

# San Joaquin Valley Air Pollution Control District AB 617 Community Emission Reduction Program

## Residential Lawn and Garden Emission Reduction Program Plan

### *South Central Fresno Community Shafter Community*

#### **1. Project Identification**

##### *LG.1: INCENTIVE PROGRAM FOR THE REPLACEMENT OF RESIDENTIAL LAWN AND GARDEN EQUIPMENT*

This is a Community Identified Project included and prioritized in the California Air Resources Board (CARB) and District adopted South Central Fresno and Shafter Community Emission Reduction Programs (CERP). The funding allocated for this program is above and beyond what the District has allocated for Valleywide participation.

This measure will reduce NOx and PM2.5 emissions from residential lawn and garden equipment by increasing outreach and access to incentive funding while providing rebates up to 100% of the equipment cost of a new electric mower when replacing an existing gas-powered model. Residents making a purchase of a new piece of eligible equipment without an existing equipment will be eligible for up to \$50.

#### **2. Community Support**

This measure received support from both the South Central Fresno and Shafter Community Steering Committees and was included in the adopted Community Emission Reduction Program. Information about the Steering Committees is included below:

- (1) Name(s) of the community group(s):**
  - a. South Central Fresno Steering Committee [Map](#)
  - b. Shafter Steering Committee [Map](#)
- (2) Purpose of community group(s)**
  - a. AB617 Community Engagement and Public Input
- (3) Total number of members in the community group(s)**
  - a. South Central Fresno – 34 members
  - b. Shafter – 27 members
- (4) Date(s) of formation/establishment**
  - a. South Central Fresno – December 2018
  - b. Shafter – December 2018
- (5) A description of the decision-making process must be included.**
  - a. South Central Fresno Steering Committee [Charter](#)
  - b. Shafter Steering Committee [Charter](#)

## **(6) Community Support Demonstration**

- a. South Central Fresno [CERP](#)
- b. Shafter [CERP](#)

As part of the mechanism for informing the community, this measure will be discussed at Community Steering Committee meetings in addition to outreach activities to inform residents of the program and requirements for participation.

### **3. Participant Requirements**

#### **(A) Residential Lawn & Garden Program Eligibility**

The Residential Rebate program guidelines are attached to this program plan as Exhibit A. In implementing this CERP measure, the District will follow existing program guidelines and eligibility criteria, with the exception of allowing a rebate amount of up to 100%, not to exceed \$600, of the equipment cost for the replacement of gas-powered lawn mower. Existing gas-powered lawn mower must be located within South Central Fresno or Shafter Communities. The Clean Green Yard Machines Residential Rebate Program provides two options for rebates to residents within the South Central Fresno and Shafter Communities.

1. Option 1 is for the replacement of old gas- or diesel-powered lawn mowers with eligible new electric lawn mowers and
2. Option 2 is for the purchase new electric powered lawn care equipment with no old equipment being turned in.

Participants must reside within the identified community boundaries, be a resident at the address identified on the application, and submit a completed rebate application to be issued a rebate.

#### **(B) Participant Requirements**

The Residential Rebate program application is attached to this program plan as Exhibit B. A certification section is included in the application and details participant requirements. The Program provides two options for rebates, where participants can purchase a new electric lawn mower and destroy an old mower or purchase a new electric lawn care equipment without replacing an old equipment. Participation in the Program occurs in three simple rebate phases: Purchase Equipment, Rebate Application, and Rebate Approval.

- (1) Purchase Equipment: Participants purchase an eligible new electric lawn mower with a powerhead from a manufacturer authorized retailer or dealer. For participants selecting Option 1 only, the old, gas powered mower must be delivered to a participating dismantler within 30 calendar days from the date of purchase of the new lawn mower. Participant must

contact the participating dismantler prior to delivery to verify the facility's requirement (i.e. fluids drained, etc.) before taking it to the facility. The dismantler will inspect the old gas-powered lawnmower and provide the participant with a Destruction Verification Form.

- (2) Rebate Application: The participant completes the rebate application and submits it to the District along with the following support documents:
  - a. For Option 1 only, a copy of the Destruction Verification Form
  - b. The receipt or invoice for the new electric lawn mower showing paid in full.

For Option 1, the participant is limited to one rebate per address for every two consecutive years. For Option 2, the participant is limited to one rebate per equipment type, per address for every one year. For both Options 1 and 2, the participant must submit the rebate application within 6 months of purchasing the new equipment.

- (3) Rebate Approval: Once the participant has submitted the rebate application and supporting documents the packet is reviewed for eligibility by District staff and reimbursed for eligible costs up to the approved rebate amounts.

#### **4. Funding Amounts**

The approved CERP's include \$100,000 for the Shafter community and \$200,000 for the South Central Fresno community for the implementation of this measure. This funding will provide for the replacement of up to 280 gas-powered units in Shafter and 570 gas-powered devices in South Central Fresno.

