

# RIVERSIDE PUBLIC UTILITIES

## Board Memorandum

**BOARD OF PUBLIC UTILITIES ELECTRIC COMMITTEE**

**DATE: JULY 14, 2021**

**SUBJECT: UPDATE ON TRANSPORTATION ELECTRIFICATION AND CREATION OF PROGRAMS FOR ELECTRIC VEHICLE RELATED REBATES USING LOW CARBON FUEL STANDARD REVENUE FOR A TOTAL OF \$730,000 – SUPPLEMENTAL APPROPRIATION**

**ISSUES:**

Consider update on transportation electrification and approve new programs for electric vehicle related rebates using Low Carbon Fuel Standard revenue in the amount of \$730,000 for Fiscal Year 2021/22 and continue the authorization of the use of these Rebate Programs based on an annual report to the Board on the Rebate Programs.

**RECOMMENDATIONS:**

That the Board of Public Utilities Electric Committee recommends that the Board of Public Utilities recommend that the City Council:

1. Approve the Residential Used Electric Vehicle Rebate, the Residential Home Charging Electric Vehicle Charging Rebate, and the Non-Residential/Multifamily Electric Vehicle Charger Rebate Programs, using proceeds from the sale of Low Carbon Fuel Standard credits in the amount of \$730,000 for Fiscal Year 2021/22;
2. Authorize the City Manager, or designee, to execute the Rebate Programs and take all necessary actions required, or advisable to implement, administer, fund, and carry out the City of Riverside's responsibilities under the Rebate Programs; including the ability to make non-substantive changes, as well as to execute future amendments to the Rebate Programs under substantially similar terms and conditions;
3. Authorize a supplemental appropriation, fully offset by proceeds from the sale of Low Carbon Fuel Standard credits, in the total amount of \$730,000 and appropriate expenditures as follows: 1) \$150,000 to the Residential Used EV Rebate Account; 2) \$150,000 to the Residential Home Charging EV Charging Rebate Account; 3) \$400,000 to the Non-Residential/Multifamily EV Charger Rebate Account; and 4) \$30,000 to the Marketing/Education/Outreach Account from the Electric Fund Low Carbon Fuel Reserve Account;
4. Direct staff to provide an annual report on program results to the Board of Public Utilities; and

5. Direct staff to bring forward a proposed plan for the deployment of EV charging infrastructure by December 31, 2021.

## **LEGISLATIVE HISTORY:**

The Low Carbon Fuel Standard (LCFS) Program is one of several programs established by the State of California and the California Air Resources Board (CARB) for the purposes of reducing statewide greenhouse (GHG) emissions to 1990 levels by 2020 and further reducing emissions to 40% below 1990 levels by 2030. These goals were put in place by the California Global Warming Solutions Act of 2006 (Assembly Bill 32 or “AB 32”) and the Clean Energy and Pollution Reduction Act of 2015 (Senate Bill 350 or “SB 350”), respectively. The goal of the LCFS Program is to achieve a 20% reduction in the carbon intensity of transportation fuels by 2030.

Amendments to the regulation in 2018, among other changes, required electric distribution utilities that have opted into the program and receive LCFS emissions credits for the estimated residential electric vehicle charging to develop a statewide point-of-purchase rebate program. Utilities that do not participate in this program are not eligible to receive the credits from residential charging.

In addition to developing the point-of-purchase program, the amendments require that utilities that meet this requirement also contribute a minimum percentage of their credits from residential charging, called base credits, to the point-of-purchase program. Riverside Public Utilities (RPU) contribution percentage for 2019 through 2022 is 20% of the base credits and for all years beginning in 2023, it is 25% of the base credits. The utility retains the remaining percentage of credits to spend on programs that benefit current and future EV customers. Base credits comprise the majority of LCFS credits received by electric utilities. A small number of credits were generated by electricity used by electric forklifts.

## **BACKGROUND:**

On March 13, 2018, the City Council authorized RPU to opt into the LCFS Program. The LCFS regulation requires entities generating credits using electricity pathways (referred to as “electricity credit”) to use the resulting credit proceeds to benefit Electric Vehicle (EV) drivers and their customers, and generally invest in projects that promote transportation electrification in California. Paragraphs 2 through 7 in section 95491(d)(3)(A) of the LCFS regulation provide specific electricity credit proceeds spending requirements for Load-Serving Entities (LSEs) such as RPU. These requirements apply to all credits generated using electricity pathways, including base credits and incremental credits.

