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California Energy Commission

STAFF REPORT

Demand Side Grid Support and Distributed Electricity Backup Assets Status Report – December 2025

AB 205, AB 1373

December 2025 | CEC-300-2025-004

California Energy Commission

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ABSTRACT

The *Demand Side Grid Support and Distributed Electricity Backup Assets Status Report* addresses a requirement in Assembly Bill 205 (Committee on Budget, Chapter 61, Statutes of 2022), as amended by Assembly Bill 1373 (Garcia, Chapter 367, Statutes of 2023) for the California Energy Commission, in coordination with the Department of Water Resources and the California Air Resources Board, to publish a report on the actions undertaken in the development and administration of the Demand Side Grid Support and Distributed Electricity Backup Assets programs on January 31, 2023, and on May 1, August 1, and December 1 each year thereafter. The report provides the status report through November 30, 2025, on the Demand Side Grid Support Program and the Distributed Electricity Backup Assets Program.

As of November 30, 2025:

- The Demand Side Grid Support Program enrolled more than 448,000 participants with an estimated aggregate voluntary load reduction capacity of more than 1 gigawatt based on provider estimates.
- The Distributed Electricity Backup Assets Program issued a notice of proposed awards April 22, 2024, and recommended nine projects for funding, totaling up to \$122.8 million for 297 megawatts (MW) of new incremental capacity. Seven of the grant agreements have been approved, totaling 186.95 MW of new incremental capacity.

Keywords: Demand Side Grid Support (DSGS) Program, Distributed Electricity Backup Assets (DEBA) Program, Strategic Reliability Reserve, Assembly Bill 205

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EXECUTIVE SUMMARY

In June 2022, Assembly Bill 205 (Committee on Budget, Chapter 61, Statutes of 2022), created three programs as part of the Strategic Reliability Reserve to expand the resources capable of managing or reducing net-peak demand during extreme events. These programs include the Demand Side Grid Support Program and the Distributed Electricity Backup Assets Program, which are administered by the California Energy Commission (CEC), and the Electricity Supply Strategic Reliability Reserve Program, which is administered by the Department of Water Resources.

As required in Public Resources Code (PRC) Section 25795, the *Demand Side Grid Support and Distributed Electricity Backup Assets Status Report* (DSGS and DEBA Status Report) provides the status report through November 30, 2025, on the Demand Side Grid Support Program and the Distributed Electricity Backup Assets Program.

The Demand Side Grid Support Program is a voluntary load reduction program. Payment is provided to enrolled participants based on performance. Program activity for the Demand Side Grid Support Program through November 30, 2025, is as follows:

- Over 448,000 participants and an estimated 1,145.2 MW of capacity are enrolled based on provide estimates.
- \$17,672,547.79 have been expended for load reduction performance-based payments and eligible administrative costs consistent with the guidelines for the Demand Side Grid Support Program.¹
- As of November 30, 2025, the Demand Side Grid Support Program has incentivized 3,209 MWh of incremental load reduction during energy emergency alerts events over 13 days since August 2022.
 - Criteria air emissions resulting from the summer 2022 emergency measures total 15.5 tons of nitrogen oxides (NOx), 0.5 tons of particulate matter, and 0.95 tons of reactive organic gases/volatile organic compounds. In subsequent years, load reduction through the Demand Side Grid Support Program did not include the use of backup generators.
 - Greenhouse gas emissions resulting from the summer 2022 emergency measures are estimated to be 24,042 metric tons of carbon dioxide (CO2).
 - Two contracts have been issued for program administration services supporting the Demand Side Grid Support Program. The current 4-year contract is with Olivine, Inc., for Demand Side Grid Support Program support. The amount of the contract is not to exceed \$22.25 million.

¹ Guidelines for the DSGS program are available online at the [DSGS program webpage](https://www.energy.ca.gov/programs-and-topics/programs/demand-side-grid-support-program), <https://www.energy.ca.gov/programs-and-topics/programs/demand-side-grid-support-program>.

The Distributed Electricity Backup Assets Program incentivizes cleaner or more efficient resources that serve as on-call emergency supply or load reduction during extreme events. Program activity for the Distributed Electricity Backup Assets Program through November 30, 2025, is as follows:

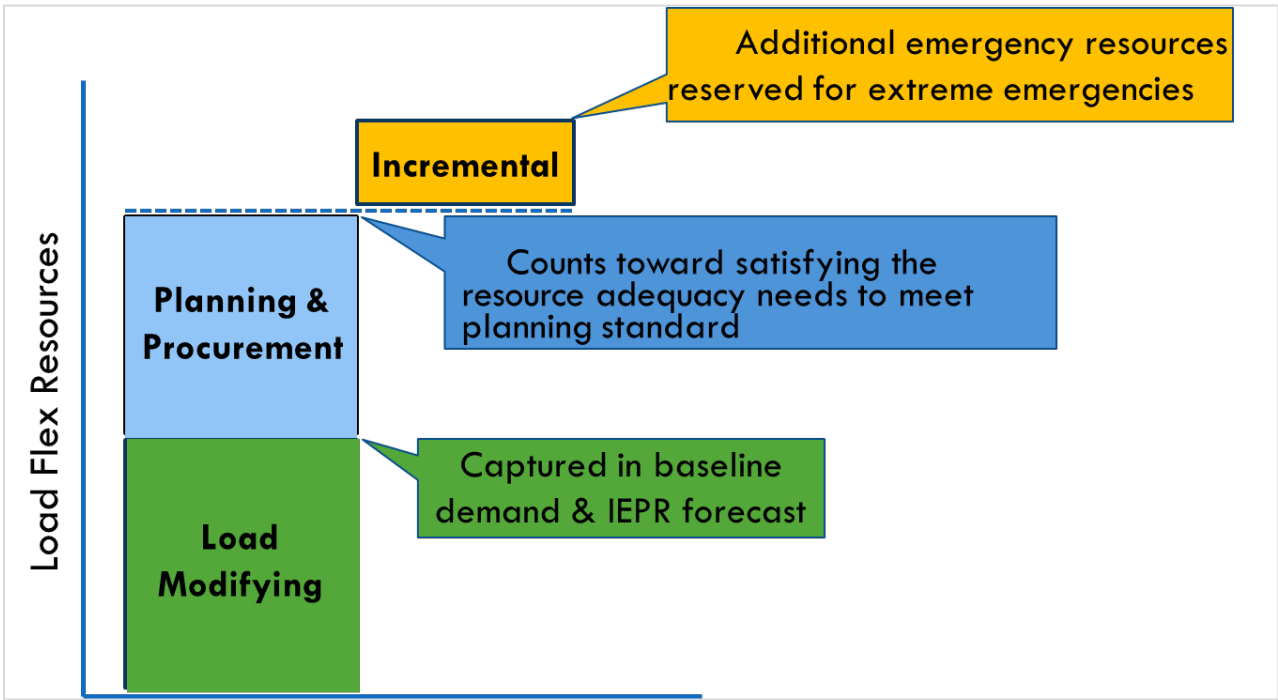
- A notice of proposed awards recommended nine projects for about 297 MW, including 78.4 MW of power plant efficiency upgrades and 218.6 MW for battery energy storage system additions, with an operational date by or before June 30, 2027.
- Each grant requires the incremental capacity resulting from the project to be made available during grid emergencies for a term of five years from project online date.
- Seven grant agreements have been approved under the Distributed Electricity Backup Assets Program. Three grant agreements will add or upgrade energy storage to existing energy facilities and four grant agreements will provide funding for efficiency upgrades at existing power plants.
- \$1,642,919.49 have been expended for the purchase of cleaner, more efficient bulk grid asset enhancements to serve as emergency supply or load reduction.
- Projects for new or incremental capacity funded by the Distributed Electricity Backup Assets Program are not yet online.
 - Program Development activities:
 - The Distributed Electricity Backup Assets Guidelines state that initial funding will be issued through grant funding opportunities, the first of which was a \$150 million solicitation for efficiency upgrades and capacity additions to bulk grid power generators released on December 7, 2023. A Notice of Proposed Awards for this grant funding opportunity (GFO) was released on April 22, 2024, and recommended nine projects for funding, totaling up to \$122.8 million for 297 MW of new incremental capacity.
 - On February 25, 2024, CEC staff released a draft solicitation concept for public comment for a \$250 million future solicitation targeting distributed energy resources (DERs). A public workshop on the draft solicitation concept was held on March 5, 2024. Release of the final version of the Distributed Electricity Backup Assets DERs for Grid Reliability GFO was paused pending additional budget authority. This solicitation will now be funded through a recent Proposition 4 appropriation and is being adapted to be consistent with the new funding amounts and requirements.

