesel, and the fuels that replace them, which decreases over time to help California meet its fuel and greenhouse gas reduction goals.[12] CI is the measure of greenhouse gas emissions associated with the full lifecycle of the fuel, including the emissions associated with producing, transporting, distributing and using the fuel.

The LCFS regulation primarily applies to providers of finished transportation fuels. It exempts providers of clean fuels that already meet the 2020 target, but those providers can opt-in to the LCFS program to earn credits.

For electricity used as a transportation fuel, the entities that are eligible to generate LCFS credits are:

- Electric vehicle service providers for public charging stations
- Site hosts of private access PEV charging equipment at a business or workplace
- PEV fleet operators for fleets of PEVs (including electric forklifts)

[11] https://www.pge.com/nots/rates/tariffs/tm2/pdf/ELEC_4711-E.pdf at 8.

[12] LCFS table on carbon intensity values of current certified pathways: https://www.arb.ca.gov/fuels/lcfs/fuelpathways/cirange.jpg.

- Transit agencies operating fixed guideway systems or electric buses
- Battery switch station owners
- Electrical Distribution Utilities (or IOUs), who are the default credit generators on behalf of residential PEV charging in their service territories. IOUs can also collect credits for all of the above categories, if no other parties opt-in to collect credits.

ARB requires IOUs that opt-in to the LCFS program to use all proceeds from selling their LCFS credits to benefit current or future EV customers. While ARB does not require the same for natural gas distribution utilities that opt-in to the program, the CPUC does require this in the case of natural gas used as a transportation fuel.[13]

ARB calculates the number of credits associated with customers' PEV charging using a standard methodology for all electric utilities.[14] Natural gas transportation fuels that meet the LCFS target through 2020, including CNG, bio-CNG, bio-LNG, and bio-L-CNG, currently generate credits. Renewable natural gases from bio-methane with lower CIs earn more LCFS credits than fossil compressed natural gas (CNG).[15] The LCFS is performance-based and fuel-neutral, allowing the market to determine how the carbon intensity of California's transportation fuels will be reduced. Under the current LCFS regulation, the 2020 standard of a 10 percent CI reduction will also be implemented post-2020.

Regulated fuel suppliers must ensure all of the fuel they sell in the state each year meets the annual LCFS CI standard. Since the start of the LCFS program, low-carbon fuel use has increased, and in aggregate, regulated parties have over-complied with LCFS in every quarter since its implementation.[16]

CPUC Procedural History

The CPUC is involved in LCFS because the selling of credits and allocation of revenue affect IOU ratepayers, gas and electric rates, and IOU programs related to transportation electrification.

On March 24, 2011, the CPUC opened Rulemaking (R.) 11-03-012 to address potential utility cost and revenue issues associated with greenhouse gas emissions, including revenues from the utilities' sales of LCFS credits.[17] On February 8, 2012, the Administrative Law Judges at the CPUC issued a ruling in R.11-03-012 requesting proposals for the use of revenues from the sale of LCFS credits and proposing policy objectives by which the CPUC could evaluate LCFS revenue proposals. On November 25, 2013, the Assigned Commissioner and Administrative Law Judge issued a revised scoping memo inviting parties to submit updated proposals.

A May 2014 Decision (D.14-05-021, as corrected by D.14-07-003) authorized utilities to sell LCFS credits and established criteria and reporting requirements for the sale of LCFS credits, pursuant to Public

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[13] http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M143/K640/143640083.PDF - Ordering paragraph 1 and 2.
[14] https://www.arb.ca.gov/fuels/lcfs/workgroups/elect/022217notice.pdf.
[15] ARB discussion paper on natural gas as a transportation fuel: https://www.arb.ca.gov/fuels/lcfs/lcfs_meetings/12022016discussionpaper_ng.pdf.
[16] https://www.arb.ca.gov/fuels/lcfs/dashboard/dashboard.htm.
[17] Scoping Memo available at: http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/132932.PDF.

Utilities Code Section 853(b).[18] The reporting requirements direct utilities with Procurement Review Groups to report sales of LCFS credits to these groups quarterly, and those without must report sales of credits to the CPUC Energy Division and the Office of Ratepayer Advocates (ORA). It directs utilities to file a confidential report with the Energy Division by April 30 of each year containing information about LCFS credit sales for the prior year. Their reports include the number of credit sales transactions, the means by which the credits were sold, the volume of credits sold, the revenue generated by each sale, administrative costs, the amount of revenue disbursed to customers, and the means by which it was distributed.[19] D.14-05-021 also ordered utilities that have opted-in to the LCFS program and wish to sell credits to file an Advice Letter proposing an implementation plan for doing so in accordance with the direction provided in the decision, and adopting policies for the return of LCFS revenue to customers.

In accordance with the LCFS regulation, the CPUC issued another Decision in December of 2014 (D.14-12-083), adopting a methodology for the electric and natural gas utilities to allocate revenue they generated from the sale of LCFS credits.

D.14-12-083 directed the electric utilities to educate the public on the benefits of transportation electrification, and to provide rate options that encourage off-peak charging and minimize adverse impacts to the electric grid. They were also directed to receive credits for the electricity sold as fuel to customers that drive plug-in hybrid, fully-electric, or natural gas-fueled vehicles. The CPUC provided several options to the utilities for how to return the value of those credits back to the customers participating in their LCFS programs. Under that decision, electric utilities can return the value of their LCFS credits to customers either by:

- Reducing the purchase costs of PEVs through rebates or other incentives, or
- Providing an annual credit on electric bills of customers with PEVs

Natural gas utilities can return the value of their LCFS credits to customers either by:

- Reducing the price of CNG at utility-owned public stations, or
- Providing an on-bill annual credit for residential customers with natural gas vehicles

Regarding the Advice Letters ordered by D.14-05-021, D.14-12-083 further clarified that the utilities should file revenue return implementation plans for electric and natural gas within 90 days of the adoption of the Decision.[20] It also directs the utilities to submit Advice Letters by September 30 of each year starting in 2015, containing forecasts of LCFS credits and revenues for the following calendar year, as well as balancing account true-ups.[21] D.14-05-21 authorized electric and gas utilities selling LCFS

[18] Public Utilities Code Section 853(b) provides for the CPUC to exempt a utility from the requirements of Public Utilities Section 851, which prohibits utilities from selling, leasing, assigning, or otherwise disposing of its property necessary to the performance of its duties to the public, and to place terms, conditions, rules and/or requirements upon any such exemption.
[19] D.14-05-021, Appendix C outlines the reporting requirements for the sale of LCFS credits.
[20] Outlined in Appendix A of D.14-12-083.
[21] Outlined in Appendix C of D.14-12-083.

credits to establish balancing accounts to track LCFS credit revenue. D.14-12-083 then prescribed detailed information requirements for the balancing account advice letter filing.[22]

In March 2015, each utility submitted its implementation plan: PG&E submitted AL 3575-G/4604-E,[23] SDG&E submitted AL 2370-G[24] and AL 2716-E,[25] SCE submitted AL 3194-E,[26] and SoCalGas submitted AL 4779.[27] SDG&E filed a subsequent revision of their Implementation Plan in April 2016 via Advice Letter 2882-E.[28]

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[22] http://regarchive.sdge.com/tm2/pdf/2716-E.pdf.
[23] https://www.pge.com/nots/rates/tariffs/tm2/pdf/GAS_3575-G.pdf.
[24] http://regarchive.sdge.com/tm2/pdf/2370-G.pdf.
[25] http://regarchive.sdge.com/tm2/pdf/2716-E.pdf.
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