Table 1 summarizes the eligible new electric lawn mowers and incentive amounts available to South Central Fresno and Shafter community residents through the Residential Rebate Program. These funding levels represent the maximum incentive amounts based on the option the participant choose to participate in. For Option 1, the District will reimburse the participant for up to 100%, not to exceed \$600, of the cost of the new electric lawn mower (battery and charger included, if not corded) when replacing an existing gas powered model. The final amount reimbursed to the participant in Option 2 is based on the purchase price of the lawn equipment using the District's existing program guidelines. There are no minimum match requirements for participating in the program; however, participants must pay for any additional costs that exceed the eligible incentive amount.

Table 1. Eligible Incentive Amounts by Option Type

Option	Eligible New Device Type	Valley Wide Program Incentive Level	Selected Community Program Incentive Level
Option 1: Lawn mower replacement	Electric lawn mower (corded or battery-powered)	Up to \$250 based on the purchase price	Up to 100% of equipment cost, not to exceed \$600*
Option 2: New purchase with no replacement	Electric lawn equipment (corded or battery-powered)	Up to \$50*	Up to \$50*

\*Bundle purchase will be adjusted for the price of the individual lawn equipment.

A project life of 10 years will be used when calculating emission reductions. The Program will use a project life of 10 years for the replacement of old gas powered lawn mowers, which is based on the estimated life expectancy for a properly maintained electric lawn mower. The Carl Moyer Program also states that an average life span of a zero-emission lawn mower is estimated to be approximately 10 years.

## 5. Project Selection and Reporting Requirements

Projects will be approved on a first come, first served basis determined by the submittal of a complete program application.

The District will report program information in accordance with Community Air Protection program guidelines found at:

[https://ww3.arb.ca.gov/msprog/cap/docs/cap\\_incentives\\_2019\\_guidelines.pdf](https://ww3.arb.ca.gov/msprog/cap/docs/cap_incentives_2019_guidelines.pdf).

## 6. Emission Reduction Targets

The goal of this measure is to replace 280 gas-powered units in the Shafter Community and 570 gas-powered lawn mower in the South Central Fresno Community. The measure would provided an estimated emissions reduction of 0.07 tons of PM2.5 and 0.1 tons of NOx in Shafter, as well as 0.13 tons of PM2.5 and 0.2 tons of NOx in South Central Fresno. Residential lawn and garden equipment contributes 0.28 tons per year of PM2.5 and 2.23 tons per year of NOx toward area sources of emissions in the community of Shafter, representing 0.1% of the total PM2.5 inventory and 0.3% of the total NOx inventory. For the community of South Central Fresno, this source category contributes 1.58 tons per year of PM2.5 and 12.03 tons per year of NOx towards area sources of particulate pollution, representing 0.69% of the total PM2.5 inventory and 0.66% of the NOx inventory. The emissions reduction from the replacement of old gas powered lawn mowers are a surplus, as there are currently no regulations requiring zero-emission lawn equipment.

The District will use an established emission reduction calculation methodology for lawn mowers from Chapter 9: Lawn and Garden Equipment Replacement in the Carl Moyer Program Guidelines<sup>1</sup> to calculate the emission reductions achieved from the replacement of old gas powered lawn mowers with electric models. There is currently no established calculation methodology for new purchases. The following tables summarize the data needed to calculate PM2.5 and NOx emission reductions for Residential Lawn and Garden Program projects.

Table 2. Project Life of Zero-Emission Lawn Mower

Project Life (yr)	10
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Table 3. Gasoline Lawn Mower Emission Reductions (lbs/yr)

Model Year	Exhaust NOx	Exhaust PM10
2010	0.071	0.048

*\*For the purpose of this calculation methodology, PM2.5 is equivalent to PM10.*

The formulas that are required to calculate the PM2.5 and NOx emission reductions, along with the cost-effectiveness, for each project are provided below.

**Formula A-1:** Estimated Lifetime PM2.5 Emission Reductions from a Gas-powered Lawn Mower

$$\text{Lifetime PM2.5 Emission Reductions (ton/yr)} = (\text{Gasoline Lawn Mower Emission Reductions for PM (lbs/yr)} * 10 \text{ years} / 2,000 \text{ (lb/ton)})$$

**Formula A-2:** Estimated Lifetime NOx Emission Reductions from a Gas-Powered Lawn Mower

$$\text{Lifetime NOx Emission Reductions (ton/yr)} = (\text{Gasoline Lawn Mower Emission Reductions for NOx (lbs/yr)} * 10 \text{ years} / 2,000 \text{ (lb/ton)})$$

**Formula A-3:** Cost-Effectiveness of the PM2.5 and NOx Emission Reductions (\$/ton)

$$\text{Cost-Effectiveness (\$/ton)} = \text{Grant Amount (\$)} / (\text{Lifetime PM2.5 Emission Reductions (tons)} + \text{Lifetime NOx Emission Reductions (tons)})$$

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<sup>1</sup> CARB The Carl Moyer Program Guidelines. Chapter 9: Lawn and Garden equipment replacement. Retrieved on September 2, 2020 from [https://ww3.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017\\_gl\\_chapter\\_9.pdf](https://ww3.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_chapter_9.pdf).