CHAPTER 1:

Introduction

In 2020, California, along with much of the Western United States, experienced an extreme heatwave that led to rotating outages. Governor Gavin Newsom issued executive orders directing state agencies to pursue initiatives that would improve the reliability of California’s electric grid. On July 30, 2021, Governor Newsom issued a State of Emergency Proclamation to expedite clean energy project development and free up energy supply to meet demand. In June 2022, Assembly Bill (AB) 205 (Committee on Budget, Chapter 61, Statutes of 2022), created three programs as part of a new Strategic Reliability Reserve to expand the resources capable of managing or reducing net-peak demand during extreme events. These programs include the Demand Side Grid Support (DSGS) Program and the Distributed Electricity Backup Assets (DEBA) Program, which are administered by the California Energy Commission (CEC), and the Electricity Supply Strategic Reliability Reserve Program (ESSRRP), which is administered by the Department of Water Resources. Figure 1 depicts the role of the Strategic Reliability Reserve.

Figure 1: Role of Strategic Reliability Reserve



Source: California Energy Commission

The DSGS Program incentivizes dispatchable customer load reduction and back-up generation resources that serve as on-call emergency supply and load reduction for the state’s electrical grid during extreme events. The DEBA Program incentivizes the construction of cleaner and

more efficient distributed energy assets that serve as on-call emergency supply and load reduction. As part of the state's Strategic Reliability Reserve, both programs aim to support electric grid reliability beyond utilities' normal planning standards by providing incremental load reduction during extreme events, such as heat waves.

Budget

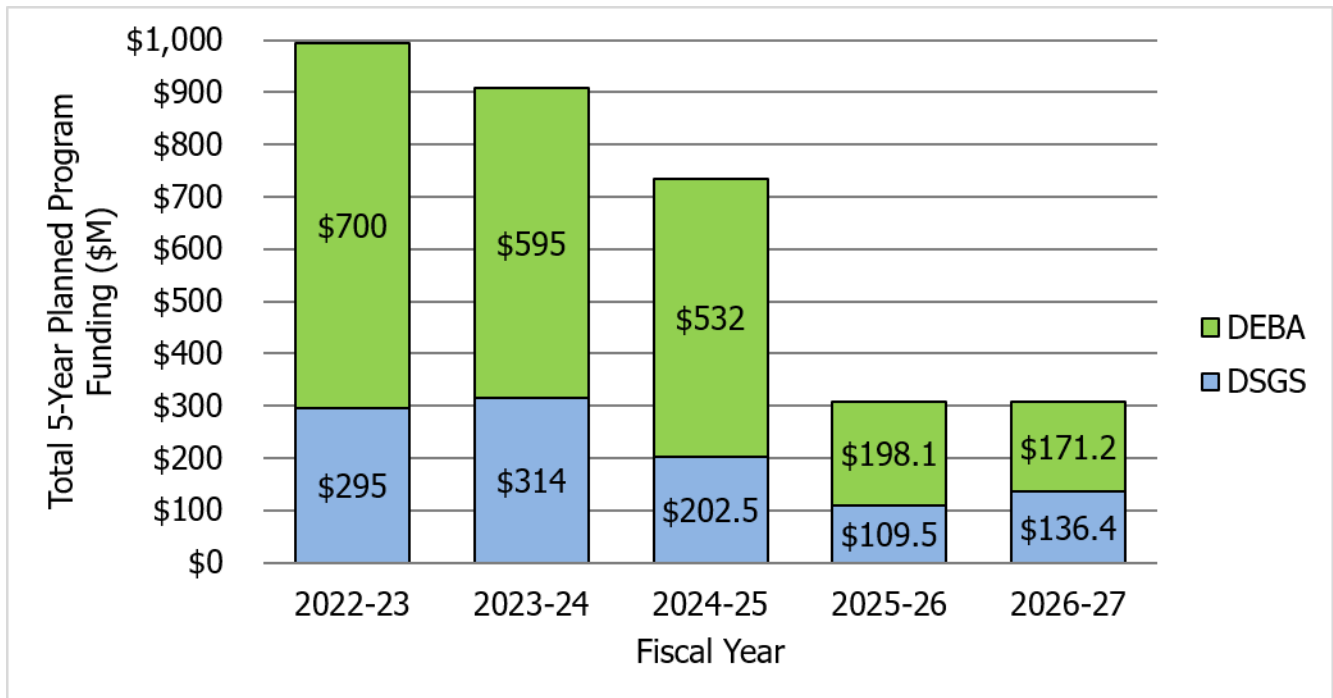
The **DSGS Program** funding is authorized under AB 205 (Ting, Chapter 61, Statutes of 2022), AB 102 (Ting, Chapter 28, Statutes of 2023), AB 107 (Gabriel, Chapter 22, Statutes of 2024) Senate Bill (SB) 108 (Wiener, Chapter 35, Statutes of 2024), and SB 101 (Wiener, Chapter 4, Statutes of 2025) with an overall budget of \$109.5 million. Appropriated funding has an encumbrance deadline of June 30, 2028, and a liquidation deadline of June 30, 2032.

The **DEBA Program** funding is authorized under AB 180 (Ting, Chapter 44, Statutes of 2022), AB 102 (Ting, Chapter 28, Statutes of 2023), AB 106 (Gabriel, Chapter 9, Statutes of 2024), AB 107 (Gabriel, Chapter 22, Statutes of 2024), and SB 105 (Wiener, Chapter 104, Statutes of 2025) with an overall budget of \$198.144 million.

The \$75 million appropriation in SB 108 was authorized for the support of both the DSGS Program and the DEBA Program. The CEC has allocated those funds to the DSGS Program to ensure that the DSGS Program has sufficient funding to support the needs of the grid (and included the amount in the \$109.5 million budget referenced above).

The planned five-year cumulative budget for the two programs (over five fiscal years 2021-22 to 2025-26) was initially set at \$995 million in fiscal year 2021-22 and subsequently reduced each fiscal year, ending at \$307.644 million in the current fiscal year 2025-26, as illustrated in Figure 2 below.

Figure 2: Change in DEBA and DSGS 5-Year Program Funding Over Time



Source: California Energy Commission

Public Resources Code Section 25795

Public Resources Code (PRC) Section 25795 requires the CEC to provide a written report to the Joint Legislative Budget Committee detailing program activities and funds disbursed.

This report details actions undertaken by the CEC through November 30, 2025.

CHAPTER 2:

Demand Side Grid Support Program

The DSGS Program provides performance-based payments for electricity customers anywhere in the state to reduce net load during extreme events with performance-based capacity payments and for per-unit reductions in net load. As part of the state's Strategic Reliability Reserve, the DSGS Program aims to support electric grid reliability beyond normal planning standards by providing incremental load reduction during extreme events, such as heat waves.