### *California Clean Fuel Reward Program*

As noted above, RPU is required to participate in the statewide point-of-purchase program to continue to receive the base credits available to utilities. The point-of-purchase program developed by the utilities statewide is called the California Clean Fuel Reward (CCFR) Program, which RPU was authorized to participate in on April 7, 2020. The program is administered on behalf of all participating utilities by Southern California Edison (SCE). Under the agreement, RPU is required to transfer funds from monetized LCFS residential base credits. An initial contribution of \$168,485 was required for the program start-up in addition to ongoing annual transfers of funds as required by the regulation. The annual transfer of funds will be based on the requirements of the state regulation and will remain in effect until either the California Air Resources Board (CARB) terminates the CARB-authorized and endorsed CCFR Program or there is a unanimous approval

of the termination of the Agreement by all Members of the Steering Committee.

Currently, the regulation requires that 20% of the value of monetized residential base credits be transferred annually for the program. Staff estimates that this will be between \$150,000 to \$300,000 per year for the first few years of the program. RPU is also required to transfer program startup of \$168,455 per the programs Governance Agreement. The annual transfer of funds, or annual contribution, plus the initial contribution required for the program start-up equals approximately \$370,000 for Fiscal Year 2019/20. However, because the LCFS credit market is still new and somewhat volatile and the number of electric vehicles in Riverside is dependent on people's choice to purchase or lease an electric vehicle, the calculation could change. Regardless, the annual transfer of funds is expected to increase in subsequent years as the number of EVs increases. Actual amounts are dependent on the number of credits that RPU receives, the calculation regulated by the state, and the value of credits at the time the credits are sold.

Funds transferred pursuant to the regulation, and the CCFR agreement will be used to pay for the CCFR program rebates to customers who purchase a new electric vehicle from any participating California auto dealership as well as the associated costs for the program including administration, program implementation contractors, program marketing and customer education that supports the advancement of EVs in California. This CCFR program launched in November 2020 and is currently providing rebates of about \$966 to \$1,500 per vehicle for residents and businesses to purchase a new light-duty EVs. EVs can be full battery-electric or plug-in hybrid electric vehicles.

#### *Holdback Credit Proceeds*

LSEs may use the remaining electricity credit proceeds from the residential and forklift charging, called holdback credits, to invest in transportation electrification projects in the same category or sector. Through the annual reporting, entities may demonstrate that they have exhausted opportunities to promote electric transportation in a specific category or sector and use credit proceeds to support transportation electrification in another category or sector.

Examples that would meet the electricity credit proceeds spending requirements for an LSE are:

1. Providing incentive support for purchasing/leasing EVs or other electric transportation equipment (for example, electric forklifts, electric buses, electric trucks, etc.).
2. Providing incentive or direct investment for installing residential or non-residential EV charging infrastructure.
3. Providing rate options or incentives to encourage EV charging during off-peak hours to provide grid benefits.
4. Providing on-bill credit or other incentives to promote the use of electric transportation.
5. Marketing, education, outreach programs to provide information and material to inform the public on the benefits of EV transportation. This could include information regarding the environmental, health and economic benefits of EV ownership, including a comparison of the total cost of an EV versus an internal combustion engine alternative (including the cost of refueling, servicing and maintenance, etc.)

The above list of examples is not exhaustive. Entities may use electricity credit proceeds to support other transportation electrification projects which are not included in the list but would meet the LCFS requirements. Entities also have the option to spend all electricity credit proceeds in a single program or project. To date, RPU has received \$2.7 million from credit sales. After transfers to the CCFR Program, RPU will have approximately \$2.2 million remaining in the Electric Fund Low Carbon Fuel revenue account.

### *Other Transportation Electrification Efforts*

When RPU and the City of Riverside opted into the LCFS program in March 2018, it was the launch of its efforts to support the electrification of the transportation system. RPU was not able to initiate customer programs immediately in order to allow a sufficient number of credits to accumulate to support a sale of the credits. However, work was being done both to support and plan for the transition of the vehicle fleet to clean fuels including electricity.

Also, in 2018, the City approved expanding the availability of the existing EV Time of Use Rate (EV-TOU) to all domestic residential rate customers. Additionally, RPU's Integrated Resource Plan (IRP) incorporated analysis of anticipated load from transportation electrification and evaluation of the EV-TOU rate. In May 2019, staff provided an overview of these efforts and sought direction from the Board of Public Utilities (Board). The Board conducted a workshop on transportation electrification efforts at which staff provided an overview and background on transportation electrification efforts that included:

1. Transportation electrification context in California including the regulatory and legislative environment
2. Status of the electric vehicles in the market
3. Summary of the EV forecast for Riverside
4. Detail on RPU's EV-TOU rate including analysis included in the IRP
5. Discussion of options for EV programs the utility could offer

This report and the presentation will provide an update on some of the information presented the initial workshop and staff will propose customer programs using LCFS credit revenues to support the transportation electrification in the City of Riverside.

