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California Energy Commission

STAFF REPORT

California Schools Healthy Air, Plumbing, and Efficiency Program Activities and Expenditures

Annual Report on Program Year 2023

March 2024 | CEC-300-2024-001

California Energy Commission

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ABSTRACT

The School Energy Efficiency Stimulus Program was established by Assembly Bill 841 (Ting, Chapter 372, Statutes of 2020) and is referred to as the California Schools Healthy Air, Plumbing, and Efficiency Program for program administration. The California Schools Healthy Air, Plumbing, and Efficiency Program consists of two grant programs, the Ventilation Program and Plumbing Program. The programs provide funding to local educational agencies for assessing, maintaining, repairing, and replacing ventilation systems in California schools and funding to local educational agencies and state agencies for replacing aging and water inefficient plumbing fixtures and appliances with water-conserving plumbing fixtures and appliances.

This report is prepared as directed and in compliance with Section 25208 of the Public Resources Code to include the following: "*The commission shall submit a report to the relevant policy committees of the Legislature and the Joint Legislative Budget Committee describing programmatic activities and spending pursuant to the School Energy Efficiency Stimulus Program.*

(b) The report shall include both of the following:

(1) A description of any changes to guidelines and budget.

(2) A summary of past spending, activities funded, and expected changes in funding and activities for the next year.

(c) As part of the report, the commission may include information that is already provided in reports submitted to and approved by the Public Utilities Commission, as applicable."

This report describes program activities in calendar year 2023, including the budget, expansion of eligibility, development of the HVAC Assessment Report, and grants awarded.

Keywords: CalSHAPE, School Energy Efficiency Stimulus, SEES, School Reopening Ventilation and Energy Efficiency Verification and Repair Program, School Noncompliant Plumbing Fixture and Appliance Program, ventilation, plumbing, grant, energy efficiency, school, local educational agency, state agency, underserved community, HVAC, assessment, ENERGY STAR®, fixture, appliance

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EXECUTIVE SUMMARY

Assembly Bill (AB) 841 (Ting, Chapter 372, Statutes of 2020) established the School Energy Efficiency Stimulus (SEES) Program and directed the California Energy Commission (CEC), as the program administrator, to design, administer, and implement the program in collaboration with the utilities that fund the program. The SEES Program is referred to as the California Schools Healthy Air, Plumbing, and Efficiency (CalSHAPE) Program.

The CalSHAPE Program includes two grant programs, the CalSHAPE Ventilation Program and CalSHAPE Plumbing Program. The CalSHAPE Ventilation Program provides funding for local educational agencies (LEAs) to assess, maintain, repair, and replace ventilation systems in schools. The CalSHAPE Plumbing Program provides funding for LEAs and state agencies to replace aging and water inefficient plumbing fixtures and appliances with water-conserving plumbing fixtures and appliances.

This report describes program activities in calendar year 2023, including the budget, second phase expansion, final report submittals, and grants awarded.

AB 841 was enacted in September 2020 as an urgency measure to help schools improve air quality and reduce energy use while meeting current classroom ventilation requirements. The implementation timeline established in the bill required the CEC to develop the program and begin awarding grants as quickly as possible. The CEC adopted program guidelines and began accepting applications in the fall of 2021. Since then, the CEC has held five funding rounds in which applications were submitted for both programs.

The funds provided by these grant programs assist LEAs in making much needed repairs and upgrades to the school infrastructure in the state. The CalSHAPE Program is also creating work opportunities for a skilled and trained workforce and prioritizing awards to schools in underserved communities, consistent with the goals of the program, which are to:

- Save energy.
- Create jobs.
- Provide direct support to schools in underserved communities.

In 2023, the CalSHAPE Ventilation Program began accepting applications for the second phase of program awards, which are Upgrade and Repair Grants. These grants will provide funding to LEAs that complete the first phase of program awards, the Assessment and Maintenance Grants, for the repair, upgrade, or replacement HVAC systems in schools. LEAs also started submitting final reports and invoices, which is referred to as "Reconciliation," to close out their grants and receive the final award payment.

The CEC has received 777 applications for the CalSHAPE Ventilation Program and 205 applications for the CalSHAPE Plumbing Program as of the end of 2023. Awards are issued to eligible applicants with complete applications on a first-come, first-served basis when sufficient funds are available for the requested award amount. By the end of 2023, the CEC has awarded:

- 646 grants totaling $421 million in funding for the CalSHAPE Ventilation Program.
- 173 grants totaling $66 million in funding for the CalSHAPE Plumbing Program.

LEAs receive up to 50 percent of the grant award upon execution of the grant agreement and can receive additional funding for reimbursement of incurred costs during the projects. As of the end of 2023, more than $180 million in program funds have been paid to LEAs to begin work and reimburse completed work on CalSHAPE Ventilation and Plumbing Program projects.

CHAPTER 1: Introduction

The School Energy Efficiency Stimulus (SEES) Program was established by Assembly Bill (AB) 841 (Ting, Chapter 372, Statutes of 2020). AB 841 directed the California Energy Commission (CEC), as program administrator, to design, administer, and implement the program. For administration purposes, the SEES Program is referred to as the "California Schools Healthy Air, Plumbing, and Efficiency (CalSHAPE) Program." The CalSHAPE Program consists of two grant programs: the CalSHAPE Ventilation Program and CalSHAPE Plumbing Program.