The DSGS Program currently has four participation options, which are described in more detail in Table 1. The estimated enrolled capacity per estimates from participating providers for each program option is shown in Figure 3.

- **Option 1: Emergency Dispatch** offers performance-based energy and standby payments to nonresidential customers who reduce net load during Program events triggered by energy emergency alerts (EEA) issued by a California balancing authority. Eligible technologies include combustion resources, if authorized under applicable emergency authorities, and clean, non-combustion resources.
- **Option 2: Market-Integrated Demand Response Incremental Capacity Pilot** offers a performance-based capacity payment based on the demonstrated capacity achieved by participating proxy demand resources (PDRs) that is incremental to existing resource adequacy commitments when dispatched by the California Independent System Operator (California ISO).
- **Option 3: Market-Aware Storage Virtual Power Plant (VPP) Pilot** offers a performance-based capacity payment for behind-the-meter storage VPPs based on demonstrated capacity achieved during a program event, as well as an energy payment for energy delivered in response to day-of EEAs. Program events are triggered when day-ahead California ISO wholesale energy market prices exceed a specified price threshold (or an alternative trigger for other balancing authorities), or test events as required, or by EEAs, but the VPP capacity is not actually bid into the California ISO energy market.
- **Option 4: Emergency Load Flexibility VPP Pilot** offers performance-based capacity compensation for load reduction capacity delivered during a program event relative to a capacity level pre-committed by aggregators operating dispatchable VPPs composed of aggregated smart thermostat-controlled heating, ventilation, and air conditioning (HVAC) systems, electric water heaters, electric vehicle supply equipment (EVSE), stationary batteries, and residential "smart electrical panels." Program events are triggered based on EEAs issued by a California balancing authority, or test events as required.

Participants can select a different participation option for each load reduction resource. Participants may enroll with an eligible DSGS provider or, in limited circumstances, directly

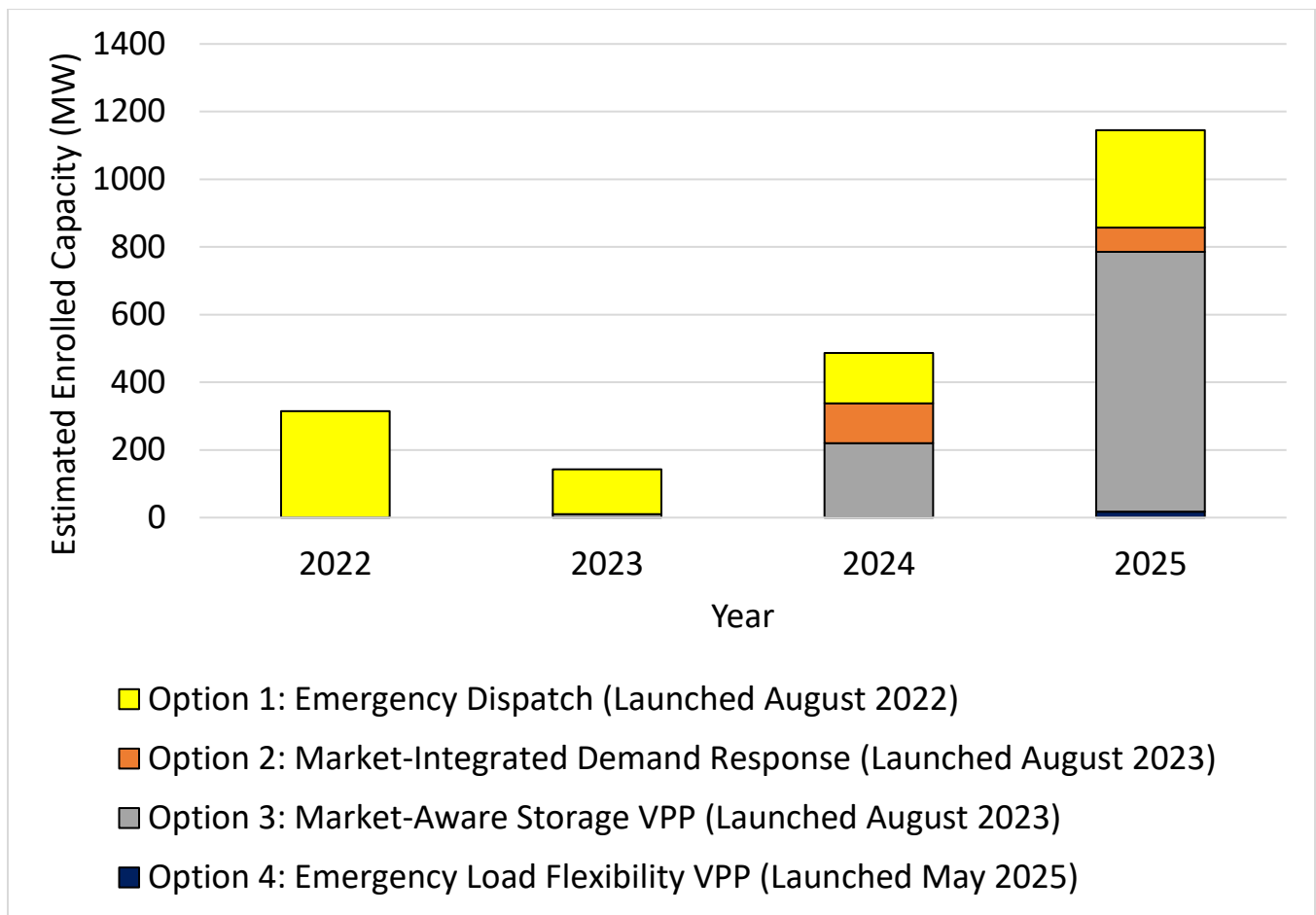
with the CEC. Participants cannot receive payment for the same load reduction through another program. The DSGS Program season runs from May through October. Compensation for participation is paid after the CEC has validated performance during the program season.

Table 1: DSGS Program Participation Options

	Option #1 Emergency Dispatch	Option #2 Market-Integrated Demand Response	Option #3 Market-Aware Storage VPP	Option #4 Emergency Load Flexibility VPP
Eligible Resources	Any load reduction resource, including backup generators	Market-integrated demand response	Behind-the-meter battery storage and battery electric vehicles with bidirectional charging capability	Smart thermostats, heat pump water heaters, electric resistance water heaters, EVSE, stationary batteries, and residential smart electrical panels
Event Trigger	EEA Backup generators only dispatch at EEA 2 if applicable emergency orders have been issued	California ISO market bidding & scheduling	California ISO day-ahead energy market locational marginal price (LMP) $\geq$ \$200 per MWh and EEAs	EEA
Payment Structure	• Energy payment: \$2 per kWh • Standby payment: \$0.25 per kWh • DSGS providers reimbursed for eligible administrative costs	• Capacity payment based on PDR resource's demonstrated capacity incremental to Resource Adequacy commitments • Capacity price varies by month, nominated duration	• Capacity payment based on VPP's demonstrated capacity • Capacity price varies by month, nominated duration • Energy payment: \$1 per kWh of net discharge	• Capacity payment based on VPP's demonstrated capacity relative to pre-commitment level • Capacity price varies by month • Performance-adjusted payment (including penalty for performance below pre-committed level)
Year Launched	August 2022	August 2023	August 2023	May 2025

Source: California Energy Commission

Figure 3: DSGS Estimated Enrolled Capacity (MW) for 2022 through October 2025



Source: California Energy Commission

Program Season 2022 Activity

The *Demand Side Grid Support (DSGS) Program Guidelines, First Edition*, were adopted on August 10, 2022, quickly launching the program with just Participation Option 1 available for participants. As shown in Table 2, the program enrolled 44 individual participants to help respond to the September 2022 extreme heat event, providing over 3,100 MWh of load reduction, primarily from backup generation. Total program payments paid for the 2022 program season were \$7,877,373.37.

