State of California **California Natural Resources Agency**

M e m o r a n d u m

To: Greenhouse Gas Reduction Fund Program

From: Wade Crowfoot
Secretary
California Natural Resources Agency

Date: October 10, 2023

Drew Bohan
Executive Director
California Energy Commission

Subject: Greenhouse Gas Reduction Fund: California Energy Commission Expenditure Record for Fiscal Year 2023-2024 – Long Duration Energy Storage Program

This Attestation Memorandum documents that the California Energy Commission completed the attached Expenditure Record on October 10, 2023, for the Long Duration Energy Storage Program. This program is funded by the Greenhouse Gas Reduction Fund. The Expenditure Record is consistent with the statutory requirements of Government Code Section 16428.9 to support expenditures from the Greenhouse Gas Reduction Fund.

This Attestation Memorandum and Expenditure Record will be submitted to the California Air Resources Board for public posting on their website at http://www.arb.ca.gov/caclimateinvestments.

Questions on this Attestation Memorandum or Expenditure Record may be directed to Mike Gravely at mike.gravely@energy.ca.gov or (916) 704-4339.

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Drew Bohan, Executive Director
California Energy Commission

Wade Crowfoot, Secretary
California Natural Resources Agency

Greenhouse Gas Reduction Fund
FY 2023-2034 Expenditure Record

California Energy Commission
Long Duration Energy Storage Program

Authorizing legislation: Items 3360-001-3228 and 3360-101-3228 of the Budget Act of 2023, as amended by Assembly Bill (AB) 102 (Chapter 38, Statutes of 2023) appropriate to the California Energy Commission (CEC) $190,000,000 for the long-duration energy storage (LDES) program. The program received $140,000,000 in General Funds in the FY 2022/2023 State Budget and was directed to transition to GGRF funds starting in the FY 2023/2024 State Budget. The LDES program is an existing program with planned projects for 2023.

Element 1: A description of each expenditure proposed to be made by the administering agency pursuant to the appropriation.

Agency that will administer funding:

California Energy Commission

Amount of proposed expenditure and appropriation reference:

The total expenditure is $190 million per Section 67 (Item 3360-001-3228) and Section 70 (Item 3360-101-3228) of the Budget Act of 2023 (Chapter 38, Statutes of 2023).

Estimated amount of expenditures for administering agency administrative costs:

The total appropriation of $190 million includes $19 million for administrative costs to support a program providing incentives for LDES projects, per section 67 (Item 3360-001-3228) of the Budget Act of 2023, based on 10% of total program funding.

If applicable, identify laws or regulations that govern how funds will be used:

AB 102 (Chapters 38, Statutes of 2023):

> 3360-001-3228— "For support of State Energy Resources Conservation and Development Commission, payable from the Greenhouse Gas Reduction Fund . . . $19,000,000 shall be used for administrative costs to support a program providing incentives for long-duration storage projects."
>
> 3360-101-3228— "For local assistance, State Energy Resources Conservation and Development Commission, payable from the Greenhouse Gas Reduction Fund. . . $171,000,000 shall be used to provide incentives for long-duration storage projects."

Public Resources Code sections 25640-25645 govern Long Duration Energy Storage Program requirements generally.

Continuation of existing Expenditure Record:

This transition program received Greenhouse Gas Reduction Funds for the first time in Fiscal Year 2023/2024 and does not have an existing Expenditure Record.

Project Type(s):

Engineering analysis grants and contracts to support the deployment of non-lithium-ion technology LDES systems in California to respond to the energy storage growth goal in support of Senate Bill 100 and the elimination of fossil fuel energy systems in California.

Describe the projects or measures that will be eligible for funding:

LDES projects capable of discharging energy for eight or more hours utilizing non-lithium-ion technologies.

Intended recipients:

Intended recipients will be those selected through non-competitive and competitive solicitation processes as defined in the legislation that authorized the LDES program (Public Resources Code sections 25640-25645).

The Program has a pending Department of Energy (DOE) Application for an additional grant, estimated at $60M, which would be matched by the Program's contribution of $60 million, totaling $120M in project funds.

Program structure and process for selecting projects for funding:

Projects will be selected through a non-competitive and competitive process based on recipient submissions, as defined in the legislation that authorized the LDES program (Public Resources Code sections 25640-25645). All recipients selected will have projects focused on non-lithium-ion LDES.

Element 2: A description of how a proposed expenditure will further the regulatory purposes of Division 25.5 (commencing with Section 38500) of the Health and Safety Code, including, but not limited to, the limit established under Part 3 (commencing with Section 38550) and other applicable requirements of law.

How the expenditure is consistent with the Investment Plan and the Scoping Plan:

LDES projects are a cross-sectoral investment that can provide energy savings, direct economic benefits, emission reductions, and support grid resiliency. Per the Cap and Trade Auction Proceeds Fourth Investment Plan: Fiscal Years 2022-23 through 2024-25, energy storage in the LDES program can satisfy markets for advanced technology for backup power and energy efficiency for residential, commercial, and industrial markets.