The CalSHAPE Ventilation Program (Ventilation Program) provides funding to local educational agencies (LEAs) to assess, maintain, and repair heating, ventilation, and air-conditioning (HVAC) systems in schools. (The glossary on pages 18–23 defines "local educational agencies" and other terms in this report.) The program requires filter replacement, installation of carbon dioxide monitors in each classroom, and testing of HVAC systems. Any deficiencies in the HVAC systems found during the testing must be documented in an assessment report. The assessment report is reviewed by a licensed professional for recommendations on repairs, upgrades, and replacements that can be made to correct the deficiencies and meet the minimum ventilation and filtration rate requirements. The Ventilation Program was expanded in 2023 to provide funding to LEAs to make the repairs, upgrades, and replacements recommended by the licensed professional in the assessment report.

The CalSHAPE Plumbing Program (Plumbing Program) provides funding to LEAs and state agencies to replace aging and water-inefficient plumbing fixtures and appliances with water-conserving plumbing fixtures and appliances. The noncompliant plumbing fixtures eligible for replacement are toilets, urinals, showerheads, and interior faucets that fail to meet current water usage requirements. The noncompliant appliances eligible for replacement are commercial dishwashers, automatic commercial ice makers, and commercial clothes washers that do not meet ENERGY STAR® Product Specifications.

The CalSHAPE Program was created as an urgent energy efficiency program and intended to save energy, create jobs, and provide direct support to schools in underserved communities, as defined by statute. Both the Ventilation and Plumbing Programs require that a skilled and trained workforce perform the work so that grant funds go toward supporting and promoting high-quality jobs. Both programs also limited eligibility of program awards to schools in underserved communities until August 2022 when eligibility was expanded to schools statewide. By the end of 2023, 27 percent of the grant funds awarded went to schools in underserved communities. Information on the skilled and trained workforce and the energy and water savings of the projects is beginning to be collected in the progress and final reports submitted by LEAs and state agencies.

In addition to collecting applications, issuing grant awards, and collecting final reports, the CEC began accepting applications for Upgrade and Repair (U&R) Grants in 2023. This annual report describes CalSHAPE Program activities and spending in 2023 and summarizes expected program activities and changes to the guidelines and budget in 2024.

CHAPTER 2:
Budget

CalSHAPE Program funding comes from the energy efficiency budgets of California's large electric and gas investor-owned utilities (IOUs), specifically Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), San Diego Gas & Electric Company (SDG&E), and Southern California Gas Company (SoCalGas). The California Public Utilities Commission (CPUC) approves the IOUs' energy efficiency budgets and authorizes the IOUs to transfer funding to the CEC for the CalSHAPE Program. The program accumulates funding in 2021, 2022, and 2023 and runs until December 1, 2026, when all unused funds must be returned to the IOUs.

In addition to the funds transferred by the IOUs, the Ventilation Program was allocated $20 million from the greenhouse gas reduction fund (GGRF) in the Budget Act of 2022.[1] These funds must be used only for the replacement of HVAC systems in schools, which is funded as part of the Ventilation Program U&R Grants. Additional information on the U&R Grants is provided in Chapter 3.

2023 Program Funding

The CPUC calculated the 2023 annual program budget to be $401 million as described in CPUC Decision (D.) 21-01-004 and subsequent filings by the IOUs specifying 2022 unspent and uncommitted funds.[2] While this funding is under the CPUC-authorized energy efficiency budget cap for the IOUs, the program resulted in new rates collection as this budget would not have been put into rates but for AB 841. The total funding amounts transferred by each utility are provided in Table 1.

Table 1: CalSHAPE Program Funding

Program Year	PG&E	SCE	SDG&E	SoCalGas	Total
2021	$102,466,340	$116,488,293	$52,976,495	$2,500,000	$274,431,128
2022	$122,744,916	$121,914,182	$73,439,162	$202,247	$318,300,507
2023	$96,269,095	$241,217,628	$63,213,899	$408,405	$401,109,027
Total Funding	$321,480,351	$479,620,103	$189,629,556	$3,110,652	$993,840,662

Source: CPUC D. 21-01-004

1 AB 179 added Items 3360-001-3228 and 3360-101-3228 to Section 2 of the Budget Act of 2022, appropriating a total of $20 million in funding from the GGRF to the CalSHAPE Ventilation Program.

2 The total program budget also includes 2021 unspent and uncommitted funds and a true-up of 2020 unspent and uncommitted funds related to a CPUC audit of the investor-owned utilities. For additional information, see CPUC D. 21-01-004 and CPUC R.13-11-005 E-mail Ruling dated Dec. 17, 2021.

CHAPTER 3:
Program Activities

CalSHAPE Program activities in 2023 consisted of accepting applications and issuing awards to successful LEAs for each of the program grants and accepting final reporting and invoices for completed projects to close out grants. Each of these program activities is described in this chapter.