Table 2: 2022 DSGS Program Season Activity

	Option #1 Emergency Dispatch
Enrolled Providers	4
Enrolled Participants	44
Estimated Capacity Enrolled²	315 MW
Program Events	22 EEAs over 9 days
Incentivize Performance	3,204.4 MWh load reduction 710 MWh standby
Total Program Payments Paid	\$7,877,373.37
Total Mitigation Costs Paid	\$22,692,308.27

Source: California Energy Commission

On August 31, 2022, Governor Newsom issued a Proclamation of a State of Emergency (2022 Proclamation) that allowed backup generators and power plants to operate outside of their permitted levels and allowed ships at berth to use their auxiliary engines in lieu of plugging into shore power to support the grid during the extreme heat event. The 2022 Proclamation directed the California Air Resources Board (CARB) to implement the Climate Heat Impact Response Program to mitigate the increased emissions authorized under the 2022 Proclamation. Governor Newsom issued two subsequent Executive Orders on September 2, 2022 (Executive Order N-14-22), and on September 6, 2022 (Executive Order N-15-22), further authorizing backup generators and power plants to operate outside of their permitted levels and ships at berth to use their auxiliary engines in lieu of plugging into shore power.

In order to reduce demand on the state energy grid during the 2022 extreme heat event, various facilities on land and ships at berth throughout California disconnected from the grid and utilized back-up generators and auxiliary engines instead, as authorized by the 2022 Proclamation, Executive Order N-14-22, and Executive Order N-15-22. Multiple facilities across the state ran back-up generators between August 31, 2022, and September 9, 2022. Ships at berth disconnected from the state energy grid and maintained power by running their auxiliary engines. A total of 27.41 tons of NO_x, particulate matter (PM) and reactive organic gases (ROG) were generated from these sources, and as per the Climate Heat Impact Response Program mitigation plan, CARB calculated the mitigation cost to be \$22,692,308.27. The mitigation costs have been transferred from the Distributed Electricity Backup Assets Account by CEC to CARB pursuant to Public Resources Code Section 25791.5.

² Capacity is based on provider and participant estimates.

Table 3 below gives the total emissions resulting from the summer 2022 emergency measures described above.

Table 3: Summer 2022 Emissions

Emissions	Pounds (lbs)	US Tons
NOx	31,021	15.511
PM	1,010	0.505
ROG/VOC (Volatile Organic Compounds)	1,897	0.948

Source: CARB Staff Analysis

The total carbon dioxide emissions resulting from the summer 2022 emergency measures are estimated to be 24,042 metric tons of CO₂.

Program Season 2023 Activity

In 2023, the CEC entered into an agreement with Olivine, Inc., to provide administrative services to support the implementation of the DSGS Program. Under this agreement, Olivine, Inc. agreed to: (1) support program enrollment and eligibility validation, (2) communicate and report to participants and partners (such as the California balancing authorities, investor-owned utilities, publicly owned utilities, community choice aggregators, and third-party aggregators), and (3) monitor and validate performance.

Table 4 below provides a listing of the Olivine, Inc. agreement term, committed funds, and total disbursed funds.

Table 4: DSGS 2023 Contracted Program Support

Counterparty	Agreement Start Date	Agreement End Date	Committed Funds	Total Disbursed
Olivine, Inc.	05/10/23	05/09/24	\$5,000,000	\$2,304,144.71

Source: California Energy Commission

On July 27, 2023, the CEC adopted the *Demand Side Grid Support (DSGS) Program Guidelines, Second Edition*. The revised guidelines helped bring on more clean resources with expanded participation eligibility, additional participation options for clean resources, and streamlined processes. Modifications included two new participation options:

- Option 2: Market-Integrated Demand Response Incremental Capacity Pilot
- Option 3: Market-Aware Storage Virtual Power Plant (VPP) Pilot

Consistent with AB 209, the *DSGS Program Guidelines, Second Edition*, expanded DSGS Program eligibility to certain investor-owned utility customers and community choice aggregator customers.

Table 5 below summarizes the 2023 program season activity. Figure 4 shows the estimated capacity enrolled in 2023 compared to 2022 for Option 1 and Option 3. The DSGS program did not collect enrollment estimates for Option 2 until 2024.

Table 5: 2023 DSGS Program Season Activity

	Option #1 Emergency Dispatch	Option #2 Market-Integrated Demand Response	Option #3 Market-Aware Storage VPP	Total
Enrolled Providers	7	3	8	14 ³
Enrolled Participants	27	211,547	1,296	212,870
Estimated Capacity Enrolled Oct 2023⁴	132.1 MW	N/A	10.4 MW	142.5 MW
Program Events	• July 20, 2023: EEA 1 • July 25, 2023: EEA Watch • July 26, 2023: EEA Watch	84 event hours ⁵	26 event hours over 12 days (Aug – Oct)	Not applicable
Incentivized Performance	2.2 MWh non-combustion load reduction	0.2 MW demonstrated capacity	3.2 MW demonstrated capacity in Oct	Not applicable
Total Program Payments Paid	\$57,743.57	\$6,874.43	\$231,630.47	\$296,248.47