## **DISCUSSION:**

### **TRANSPORTATION ELECTRIFICATION UPDATE**

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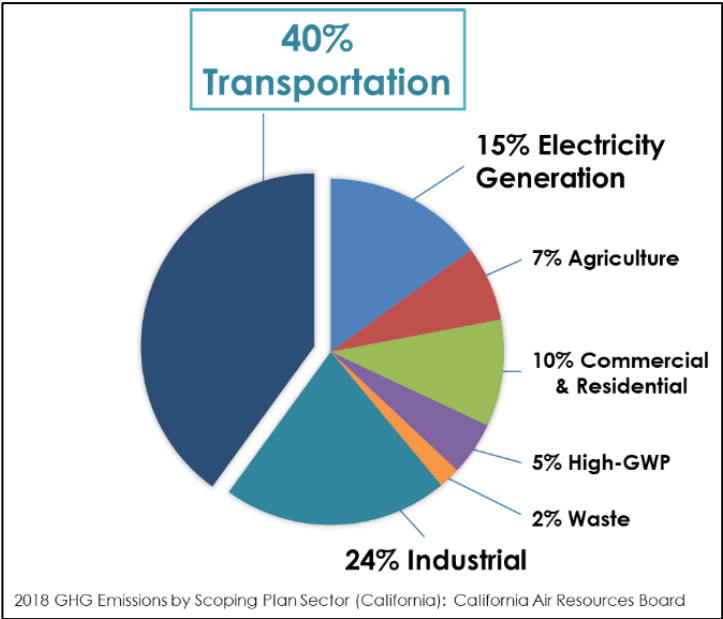
In the time since the Board's EV workshop in May 2019, the State of California has increased its commitment to supporting the state's transition from the use of fossil fuels in order to reduce greenhouse gas (GHG) emissions contributing to climate change. Additionally, many countries around the world, including the countries in the European Union, China, and more have also committed to efforts similar to those enacted in California, including those supporting alternative fuel vehicles and importantly, supporting electrification of the transportation system. California's goal for all new light-duty and passenger vehicle sales are to be GHG emissions free (primarily EVs) by 2035 was set in 2020 by Governor's Executive Order N-79-20.

These commitments are being made in California because the proportion of emissions from the transportation sector is increasing and has become the dominant sector producing GHG emissions. In the California Air Resources Board's (CARB) most recent GHG emissions inventory, the transportation sector comprised 40% of the total GHG emissions while the electricity sector only produces 15% of the emissions (See Figure 1 on the following page). As the electricity sector reduces its GHG emissions by continuing to transition to renewable and other non-GHG emitting generation resources, its importance in replacing the fuels used in other sectors have increased.

In response to this, automakers are committing to the transition of their vehicle fleets to zero-

emission vehicles, including both battery-electric vehicles and hydrogen fuel-cell electric vehicles. Plug-in hybrid electric vehicles are ramping up in the interim years to support the transition from internal combustion engine (ICE), fossil-fuel vehicles. Automakers have already identified over 400 EV models to be available by 2025 across all light-duty vehicle types including passenger cars, trucks, vans, and sport-utility vehicles. Price parity with ICE vehicles is expected in 2024 as battery prices have decreased dramatically. Bloomberg NEF reported in December 2020 that prices for lithium-ion EV batteries had decreased from over \$1,100 per kilowatt-hour (kWh) in 2010 to close to \$100/kWh in late 2020.<sup>1</sup>

Figure 1: 2018 GHG Emissions in California by Scoping Plan Sector



Additionally, EVs in general, have lower operating costs and cost less to fuel. When looking at only fuel costs, driving an EV at 20,000 miles per year will result in a savings of \$2,295 per year based on current RPU residential electricity rates and gasoline prices (\$3.73 / gallon at the time the report was written).

Table: Battery EV compared to Convention Gas Engine Vehicle (2021)  
(Traveling an average of 20,000 miles per year)

Vehicle Type	Fuel Economy	Fuel Requirements	Estimated Annual Cost	Greenhouse Gas Emissions
Battery Electric	3.43 miles/kWh	5,831 kWh/year	\$1,096 for electricity	2.3 metric tons GHG emissions
Conventional Gas	22 miles / gallon	909 gallons / year	\$3,391 for gasoline	8.1 metric tons GHG emissions
Benefits of Electric			\$2,295 Savings	5.8 metric tons GHG reduced

These price decreases in batteries combined with increasing energy density of batteries is making it possible to expand into medium and heavy-duty vehicles. California is expanding regulations on these vehicles as well as increasing the goals of regulations already in place for light-duty vehicles. New and updated CARB regulations will be requiring the conversion of vehicle fleets in California beginning in 2024 and programs at both CARB and the California Energy Commission (CEC) are being developed to support transitioning to zero-emission fleets.