Applications and Awards

AB 841 required the CEC to solicit applications for grants by April 1, 2021, and begin approving applications by May 1, 2021. The CalSHAPE Program began accepting applications for the Ventilation Program and Plumbing Program in the fall of 2021. "Funding Rounds" is the mechanism used to distribute program funding to eligible entities by employing a grant application process for a certain period with specified eligibility requirements and available funding amounts in each funding category. As of the end of 2023, the CEC has accepted applications for the program grants during five funding rounds. During each funding round, applicants submit applications for grant awards in the CalSHAPE Online System, which is the online application and reporting system for the CalSHAPE Program. CEC staff reviews each application, works closely with applicants to correct any errors or inconsistencies found in the information provided in the application, and then issues a notice of proposed award (NOPA) once an application is determined to be complete.

CEC staff began issuing NOPAs to qualified applicants on November 30, 2021, for the Ventilation and Plumbing Programs. CEC staff continuously issues NOPAs to qualified applicants throughout the year as applications are determined to be complete. Information on the number of applications received, the amount of funding requested, and the number of NOPAs issued for both programs as of the end of 2023 is provided in Table 2.

Table 2: Applications Submitted and Funding Requested in CalSHAPE Program

CalSHAPE Programs	Applications	Requested Funding Amount	NOPAs Issued
Ventilation	777	$519,780,777	767
Plumbing	205	$74,022,807	198
Total	982	$593,803,584	965

Source: California Energy Commission

After a NOPA is issued, an applicant must return a signed grant agreement and supporting documentation for a grant to be awarded. As of the end of 2023, 819 grants have been awarded in the CalSHAPE Program for a total of more than $486 million in grant funds

awarded. This amount represents 50 percent of the total program budget.[3] Table 3 provides the number of grants and the amount of grant funding awarded, along with the expected total budget and the percentage of the total budget awarded for each program as of the end of 2023.

Table 3: Grants Awarded in CalSHAPE Program

CalSHAPE Programs	Grants Awarded	School Sites	Award Amount	Total Budget	Percentage of Total Budget
Ventilation	646	3,868	$420,852,460	$722,880,497	58%
Plumbing	173	998	$65,603,164	$240,960,165	27%
Total	819	4,866	$486,455,624	$963,840,662	50%

Source: California Energy Commission

Upgrade and Repair Grants

The CEC began accepting applications for U&R Grants in September 2023. U&R Grants provide additional funding to LEAs that complete the initial phase of CalSHAPE Ventilation Program grant awards, which is referred to as Assessment and Maintenance (A&M) Grants. As described in Chapter 1, the funding provided as part of the A&M Grant is for the assessment, maintenance, and repair of HVAC systems in schools. As part of the grant, an HVAC Assessment Report is produced to document the results of the assessment and any deficiencies found in the HVAC system. The report is reviewed by a licensed professional for recommendations on additional repairs, upgrades, or replacements needed to correct deficiencies and meet the minimum ventilation and filtration rate requirements. The U&R Grant will provide additional funding to LEAs to make these recommended repairs, upgrades, or replacements. Notably, the program requires the use of all-electric equipment, or hybrid heating systems in situations where it is recommended by a Licensed Professional, for HVAC system replacement to help California meet its commitment to reach carbon neutrality by 2045. Table 4 provides the number of applications submitted, the amount of funding requested in applications, and the number of NOPAs issued for both U&R and A&M Grants.

Table 4: U&R Grant Applications Submitted and Funding Requested

Ventilation Program Grants	Applications	Requested Funding Amount	NOPAs Issued
A&M Grants	774	$510,306,884	767
U&R Grants	3	$9,473,893	0
Total	777	$519,780,777	767

Source: California Energy Commission

3 Total program budget is $994 million. The CEC may use up to $30 million of the program budget for administering the programs as provided by PUC Section 1615(d). It is expected that around $964 million will be available for grant awards.

Project Closeout

The CalSHAPE Ventilation Program requires that all schools receiving a grant award produce and submit an HVAC Assessment Report. The information in the HVAC Assessment Report is gathered by qualified testing or adjusting personnel during the assessment and provides information on each HVAC system located at a site. The information provided in the HVAC Assessment Report includes:

- HVAC system equipment specifications.
- Filtration information.
- Ventilation rate verification.
- Exhaust rate verification.
- System deficiencies documentation.

The HVAC Assessment Report is submitted to the CEC as part of the final report for an A&M Grant. CEC staff completed development of the HVAC Assessment Report in 2022 and designed the report as data entry fields in the CalSHAPE Online System. With the report information being entered directly into the CalSHAPE Online System, the report data for each project are stored in the system and can be easily accessed and queried for program reporting. CalSHAPE Ventilation Program grantees began completing their HVAC Assessment Reports in the CalSHAPE Online System in September 2022. The collected information stored from the initial HVAC Assessment Reports is provided in Chapter 4.

CalSHAPE Program grantees began submitting their final reports and invoices, collectively referred to as the "reconciliation report," in August 2023. CEC staff reviews the reconciliation report to ensure that projects were completed as described in the grant agreement and that program requirements, including all qualified personnel and skilled and trained workforce requirements, were met. CEC staff compares the actual project costs as shown on the invoices and receipts provided with the Reconciliation Report with the amount of the grant award and funding paid to the grantee during the project to determine the final grant award payment amount. The final grant payment is processed and sent to the grantee once the Reconciliation Report is determined to be accurate and complete. Table 5 provides the number of grant awards and number of Reconciliation Reports that have been submitted for each program along with the grant award amount and total funds that have been paid to LEAs as of the end of 2023.