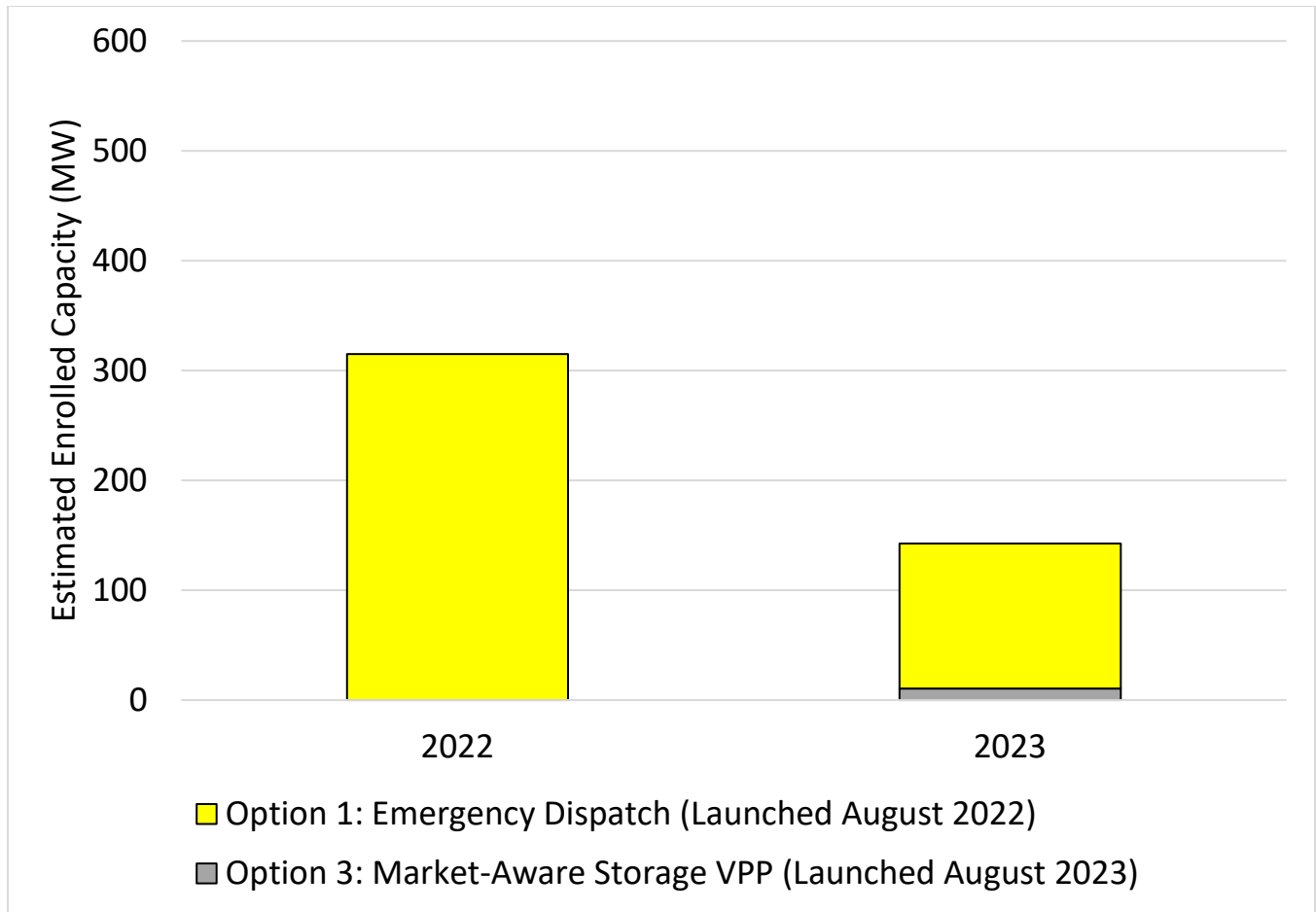
Source: California Energy Commission

3 Some providers offer more than one participation option.

4 Option 1 capacity is estimated based on provider and participant estimates. Option 2 providers were not required to provide capacity estimates until the 2024 program season. Option 3 capacity is based on provider estimates of the incremental capacity of enrolled resources.

5 Event hours reflect activity from the two Option 2 providers that submitted claims for the 2023 program season.

Figure 4: DSGS Estimated Enrolled Capacity (MW) for 2022 and 2023



Source: California Energy Commission

Program Season 2024 Activity

In 2024, the CEC entered into a new agreement with Olivine, Inc., to continue providing administrative services to support the implementation of the DSGS Program. The contract is a four-year contract from May 10, 2024, to May 9, 2028, in an amount not to exceed \$22.25 million. Under CEC discretion, this contract can be extended by one year.

Table 6 below provides a listing of this agreement's start and end dates, committed funds, and disbursed funds as of November 30, 2025.

Table 6: DSGS 2024 Contracted Program Support

Counterparty	Agreement Start Date	Agreement End Date	Committed Funds	Total Disbursed
Olivine, Inc.	05/10/2024	05/09/2028	\$22,250,000	\$3,983,181.77

Source: California Energy Commission

On May 8, 2024, the CEC adopted the *DSGS Program Guidelines, Third Edition*, which included updates intended to scale and grow participation from clean resources, refine and clarify program requirements, and simplify operational complexities.

Table 7 below summarizes the 2024 program season activity. Figure 5 shows the estimated capacity enrolled in DSGS for 2022 through 2024.

Table 7: 2024 DSGS Program Season Activity

	Option #1 Emergency Dispatch	Option #2 Market-Integrated Demand Response	Option #3 Market-Aware Storage VPP	Total
Enrolled Providers	8	5	14	22 ⁶
Enrolled Participants	34	231,468	37,650	269,152
Estimated Capacity Enrolled Oct 2024⁷	149 MW	117.4 MW	220.1 MW	486.5 MW
Program Events	July 24, 2024: EEA Watch	9,547 event hours	26 event hours over 16 days	Not applicable
Incentivized Performance	2.28 MWh incremental load reduction 91 MWh Standby Commitment	12.5 MW incremental demonstrated capacity in Oct	117.8 MW incremental demonstrated capacity in Sept	Not applicable
Total Program Payments Paid	\$49,697.39	\$1,106,348.73	\$8,342,879.83	\$9,498,925.95

Source: California Energy Commission

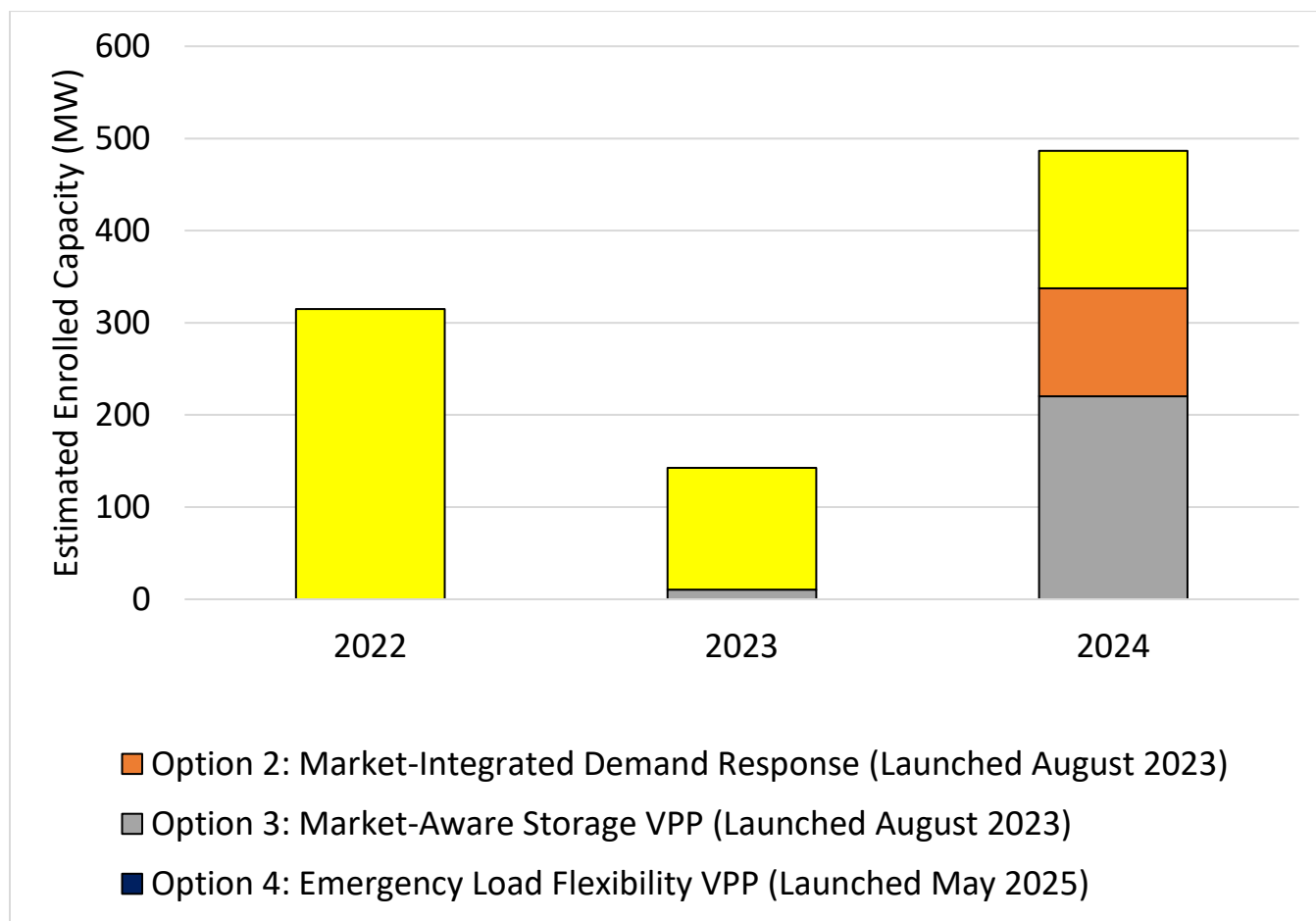
As established in the program guidelines, staff conducted an analysis of program performance during the 2024 program season. Program staff held a workshop presenting staff's analysis on October 15, 2025.⁸

6 Some providers offer more than one participation option.

7 Capacity is estimated based on provider and participant estimates.

8 <https://www.energy.ca.gov/event/workshop/2025-10/workshop-staffs-analysis-demand-side-grid-support-dsgs-program-performance>.