As listed in the 2022 Scoping Plan, one of the strategies for achieving success is facilitating long lead-time resource development through technology development and demonstration funding that includes resources such as LDES and hydrogen production. The primary goal of this program is to fund LDES projects through selected criteria to fulfill that strategy.

Projects funded with this program will also assist in decarbonizing the electricity sector by providing LDES systems and, in some cases, microgrids per the 2022 Scoping Plan.

Element 3: Description of how a proposed expenditure will contribute to achieving and maintaining greenhouse gas emission reductions pursuant to Division 25.5 (commencing with Section 38500) of the Health and Safety Code.

Describe how expenditures will facilitate the achievement of greenhouse gas (GHG) emission reductions in the State:

The program will facilitate GHG emission reductions and reduce criteria toxic pollutants emissions by funding LDES technologies, minimizing the use of energy generation from fossil fuels.

Explain when GHG emission reductions and/or co-benefits are expected to occur and how they will be maintained:

GHG emissions reductions and/or benefits will vary based on the project's completion date. The first of the LDES projects is projected to be completed in 2024.

Maintenance of GHG emission reductions will vary per project but GHG emission reductions for each LDES project are expected to continue for the life of the installed equipment.

Element 4: A description of how the administering agency considered the applicability and feasibility of other non-greenhouse gas reduction objectives of Division 25.5 (commencing with Section 38500) of the Health and Safety Code.

Expected co-benefits, particularly environmental, economic, public health and safety, and climate resiliency:

Implementing on-site LDES technologies could reduce the demand on the grid as well as the need for electricity from natural gas powered plants. Electricity demand reduction could reduce stress on the electric grid, especially during peak periods or extreme weather events, enhancing grid resiliency. Reduction of natural gas demand may reduce principal pollutants, improving air quality. The addition of LDES provides a long-term alternative to using fossil fuels to meet these peak demands. These LDES solutions provide cleaner air, higher reliability, and eliminate many environmental challenges these communities face.

These future LDES projects will also provide jobs for California residents.

How the project will support other objectives of AB 32 and related statutes:

LDES projects reduce GHG emissions as an alternative to energy generated by fossil fuels utilized during peak hours and critical and natural events. LDES also serves disadvantaged communities by providing energy savings to the community.

Percentage of total funding that will be expended for projects that are located in and benefit priority populations per California Air Resources Board (CARB) guidance:

At least fifty percent of the total funding from the 2023-2024 fiscal year will be expended for projects located in priority populations.

Describe the benefits to priority populations per CARB guidance:

The funding provided by this program will be used to fund non-lithium-ion LDES projects in priority populations, which will improve air quality, lower energy costs, and provide reliable energy to the surrounding communities or regions. In some cases, these communities containing these LDES systems will act as an emergency center for the surrounding area during power outages due to natural disasters or regional events.

Explain strategies the administering agency will use to maximize benefits to disadvantaged communities:

The CEC will include preference points in soliciting projects in or benefiting priority populations. The applicant must explain how the project meets CARB's criteria for benefiting priority populations. Several planned direct awards were targeted specifically to these communities.

For competitive bids, solicitations will be tailored for projects that benefit disadvantaged or low-income communities.

Explain how the administering agency will avoid potential substantial burdens to disadvantaged communities and low-income communities or, if unknown, explain the process for identifying and avoiding potential substantial burdens:

LDES will replace the use of fossil fuels energy generation in disadvantaged and low-income communities, providing clean air quality solutions. LDES technologies will not create substantial burdens to communities housing the project site or surrounding areas. Each project selected for the LDES program will undergo extensive CEQA analysis to ensure no substantial increase in burdens around the installed project.

Element 5: A description of how the administering agency will document the result achieved from the expenditure to comply with Division 25.5 (commencing with Section 35800) of the Health and Safety Code.

How the administering agency will track/report progress to ensure projects are implemented per requirements in statute and CARB guidance:

CEC staff will track progress through active management and require funding recipients to maintain records and submit status reports regularly throughout the project term. In addition, the CEC will conduct periodic reviews of selected projects. Critical project review meetings will ensure the projects are completed and installed according to the approved grant agreement. If a funding recipient does not perform in accordance with program requirements, the recipient will be subject to the remedies for non-performance, as identified in the CEC's guidelines and the grant agreement.

Describe the approach that will be used to document GHG emission reductions and/or other benefits before and after project completion:

CEC and third-party contractors will develop GHG emission measurement metrics and will validate those metrics once each system is fully operational.

Type of information that will be collected to document results consistent with CARB guidance:

The CEC expects to collect data on project location, benefits to priority populations, pre- and post-project energy use data and supporting GHG reduction calculations, type of technologies installed and replaced, expected quantification period, and any other data necessary to accurately track the results of the project as described in the grant agreement, and as specified in CARB's guidance.

Once a project is completed and the system is operational, the CEC will collect information on outcomes for all projects, consistent with CARB guidance.

How the administering agency will report on program status:

The CEC will report to CARB consistent with CARB guidance. The CEC will provide regular updates on the program, including expenditure amounts, GHG emission reductions, and other benefits, as applicable (e.g., jobs supported, vouchers issued, units retrofitted). Reports will also include information on project outcomes consistent with CARB guidance.