Table 5: CalSHAPE Program Projects Closed Out

CalSHAPE Programs	Grants Awarded	Reconciliation	Award Amount	Total Funds Paid to LEAs*
Ventilation	646	37	$420,852,460	$178,977,108
Plumbing	173	29	$65,603,164	$1,246,742
Total	819	66	$486,455,624	$180,223,850

***The Total Funds Paid to LEAs include the initial payments and progress payments for the Ventilation Program, reimbursement of incurred costs for the Plumbing Program, and the final payments for both programs.**

Source: California Energy Commission

CHAPTER 4:
Program Statistics

The CalSHAPE Program was established with the goals of saving energy, creating jobs, and providing support to schools in underserved communities. The program has been achieving these goals with the funding awarded by the CalSHAPE Ventilation and Plumbing Programs. These grant programs provide the added benefits of improving air quality and reducing water usage in California Schools. This chapter provides the program statistics related to these benefits and the combined effect in achieving the overarching goals of the program.

Schools in Underserved Communities

One of the goals of the CalSHAPE Program is to provide support to schools in underserved communities. The program is also required to prioritize and award at least 25 percent of program funds to these schools.[4] The CalSHAPE Program prioritized schools in underserved communities by limiting eligibility in the first three funding rounds to these schools. This prioritization at the start of the program resulted in 27 percent of the total program budget being awarded to LEAs for projects at schools in underserved communities.

LEAs applied for CalSHAPE Ventilation and Plumbing Program grant funding for schools in underserved communities throughout the state. The number of LEAs and schools in underserved communities that applied for one or both programs, as of the end of 2023, are provided in Table 6. The schools accounted for in Table 6, which have received awards for Ventilation and Plumbing Program projects, represent more than 45 percent of the schools in underserved communities throughout the state. The numbers of grants awarded to LEAs for projects at schools in underserved communities in each program are provided in Table 7. Table 7 also provides the total amount of grant funding awarded for projects at these schools along with the total budget and percentage of the total budget awarded for each program as of the end of 2023. As shown in Table 7, the total grant funding awarded to LEAs for projects at schools located in underserved communities was more than $264 million.

Table 6: Schools in Underserved Communities in CalSHAPE Program

	LEAs	Schools
CalSHAPE Program Applications	520	2,996
Total Number of Eligible LEAs/Schools	1,746	6,309
Percentage of Eligible LEAs/Schools with Applications	30%	47%

Source: California Energy Commission

4 PUC Section 1612 requires that that at least 25 percent of projects funded by the CalSHAPE Program be in underserved communities, as defined by PUC Section 1601(e), and that these schools are offered the chance to apply for a grant before other schools.

Table 7: Applications From Schools in Underserved Communities

CalSHAPE Programs	Grants Awarded	Award Amount	Total Budget	Percentage of Total Budget
Ventilation	463	$228,368,871	$722,880,497	32%
Plumbing	135	$35,682,236	$240,960,165	15%
Total	598	$264,051,107	$963,840,662	27%

Source: California Energy Commission

Distribution of Funds

CalSHAPE Program funding is distributed to LEAs based on the application tier of the LEA and the funding category of the school. The CalSHAPE Program awards grants on a first-come, first-served basis, and the application tiers were created to encourage equity in the distribution of program funds. The application tiers are based on an approach used for the CEC's Energy Conservation Assistance Act — Education Subaccount Competitive Loan Program. This approach allows program funding to be available to a range of LEAs during each funding round.

LEAs are awarded funding from one of the three tiers based on the LEA's student enrollment as follows:

- Tier 1 – fewer than 1,000 students enrolled
- Tier 2 – between 1,000 and 5,000 students enrolled
- Tier 3 – more than 5,000 students enrolled

State agencies are awarded funding from Tier 3. The available funding in each funding category is allocated to the application tiers based on the percentages shown in Table 8.

Table 8: Percentage of Funding Allocated to the Application Tiers

Tier	1	2	3
Allocation Percentages	10%	10%	80%

Source: California Energy Commission

The CEC created funding categories to track the amount of funding received from each utility and ensure that funds are awarded only to sites in the service territory of the utility that contributed the funds.[5] The program has five funding categories: one for each of the four IOUs plus a second funding category for PG&E. The funds provided by PG&E electric and PG&E gas service territories are tracked separately to ensure the ratepayer money collected in the separate electric and gas service territories go toward projects in the specific service territory areas. The funds provided by SDG&E are not tracked separately for the electric and

5 Public Utilities Code (PUC) Section 1615(c) requires that each utility's funds are used for projects in the service territory of utility from which the funds are received.

gas service territories because of the minimal number of schools in the SDG&E gas-only service territory.

The distribution of the grant award amounts, as of the end of 2023, and the total budget by funding category and application tier are shown in Table 9 and Table 10, respectively.