Figure 5: DSGS Estimated Enrolled Capacity (MW) for 2022 through 2024



Source: California Energy Commission

Program Season 2025 Activity as of November 30, 2025

On April 10, 2025, the CEC adopted the *DSGS Program Guidelines, Fourth Edition*. The updated guidelines expanded program opportunities for clean resources, such as an out of market emergency load flexibility VPP participation option and adding day-of emergency triggers for the storage VPP option. Table 8 below summarizes the 2025 program season activity as of November 30, 2025.

Table 8: 2025 DSGS Program Season Activity as of November 30, 2025

	Option #1 Emergency Dispatch	Option #2 Market- Integrated Demand Response	Option #3 Market-Aware Storage VPP	Option #4 Emergency Load Flexibility VPP	Total
Enrolled Providers	5	3	16	2	23 ⁹
Enrolled Participants	48	256,414	124,771	67,167	448,400
Estimated Capacity Enrolled¹⁰	288.2 MW	72.0 MW	768.0 MW	17.1 MW	1,145.2 MW
Program Events	No program events	TBD (pending CAISO settlement data)	No price- triggered or EEA events; monthly test events	No EEA events; test events July 11 and September 16	Not Applicable

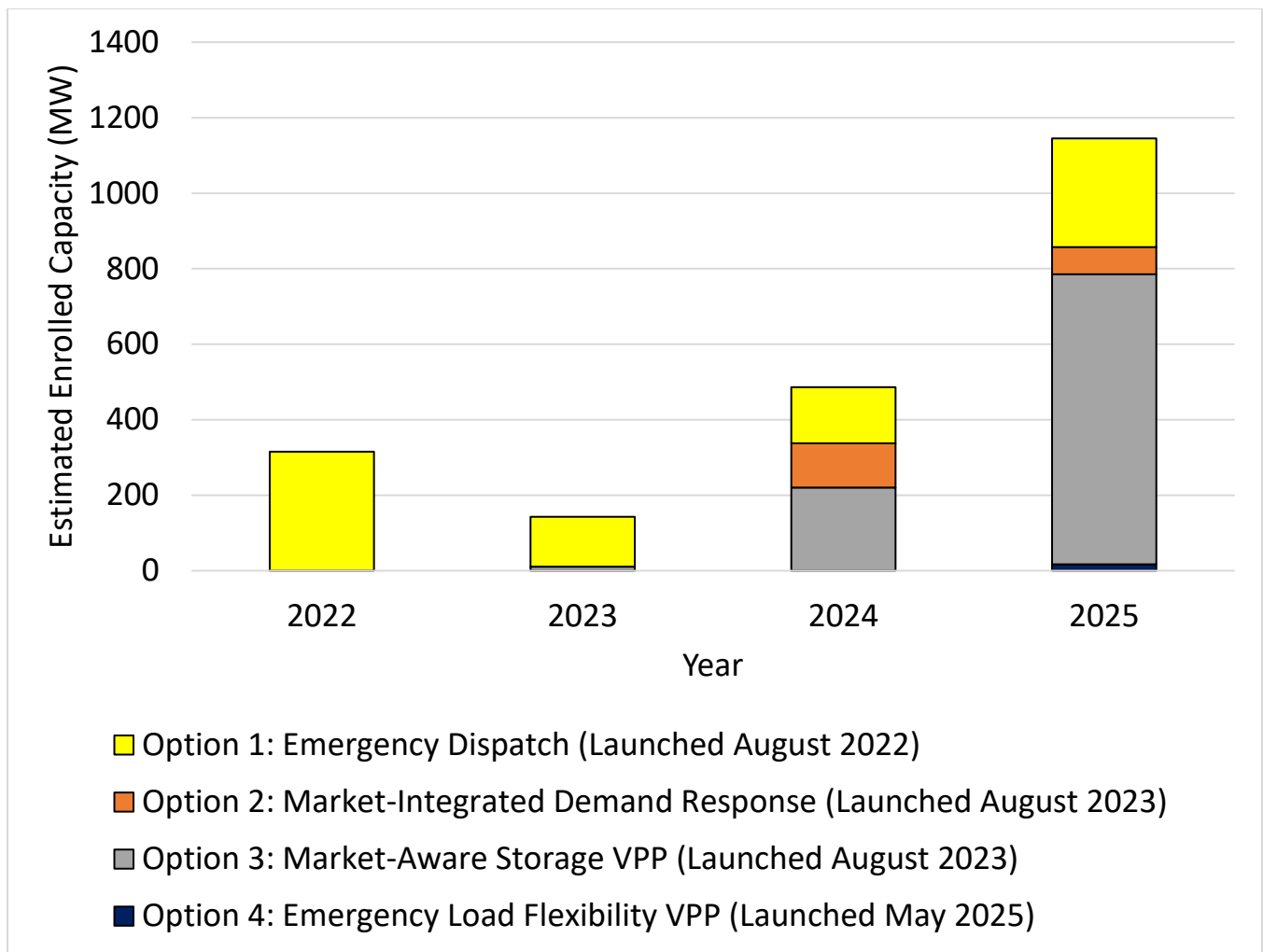
Source: California Energy Commission

The program season ended on October 31, 2025, with an estimated capacity of 1,145 MW enrolled, based on provider estimates. Table 8 shows the estimated capacity enrolled in DSGS for 2022 through 2025. There were no EEA- or price-triggered events in the 2025 program season. In the absence of a price-triggered or EEA-triggered event, each Option 3 aggregator is required to conduct at least one test event each month. Additionally, in the absence of an EEA, Option 4 aggregators are required to respond to one CEC-initiated test event each program quarter (May through July and August through October). After the program season closes, DSGS providers can submit claims for program payments. CEC staff are in the process of validating program data and demonstrated performance during the 2025 program season.

⁹ Some providers offer more than one participation option.

¹⁰ Capacity is estimated based on provider and participant estimates.

Figure 6: DSGS Estimated Enrolled Capacity (MW) for 2022 through 2025



Source: California Energy Commission

CHAPTER 3:

Distributed Electricity Backup Assets Program Status

The Distributed Electricity Backup Assets (DEBA) Program offers incentives for building cleaner and more efficient distributed energy assets that will serve as on-call emergency supply or load reduction for the state's electrical grid during extreme events. The assets developed and deployed by the DEBA Program will provide new capacity in the form of supply or load reduction that is incremental to the state's Resource Adequacy supplies and existing SRR to further improve grid reliability.

The DEBA Program Guidelines establish two project funding categories consistent with the two categories outlined in the Program's authorizing statute. The first is Bulk Grid Assets, which includes efficiency upgrades, maintenance, and capacity additions to existing power generators. The second is Distributed Resources, which is comprised of new zero- or low-emission technologies, including, but not limited to, fuel cells or energy storage, at existing or new facilities in California. Projects in this category may be located either behind-the-meter (BTM) or in front-of-the-meter (FTM).

Initial Program Development

Staff began DEBA's program development process with a Request for Information in November 2022 to solicit feedback on potential DEBA Program design.