As these regulations change, RPU is taking action and will continue to do so. As an electric utility, the following items are identified as best practices in preparing for a future with transportation electrification.

<sup>1</sup> Bloomberg NEF press release. December 16, 2020. <https://about.bnef.com/blog/battery-pack-prices-cited-below-100-kwh-for-the-first-time-in-2020-while-market-average-sits-at-137-kwh/>

*Utility Side: Planning and preparing for the new EV load*

1. IRP for EV forecasting
2. Power supply & peak load
3. Understanding where charging is occurring or needs to occur
4. Type of charging
5. Infrastructure improvements

*Customer Side: Supporting EV customers*

1. Rates to support EVs
2. Rebates
3. Education
4. EV charging locations
5. Ensuring all customers can benefit

Customer programs offered by a utility are undertaken for a variety of reasons. In the case of transportation electrification, customer programs can be used to achieve mandates or internal goals such as greenhouse gas reduction goals or to support customers transitioning to new and often emerging technologies that they are unsure about. EV programs generally take the form of:

1. Rebates for EVs and charging equipment
2. Reduce EV rates or rebates on utility related equipment necessary to support EV charging
3. Education and keeping processes as simple as possible
4. Utility owned EV charger installations in areas where market forces are not supporting private installation of EV charging

Each of these can be supported to some extent by the LCFS credit funding. Staff is proposing several customer programs and the development of an education campaign to support customers that are considering or have already purchased/leased an EV as their next or current vehicle.

*EV Program Examples*

Many public utilities opted into the LCFS program before RPU did. As such, they developed and implemented programs in the last few years. To provide background and context, staff reviewed the programs being offered. The programs fall into two categories, rebates and charging station development.

Public utility programs being offered include a range of incentives for the purchase of EV's and the installation of Level 2 EV chargers. Residential incentives come in the form of rebates for the charging station itself (charging hardware) and average \$500 with an additional incentive for the installation of a Time-of-Use (TOU) meter. These rebates will usually cover only a Level 2 EV charging station. Used EV purchase rebates range from \$250 up to \$1,500, which includes additional incentives for low-income customers. For the installation of a smart Level 2 (240V) charging station for non-residential and multi-family housing, rebates range between \$3,000-\$5,000.

Public utilities are also developing EV charging infrastructure. The approaches to this vary from utility to utility. The most direct approach is that the utility treats the EV charging infrastructure like other distribution system equipment wherein the utility purchases, maintains, and operates the EV charging equipment. The second option is for the utility to enter into an agreement with a third party EV charging station provider. The utility pays the provider to operate and maintain the EV charging equipment. In both cases, the utility retains all or a portion of the LCFS credits

generated which then are able to fund future EV charger development and even the purchase of EVs for the utility.

## PROPOSED NEW ELECTRIC VEHICLE RELATED REBATE PROGRAMS

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RPU must use revenue from the sale of LCFS credits generated from residential and forklift charging on programs that benefit current and future EV customers. Staff is proposing the use of \$730,000 of revenue currently in the Electric Fund Low Carbon Fuel Revenue Account to fund three EV Rebate Programs to encourage customers to install EV charging stations and purchase used EV's. The EV Charger Rebate Programs for Residential and Commercial Customers, and the Used EV Purchase Rebate would be available for Fiscal Year 2021/22 until the funds are exhausted. These funds would be in addition to the new EV rebate program that all electric utilities, including RPU, already fund per the LCFS Program regulations.

### *Residential EV Charger Rebate*

The main components of the EV Charger Rebate Program for Residential Customers include:

1. Residential customers can receive a rebate of up to \$500 toward their out-of-pocket expenses for the purchase of a level 2 EV charger. The rebate does not cover the cost of installation.
  - a. However, customers who choose to install an optional dedicated time-of-use (TOU) meter will qualify for RPU's EV discount, plus receive an additional one time \$805 rebate to cover the Utility's one-time equipment installation costs. Customer who have already opted for the TOU meter will be eligible to receive the \$805 rebate and will be notified by RPU to offset that initial cost.
  - b. This dedicated service will add additional cost to the installation process but will yield lower electricity costs for off peak charging.
2. Provide 260 rebates per year, for a total of \$130,000 for FY 2021/22.
3. Provide 25 TOU meter add on rebates, for a total of \$20,000 for FY 2021/22.