Table 9: Distribution of Funds by Funding Category

Funding Category	Award Amount	Total Budget	Percentage of Total Budget
PGE Electric	$172,725,595	$256,174,549	67%
PGE Gas	$32,755,647	$52,469,486	62%
SCE	$231,736,766	$466,340,158	50%
SDGE	$45,264,983	$185,745,817	24%
SoCalGas	$2,893,370	$3,110,652	93%
Total	$486,455,624	$963,840,662	50%

Source: California Energy Commission

Table 10: Distribution of Funds by Application Tier

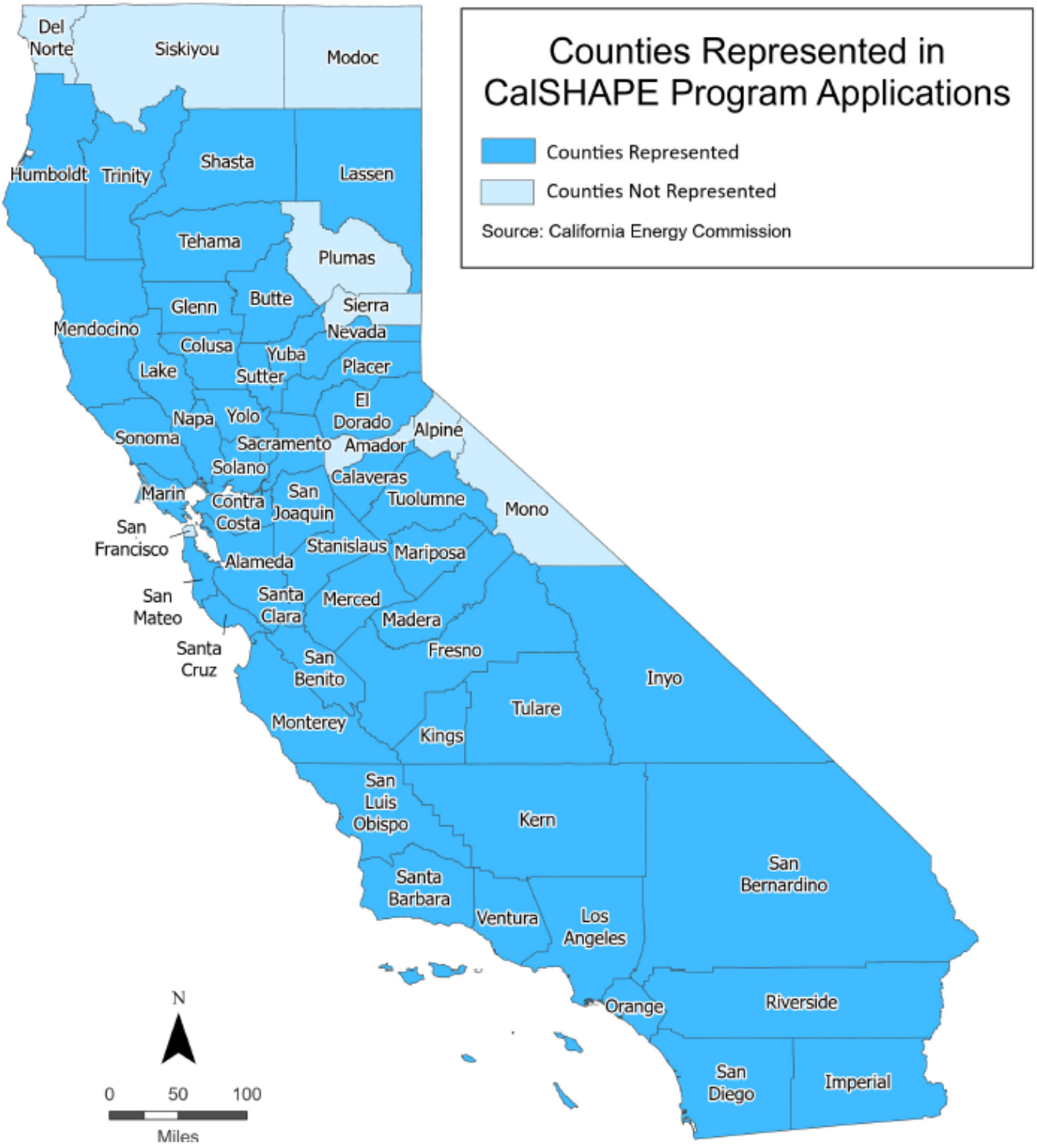
Tiers	Award Amount	Total Budget	Percentage of Total Budget
Tier 1	$24,256,823	$96,384,066	25%
Tier 2	$70,627,903	$96,384,066	73%
Tier 3	$391,570,898	$771,072,530	51%
Total	$486,455,624	$963,840,662	50%

Source: California Energy Commission

Statewide Impact

The distribution of CalSHAPE Program funds by funding category and application tier has promoted the spread of funding and impact of program projects throughout the state. The CalSHAPE Program received applications for either the Ventilation or Plumbing Program from LEAs located in 49 of the state's 58 counties, which is 85 percent of the counties in the state. A map displaying the counties represented in the applications are shown in blue in Figure 1.