The CEC collaborated closely with stakeholders and our reliability partners, including the CPUC and California ISO, to understand the state's existing reliability programs. This ensured that staff would design the DEBA Program to avoid inadvertently interfering with or duplicating existing reliability programs and resource adequacy programs. The DEBA Program instead fills reliability gaps by encouraging innovation to provide incremental resource capacity and energy to help meet the state's grid reliability needs, particularly during emergencies.

On October 18, 2023, the CEC approved the DEBA Guidelines. In accordance with the program's authorizing statute, the guidelines were developed in consultation with CARB and included a loading order that prioritizes cleaner resources for providing emergency support to the state's electrical grid during extreme events. The guidelines describe two distinct funding categories of eligible projects and program activities:

- **Bulk Grid Assets.** Efficiency upgrades, maintenance, and capacity additions to existing power generators. Eligible bulk grid projects must increase the nameplate capacity of an existing power generator or the power output of an existing facility that is interconnected in California to the bulk transmission grid.

- **Distributed Resources.** New zero- or low-emission technologies, including, but not limited to, fuel cells or energy storage, at existing or new facilities in California with the first point of interconnection that is not on the bulk transmission grid.

The guidelines establish that initial funding will be released through GFOs and that the CEC may allocate funding through other state administrative processes after the initial phase. The DEBA Program may release several GFOs depending on identified electrical grid reliability needs in the state, project opportunities, and available funding. Additionally, for both funding categories, 25 percent of funding will be dedicated to projects located in publicly owned utility (POU) territories. The Distributed Resources funding category will dedicate up to 50 percent of total funding to projects located in or benefitting disadvantaged communities (DACs). The guidelines further establish that DEBA Program funding opportunities must consider the useful life of equipment receiving funds.

Examples of eligible technologies that may receive funding from the DEBA Program include but are not limited to:

- Load Flexibility Controls, Supervisory Control and Data Acquisition (SCADA) systems, and Demand Response Aggregation Software
- Fuel Cells
- Energy Storage
- Linear Generators
- Microgrids
- Microturbines
- Vehicle-to-grid integration

The DEBA Guidelines serve as a broad program framework, but individual GFOs will include specific parameters, such as which projects are eligible for funding and what technical scoring criteria will be used to evaluate grant applications.

Bulk Grid Asset Enhancements

The DEBA Program began accepting applications for the Bulk Grid Asset Enhancements for Grid Reliability GFO (Bulk Grid GFO) in December 2023 and released the Notice of Proposed Awards (NOPA) in April 2024.

This GFO offered up to \$150 million in grant funds for the purchase and installation of capacity additions and efficiency upgrades to existing bulk grid power generators in California. A pre-application workshop was held December 18, 2023, with applications due in February 2024. Proposals were competitively ranked based on technical scoring criteria such as resource longevity, capacity and availability, cost-effectiveness, and project readiness. Further, to align with the state's clean energy and climate goals, scoring criteria evaluated the impacts each proposed project would have on greenhouse gas and criteria air pollutant emissions.

While the Bulk Grid GFO received 12 applications in total, staff recommended nine projects for funding. Proposed awardees included five energy storage projects totaling 218 megawatts (MW) for \$78 million and four natural gas efficiency upgrade projects totaling 78 MW for \$44 million. In total, 297 MW of capacity was recommended for funding at a cost of \$122.8 million or \$0.41 million/MW. If they all move forward and are approved, these projects will collectively add 297 MW to the state's Strategic Reliability Reserve. Each project is required to:

- Make the DEBA-funded capacity available during extreme events for a term of five years from the commercial online date of the upgraded generators.
- Make the DEBA-funded capacity available on a day-ahead and real-time basis to the host California Balancing Authority for economic and exceptional dispatch, consistent with the applicable requirements and operational capabilities of the upgraded generators.

Table 9 displays the agreement name, project location, incremental capacity, total funding, and total expenditures of the awardees from the Bulk Grid GFO whose projects have received approval at CEC business meetings through December 2025.

Table 9: DEBA Bulk Grid Projects Approved at a CEC Business Meeting

DEBA Bulk Grid Agreement Name	Project Location	Incremental Capacity (MW)	Total Funding (\$)	Total Expended as of December 31, 2025 (\$)
UC San Diego BESS ¹¹	San Diego	8.55	\$7,146,296	\$0.00
City of Roseville Efficiency Enhancements	Roseville	9.5	\$1,374,747	\$22,170.29
Northern California Power Agency	Lodi	15	\$7,043,128	\$1,620,749.20
City of Pasadena Water and Power Department	Pasadena	25	\$9,660,000	\$0.00
Athos Storage B	Desert Center	75	\$25,000,000	\$0.00
City of Burbank Magnolia, Advanced Compressor Resiliency	Burbank	29.9	\$23,293,654	\$0.00
City of Burbank Magnolia, Gas Path Resiliency Upgrade	Burbank	24	\$12,755,466	\$0.00
Total:		186.95	\$86,273,291	\$1,642,919.49

Source: California Energy Commission

Table 10 displays the agreement name, project location, incremental capacity and total funding of the awardees from the Bulk Grid GFO that are still in the CEC approval process.

¹¹ This agreement will include the purchase, installation, and performance reporting of a four-hour lithium-ion battery system with a nameplate capacity of 9.8 MW / 39.2 Megawatt Hours (MWh). The system will replace (upgrade) an existing two-hour lithium-ion battery system with a nameplate capacity of 2.5 MW / 5.0 MWh that is part of the existing bulk grid power assets owned and operated by UC San Diego.

Table 10: DEBA Bulk Grid Projects Currently in Approval Process

DEBA Bulk Grid Agreement Name	Project Location	Incremental Capacity (MW)	Total Funding (\$)
Harbor BESS	Los Angeles	10	\$11,287,767
Pelican's Jaw	Lost Hills	100	\$25,000,000
Total:		110	\$36,287,767

Source: California Energy Commission

Roseville State Power Augmentation Power Units

Because of the emergency context for the two Roseville State Power Augmentation Power (RSPAP) Units (GE Vernova TM2500 generators), the licensing for participation of the generators as the site for the DEBA Roseville project includes a requirement that the generators operate during grid emergencies to support California balancing authority areas. Prior to 2024, operation and emissions of these generators have been reported separately.¹²

Operation and emissions from these units in 2024 are as follows:

- 2,065 MWh total generation.¹³
- 60 MW of nameplate capacity, including a maximum of 54.9 MW (53.4 MW on average) during the EEA Watch called by the California ISO in 2024.¹⁴
- In 2024, the generators operated for 81.39 hours. The generators emitted: 1,271.5 US tons of carbon dioxide (CO₂) and 0.3 tons of NO_x.¹⁵

Operation and emissions from these units in 2025 are as follows:

- 13,662 MWh total generation.
- No CAISO energy emergencies in 2025.

12 See the California Department of Water Resources, Electricity Supply Reliability Reserve Fund Progress Reports, available at the [web page for the California Department of Water Resources Statewide Energy Office](https://water.ca.gov/Programs/Statewide-Energy-Office), <https://water.ca.gov/Programs/Statewide-Energy-Office>. Also, see the [Roseville Energy Park Temporary Power Generators Docket \(21-TPG-01\)](https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=21-TPG-01), California Energy Commission, <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=21-TPG-01>.

13 CEC staff calculation based on Settlement Quality Meter Data (SQMD).

14 CEC staff calculation based on Settlement Quality Meter Data (SQMD).

15 NO_x Mass (tons) values calculated with data from US EPA Emissions Collection and Monitoring Plan System (ECMPS) Client Tool Feedback Reports for Roseville Energy Park CT005 and CT006 Units for 2024. All other data are directly from the same US EPA ECMPS Client Tool Feedback Reports. These reports were deemed accepted/validated by the US EPA.