### *Commercial, Industrial, and Multi-family EV Charger Rebate*

The main components of the EV Charger Rebate Program for Commercial, Industrial, and Multi-family (5 or more connected units) Customers include:

1. Commercial customers can receive up to \$3,500 for each hardwired wall or pedestal mounted EV chargers being installed in excess of building codes (for new construction). One (1) EV charger rebate is available to commercial customers who have a minimum of three (3) parking spaces available to employees, customers, visitors, and/or tenants. One (1) additional EV charger rebate is available for each additional 10 parking spaces. For example:
  - a. 3 parking spaces = 1 EV charger rebate
  - b. 13 parking spaces = 2 EV charger rebates
  - c. 23 parking spaces = 3 EV charger rebates

2. A maximum of 5 EV charger rebates are available per business location or multi-family residential property.
3. Qualified affordable housing development can receive an additional \$1,000 for each hardwired wall or pedestal mounted EV charger provided on site that exceed residential building code requirements.
4. Provide up to 100 rebates per year (or until funds are exhausted if also qualified for additional affordable housing rebate) for a total of \$400,000 for FY 2021/22.

#### *Residential Used EV Purchase Rebate*

The main components of the Residential Used EV Purchase Rebate Program include:

1. RPU will offer Riverside residents in RPU service territory a rebate of up to \$500 to buy a qualifying used full battery electric or plug-in hybrid electric vehicle.
2. An additional \$500 rebate would be available to low-income customers.
3. Provide up to 150 rebates per year, for a total of \$150,000 for FY 2021/22.

RPU's customers may purchase their used electric vehicle at any dealership in California selling used electric vehicles.

#### *Outreach and Educational Programming*

Additionally, staff is proposing outreach and education funding of \$30,000 for FY 2021/22 for the purposes of updating the City website, providing mailers to customers, providing of a social media campaign, and hosting two ride and drive electric vehicle events in October and April for Clean Air Day/Green Riverside and Earth Day events next fiscal year.

#### *Planned future items*

Additional transportation electrification initiatives underway that will be brought to the Board and City Council for final approvals include the following:

1. Development of and support for a public access EV charging station at Mission Square Parking Structure. LCFS revenue can be used to provide the charging equipment and construction. The Mission Square Parking Structure is identified as the first location because planning for this facility is already underway. Staff, in collaboration with the General Services and Public Works Departments will identify additional locations throughout the City for future charging stations.
2. Installation of an estimated one DC fast-charger annually or bi-annually for fast public charging, depending on funding availability. The location of this charging infrastructure will be determined each year or as funding is available. Locations are anticipated to be identified as part of the analysis above.
3. Development of one or more EV charging rate tariffs for City-owned public access Level 2 and fast charging electric vehicle chargers that will replace RPU's existing Schedule PCS, Electric Vehicle – Direct Current Fast Charging Public Charging Station. The current rate is limited to DC fast charging. The new rate(s) will incorporate all costs, including operations and maintenance of the EV charging equipment to fully recover the cost of EV charging equipment maintenance.



**FISCAL IMPACT:**

The total fiscal impact of this report is \$730,000 to fund these Rebate Programs that support transportation electrification and comply with State requirements. Sufficient funds exist to support the \$730,000 in rebates in the Electric Fund Low Carbon Fuel Reserve Account No. 0000510-101094. The following accounts have been created for each Rebate Program:

Account Name	Account Number	Amount
Residential Used EV Rebate	6120000-456101	\$150,000
Rsdtl Home Chrg EV Chrg Rebate	6120000-456102	\$150,000
Non-Rsdtl/Multifam EV Chrg Reb	6120000-456103	\$400,000
Marketing/Education/Outreach	6120000-456104	\$30,000

These funds are legally restricted and can only be used for applicable expenditures under the State requirements mentioned above. The unspent Rebate Programs funding at June 30, 2022 will carry over to Fiscal Year 2022/23 to continue to fund the Rebate Programs through its duration. Additional funding for future years will be subject to the funding received from the sale of LCFS credits and will be included as part of the biennial budget process.

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Approved by: Todd M. Corbin, Utilities General Manager

Approved by: Al Zelinka, FAICP, City Manager

Approved as to form: Kristi J. Smith, Interim City Attorney

Certifies availability of funds: Edward Enriquez, Chief Financial Officer/City Treasurer

Attachment: Presentation