Figure 1: Map of Counties Represented in CalSHAPE Program Applications



Source: California Energy Commission

Ventilation Program

The CalSHAPE Ventilation Program funds various measures to improve indoor air quality in schools, including filter replacement; installation of carbon dioxide monitors in each classroom; assessment, maintenance, and repair of HVAC systems; and an HVAC Assessment Report.

To fulfill the project requirements of the assessment and maintenance portion of the grant, the CalSHAPE Program offers three grant pathways: HVAC Assessment and Maintenance Pathway, Scheduled for Replacement Pathway, and Limited or No Mechanical Ventilation Pathway.[6] The HVAC Assessment and Maintenance Pathway provides the full assessment and maintenance of the HVAC systems. The Scheduled for Replacement Pathway and Limited or No Mechanical Ventilation Pathway were developed to provide additional opportunities for schools that do not have an HVAC system or are in the process of replacing an HVAC system and would not need a full assessment and maintenance to participate in the program. Table 11 provides the number of LEAs and schools that are following each of the grant pathways. Notably, most schools applied to follow the HVAC Assessment and Maintenance Pathway. Only 72 schools out of the total 4,710 schools that have been included in Ventilation Program applications applied to follow the Scheduled for Replacement Pathway, and no LEAs have applied for a grant award for a school to follow the Limited or No Mechanical Ventilation Pathway.

Table 11: LEAs and Schools Following Each Ventilation Pathway

Grant Pathways	Number of LEAs	Number of Schools
HVAC Assessment and Maintenance	629	4,623
Scheduled for Replacement	10	72
Limited or No Mechanical Ventilation	0	0

Source: California Energy Commission

As previously mentioned, the Ventilation Program A&M Grant funds HVAC system assessment and maintenance, air filter replacement, and carbon dioxide monitor installation in the three grant pathways. Table 12 provides the number of the HVAC system assessments and filter and carbon dioxide monitor installations requested in the applications received in the program as of the end of 2023.

6 The HVAC Assessment and Maintenance Pathway is used by schools that have at least one HVAC system that is not scheduled for replacement within two years of the application submittal date. The Scheduled for Replacement Pathway is used by schools in which all HVAC systems at the school are scheduled for replacement within two years of the application submittal date. The Limited or No Mechanical Ventilation Pathway is used by schools that do not have an HVAC system. The project requirements for each grant pathway can be found in Chapter 2 of the *CalSHAPE Ventilation Program Guidelines, Second Edition* at https://www.energy.ca.gov/publications/2022/california-schools-healthy-air-plumbing-and-efficiency-ventilation-program.

Table 12: Requested Items in Ventilation Program

Item	Number of Units
Assessment of HVAC Systems	245,919
Filters	510,562
Carbon Dioxide Monitor	188,780

Source: California Energy Commission

LEAs submit HVAC Assessment Reports, which are described in Chapter 3, for their A&M Grant projects into the CalSHAPE Online System. As of the end of 2023, 44 HVAC Assessment Reports have been submitted. Table 13 provides initial information reported in the HVAC Assessment Reports on the number of HVAC systems that were assessed, the number of rooms at the school sites that were reported as meeting ventilation rates, and the number of HVAC Systems that were recommended for repair or replacement by a licensed professional. As described in Chapter 3, the HVAC systems recommended for repair or replacement by a licensed professional will be eligible to be included in an Upgrade and Repair Grant application.

Table 13: HVAC Assessment Reports Data

Item	Quantity
HVAC Systems Assessed	9,954
HVAC Systems Recommended for Repair or Replacement	8,015
HVAC Systems Meeting Ventilation Rates	2,514

Source: California Energy Commission

Plumbing Program

The CalSHAPE Plumbing Program funds the replacement of noncompliant plumbing fixtures and appliances with water-conserving plumbing fixtures and appliances. The noncompliant plumbing fixtures eligible for replacement are toilets, urinals, showerheads, and interior faucets. The noncompliant appliances eligible for replacement are commercial dishwashers, automatic commercial ice makers, and commercial clothes washers. The CEC expanded the eligibility of the Plumbing Program to state agencies in 2022. As of the end of 2023, there are three state agencies that have submitted applications for a Plumbing Program grant. These agencies are listed in Table 14, along with the amount of funding requested in applications for grant awards.

Table 14: State Agency Applications

Agency	Requested Funding Amount
CSU, Long Beach	$282,889
CSU, Fullerton	$606,321
Highway Patrol, Department of California	$153,563
Total	$1,042,773

Source: California Energy Commission

The water-conserving plumbing fixtures installed with Plumbing Program funding are required to have flow rates that are in compliance with current building standards as required by Section 1101.3 of the Civil Code. The water-conserving appliances installed with Plumbing Program funding must meet the criteria of the ENERGY STAR Product Specifications, which are specified in the CalSHAPE Plumbing Program Guidelines, for each type of appliance.[7]

Table 15 provides the number of noncompliant plumbing fixture and appliance replacements that were requested in the applications in the Plumbing Program as of the end of 2023 along with the estimated percentage of water savings that will be experienced by the replacement of each type of fixture and appliance. As shown in Table 15, the plumbing fixture and appliance replacements funded by the program are estimated to provide 67 percent in water savings in total for all schools participating in the program. The estimated water savings percentages were calculated using the flow or water usage rates of the existing, noncompliant plumbing fixtures and appliances and new, water saving plumbing fixtures and appliances as reported in the applications for funding prior to the replacements being conducted. The water savings are not required to be measured as part of the Plumbing Program.