- In 2025, the generators operated for 706 hours. The generators emitted: 8,431 US tons of carbon dioxide (CO₂) and 1.3 tons of NO_x.

Distributed Energy Resources

CEC staff released a draft solicitation concept (draft concept) to the public in February 2024 to solicit feedback on the proposed framework for a future GFO that would support the deployment of DERs for reliability. Staff conducted a public workshop on March 5, 2024, to request stakeholder feedback on this draft concept.

The draft concept was designed to fund projects using both BTM and FTM DERs to provide grid support both during and in advance of emergency events. The draft concept proposed three project groups to incentivize the deployment of a variety of clean technologies that could be added to the SRR portfolio, including:

- Large DERs with over 100 kW in rated, four-hour capacity.
- Smaller BTM DERs that could be aggregated as a single VPP to either shed load or export capacity to the grid.
- Utility-sponsored load flexibility programs that would install and aggregate load flexibility enabling technologies to provide load reduction during and in advance of emergency events.

To ensure that each project funded through this GFO would operate in a fashion that enhanced grid reliability in the state, the draft concept proposed five performance demonstration pathways that applicants could select in their application. The pathways were designed to accommodate a wide variety of technology types and use cases. Grant recipients would receive fifty percent of the total award while the project is under construction based on incurred expenses and regular reports demonstrating progress towards achieving the project objectives. The remaining fifty percent of the award would be disbursed in annual increments if the project successfully fulfills its performance, measurement and verification, and reporting obligations. The draft concept included prospective evaluation criteria to solicit public comment on which technical scoring criteria would best support competitively ranking and selecting the optimum DER projects to support grid reliability. The release of the final solicitation was paused pending the DEBA Program receiving additional budget authority.

In September 2025, the 2025-26 Budget appropriated \$46,144,000 million for the DEBA Program from Proposition 4, the Safe Drinking Water, Wildfire Prevention, Drought Preparedness, and Clean Air Bond of 2024, to fund new clean microgrids, or new non-residential or aggregated residential distributed clean energy and storage projects. The solicitation for DER projects will now be funded through this appropriation and is being adapted to be consistent with Proposition 4 funding amounts and requirements. Program staff anticipate releasing a draft solicitation for public comment in spring of 2026.

APPENDIX A:

Glossary

Balancing Authority: An entity that manages the operation of the electric power system within a specific geographic area. The goals of balancing authorities are to maintain balance between power demand and supply and to sustain safe and reliable operation of the power system.

Behind the Meter (BTM): Refers to energy resources located on the customer's side of the utility meter.

Bulk Grid Asset: Efficiency upgrades and capacity additions to existing power generators interconnected to the bulk electricity transmission grid in California.

California Independent System Operator (California ISO): A balancing authority serving most of California. California ISO oversees the operation of California's bulk electric power system, transmission lines, and electricity markets.

Demand response: Customers make temporary or recurring changes in their energy consumption profile (typically reduce or shift net demand) in response to grid or price signals to provide grid services in exchange for incentives or compensation from an energy service provider, utility, or California ISO.

Disadvantaged communities: Disadvantaged communities are those designated under Health and Safety Code Section 39711 as representing the 25% highest scoring census tracts in CalEnviroScreen 4.0, census tracts previously identified in the top 25% in CalEnviroScreen 3.0, census tracts with high amounts of pollution and low populations as identified by CalEPA, and federally recognized tribal areas as identified by the Census in the 2021 American Indian Areas Related National Geodatabase. Please see <https://calepa.ca.gov/envjustice/ghginvest/> for the most current CalEPA designations.

Distributed energy resources (DER): For the DEBA and DSGS programs, DER means the following resources on the electricity distribution system or behind a customer meter: energy generation, energy storage, and load flexibility enabling technologies.

Electric Vehicle Supply Equipment (EVSE): The equipment that connects an electric vehicle (EV) to a power source to charge its battery.

Energy Emergency Alert (EEA): A series of multiple alert levels used by the California Independent System Operator and other balancing authorities to keep the public informed when energy deficiencies are expected.

Energy Emergency Alert Watch (EEA Watch): An Energy Emergency Alert Watch issued by the California ISO when analysis shows all available resources are committed or forecasted to be in use, and energy deficiencies are expected. Market participants are encouraged to offer

supplemental energy (California ISO Emergency Notifications Fact Sheet, <https://www.caiso.com/documents/emergency-notificationsfact-sheet.pdf>).

Energy Emergency Alert 1 (EEA 1): An Energy Emergency Alert 1 as defined in the North American Electric Reliability Corporation's Reliability Standard EOP-011-1. A balancing authority issues an EEA 1 when it is experiencing conditions where all available generation resources are committed to meet firm load, firm transactions, and reserve commitments, and is concerned about sustaining its required contingency reserves.

Energy Emergency Alert 2 (EEA 2): An Energy Emergency Alert 2 as defined in the North American Electric Reliability Corporation's Reliability Standard EOP-011-1. A balancing authority issues an EEA 2 when it is no longer able to provide its expected energy requirements and is energy deficient.

Energy Emergency Alert 3 (EEA 3): An Energy Emergency Alert 3 as defined in the North American Electric Reliability Corporation's Reliability Standard EOP-011-1. An energy deficient balancing authority issues an EEA 3 when it is unable to meet minimum contingency reserve requirements

Extreme event: An extreme event is defined in Public Resources Code Section 25790.5(b) to mean either of the following: (a) An event occurring at a time and place in which weather, climate, or environmental conditions, including temperature, precipitation, drought, fire, or flooding, present a level of risk that would constitute or exceed a one-in-ten event, as referred to by the North American Electric Reliability Corporation, including when forecast in advance by a load-serving entity or local publicly owned electric utility. (b) An event where emergency measures are taken by a California balancing authority, including when forecast in advance by the California balancing authority.

Load Reduction: A decrease in electric demand as measured at a customer site relative to a counterfactual baseline. Load reductions include behind-the-meter generation or storage discharge that result in negative demand (that is, exports) except where otherwise prohibited.

Local publicly owned electric utility (POU): Local publicly owned electric utility means a municipality or municipal corporation operating as a "public utility" furnishing electric service as provided in Section 10001, a municipal utility district furnishing electric service formed pursuant to Division 6 (commencing with Section 11501), a public utility district furnishing electric services formed under the Public Utility District Act set forth in Division 7 (commencing with Section 15501), an irrigation district furnishing electric services formed pursuant to the Irrigation District Law set forth in Division 11 (commencing with Section 20500) of the Water Code, or a joint powers authority that includes one or more of these agencies and that owns generation or transmission facilities, or furnishes electric services over its own or its member's electric distribution system. (Public Utility Code section 224.3.)

Locational Marginal Price (LMP): The marginal price for energy at the location where the energy is delivered or received. It is based on forecasted system conditions and the latest approved real-time security constrained economic dispatch program solution. LMP is expressed

in dollars per megawatt-hour (\$/MWh). LMP is a pricing approach that addresses Transmission System congestion and loss costs, as well as energy costs.

Proxy Demand Resource (PDR): Economic demand response composed of a load or aggregation of loads that bid into the California ISO market under normal operating conditions.

Solicitation: The document that requests grant applications from interested parties and includes all attachments, exhibits, any addendum and written notices and questions and answers; may be used interchangeably with grant funding opportunity (GFO).

Strategic Reliability Reserve (SRR): A state program that provides funding to secure conventional generation, efficiency upgrades at existing natural gas plants, demand response, distributed generation, and long-duration storage. The SRR consists of three programs, two of which are administered by the CEC, and one is administered by the Department of Water Resources.

Virtual Power Plant (VPP): A network of behind-the-meter customer operated distributed energy resource (DER) devices that respond to a grid signal to benefit the electric grid.