7 The *CalSHAPE Plumbing Program Guidelines* are available at https://www.energy.ca.gov/programs-and-topics/programs/california-schools-healthy-air-plumbing-and-efficiency-program

Table 15: Fixture and Appliance Replacements in Plumbing Program

Plumbing Fixture or Appliance	Number of Requested Units	Estimated Water Savings Percentage*
Automatic Ice Maker	95	72%
Clothes Washer	72	69%
Commercial Dishwasher	131	80%
Interior Faucet	13,185	73%
Showerhead	1,518	39%
Toilet	16,251	59%
Urinal	3,952	86%
Total	35,204	67%

***Estimated water savings calculated using the average percentage difference of the flow rates (gallons per flush or minute) of the noncompliant and water-conserving fixtures and water use of the noncompliant and water-conserving appliances.**

Source: California Energy Commission

CHAPTER 5:
Challenges and Opportunities

CEC staff continuously evaluates the feedback received from applicants and data collected during the application, review, and award issuance processes to identify areas that may benefit from changes. This chapter summarizes an area of the program that has presented challenges and opportunities for improvement.

Additional Time to Spend Funds

The CalSHAPE Program began accepting applications, as described in Chapter 3, in the summer of 2021 with an estimated program budget of $750 million. The budget was finalized by the CPUC in 2023 and is a total of $994 million for the duration of the program. The CEC has continued to expand and develop the CalSHAPE Program since it began accepting applications in 2021. The CEC expanded the eligibility of grant awards to all schools in the Ventilation and Plumbing Programs and then expanded eligibility of the Plumbing Program to state agencies in 2022. The CEC also began accepting applications for the second phase of Ventilation Program grant awards in 2023.

The continued growth of the CalSHAPE Program is limited by the amount of time remaining in the program to spend funds. All funds that are not used by LEAs or state agencies must be returned to the IOUs by December 1, 2026.[8] CEC staff has determined that to meet this deadline, all projects must be completed and have final reports and invoices submitted by June 30, 2026. The Ventilation Program offers two grants, the A&M and U&R, which each have extensive requirements and must be completed in succession. LEAs are given two years to complete the grant projects and, as such, LEAs that applied for A&M grants when the application first opened are just beginning to complete the A&M projects and submit applications for U&R grants. Many of the LEAs that were recently approved for an A&M grant in the last year or so and new LEAs that apply to the program will not have enough time to complete their A&M grant project and apply for U&R grant funding unless additional time to spend the program funds is provided.

Eligible Replacements in the Plumbing Program

As discussed in Chapter 4, the plumbing fixtures and appliances that are eligible for replacement in the Plumbing Program are limited to: toilets, urinals, showerheads, interior faucets, dishwashers, ice makers, and clothes washers. The participation of LEAs in the Plumbing Program has been low compared to the Ventilation Program. Out of the approximately 10,000 schools in the state, less than 1,000 schools have received a Plumbing Program grant whereas more than 3,000 schools have received a Ventilation Program grant. CEC staff has received many requests from LEAs interested in applying for the replacement of other plumbing fixtures and appliances, such as touchless plumbing fixtures and water heaters. An expansion of types of plumbing fixtures and appliances eligible for replacement

8 PUC Section 1615(f) requires that funds be spent or returned to each utility by December 1, 2026.

would increase the number of schools participating in the program as well as the energy and water savings that will be achieved with the installation of more efficient, water conserving fixtures and appliances.

Statewide Funding

CalSHAPE Program funding comes from California's IOUs, which are listed in Chapter 1, and Public Utilities Code (PUC) Section 1615(c) requires that funds are used for projects in the service territory of the IOU that contributed the funds. This funding structure prevents certain schools from being able to access CalSHAPE Program funding. Specifically, the schools that are unable to access program funding are schools that are located outside of the IOU service territories as well as schools in the territory of an IOU in which all its contributed funding has been reserved for grant awards.

The CalSHAPE Program received $20 million in funding from the GGRF, but that funding is specifically for HVAC system replacement only. A school must complete an A&M Grant project, which is only funded by the IOU funding, to be eligible for a U&R Grant for HVAC system replacement. Therefore, the schools that have no access to IOU funding are also not able to access the GGRF funding. There are currently 177 schools within 83 LEAs that have no access to CalSHAPE funding because they are located outside of all the IOU service territories. There are an additional 1,266 schools within 339 LEAs that have no access to funding because they are in the SoCalGas service territory. As shown in Chapter 6, all of the funding contributed by SoCalGas has already been reserved for projects at other schools. An estimated $82 million in additional funding would be needed to provide grants to these remaining schools in the SoCalGas service territory. Many of the schools that have no access to funding have expressed an interest in applying to the program and an adjustment to the funding structure may allow them to apply.

CHAPTER 6:
2024 Outlook and Conclusion

Program Budget

As described in Chapter 2, CalSHAPE Program funding comes from the four IOUs. The CPUC follows the direction in statute and calculates the amount contributed by each utility for each of the three program years. Table 16 provides the amount of funding accumulated by the program, the amount of funding that has been requested in applications, and the amount of funding that was remaining in the program for each utility by the end of 2023.

Table 16: CalSHAPE Program Funding for 2024

	PG&E	SCE	SDG&E	SoCalGas	Total
Total Program Funding	$321,480,351	$479,620,103	$189,629,556	$3,110,625	$993,840,662
Administration Funding*	$12,836,316	$13,279,945	$3,883,739	$0	$30,000,000
Requested Funding	$221,563,280	$263,355,579	$46,684,643	$19,390,726	$550,994,228
Remaining Funding	$87,080,755	$202,984,579	$139,059,646	$0	$429,124,980

***The CEC reserves 5 percent of program funding to use in administrating the programs, as provided in the PUC Section 1615(d).**

Source: CPUC D. 21-01-004 and California Energy Commission

As shown in Table 16, the amount of funding requested in applications in the SoCalGas funding category exceeds the accumulated funding. Even though no funding is available for SoCalGas, grant applications for schools in the SoCalGas funding category continue to be collected for the CalSHAPE Ventilation and CalSHAPE Plumbing Programs.

The program funding collected in 2023 and not reserved for grant awards will be carried over and added to the 2024 program budget. The CEC will make the program funding available for grant awards in one or more funding rounds during 2024.

Guidelines Changes

CalSHAPE Program requirements and processes are described in the program guidelines. The Ventilation and Plumbing Programs each have separate guidelines. The CEC has the ability to make changes to program requirements and processes through the adoption of revised guidelines at a CEC business meeting.

CEC staff continuously evaluates the program and considers feedback provided by program participants and will revise the guidelines if it is determined to be necessary or beneficial to the program.

Conclusion

The CalSHAPE Ventilation and Plumbing Programs have awarded almost $419 million, which is about 43 percent of the program budget, to LEAs for the completion of 764 projects at more than 4,000 school sites. These projects are underway and project data is beginning to be collected and analyzed. CEC staff continuously evaluates program guidelines and analyzes project data and program metrics to identify program improvement opportunities to ensure ongoing success of the program in 2024.

GLOSSARY

Term	Definition
Assembly Bill (AB)	Legislation originating in the California State Assembly.
Assessment and Maintenance	An assessment of and adjustments to an HVAC system as described in Chapter 2, Section B of the *CalSHAPE Ventilation Program Guidelines*. These include, as applicable, filtration, economizer dampers, ventilation, coil condition, and other requirements.
CalSHAPE Plumbing Program	The CalSHAPE Plumbing Program administers the requirements of the School Noncompliant Plumbing Fixture and Appliance Program as specified in Article 4 of Chapter 8.7 (commencing with Section 1630) of Part 1 of Division 1 of the PUC.
CalSHAPE Plumbing Program Guidelines	Guidelines that describe the program design, application process, and reporting requirements for the CalSHAPE Plumbing Program. The *CalSHAPE Plumbing Program Guidelines* are available at https://www.energy.ca.gov/programs-and-topics/programs/california-schools-healthy-air-plumbing-and-efficiency-program.
CalSHAPE Program	California Schools Healthy Air, Plumbing, and Efficiency Program, which includes two grant programs: CalSHAPE Ventilation Program and CalSHAPE Plumbing Program.
CalSHAPE Ventilation Program	The CalSHAPE Ventilation Program administers the requirements of the School Reopening Ventilation and Energy Efficiency Verification and Repair Program as specified in Article 3 of Chapter 8.7 (commencing with Section 1620) of Part 1 of Division 1 of the PUC.
CalSHAPE Ventilation Program Guidelines	Guidelines that that describe the program design, application process, and reporting requirements for the CalSHAPE Ventilation Program. The *CalSHAPE Ventilation Program Guidelines* are available at https://www.energy.ca.gov/programs-and-topics/programs/california-schools-healthy-air-plumbing-and-efficiency-program.
California Energy Commission (CEC)	State Energy Resources Conservation and Development Commission, commonly called the California Energy Commission, the Energy Commission, or the CEC.
CPUC	California Public Utilities Commission.

Term	Definition
Funding Round One	The first funding round of the CalSHAPE Program. Funding Round One of the CalSHAPE Plumbing Program ran from August 31, 2021, to December 31, 2021. Funding Round One of the CalSHAPE Ventilation Program ran from September 28, 2021, to January 31, 2022.
GIS web map	A web map developed by a geographic information system that displays the more than 10,000 schools in California and provides information to identify schools that are eligible to apply for a CalSHAPE Ventilation or Plumbing program grant.
Heating, ventilation, and air conditioning (HVAC)	Any air-handling units, rooftop units, and unitary and single-zone equipment in the HVAC system or systems of a site, as described in PUC Section 1622.
HVAC Assessment and Maintenance Pathway	One of the three grant pathways for sites receiving an Assessment and Maintenance Grant. This pathway requires an HVAC assessment and maintenance, completion of an HVAC Assessment Report, carbon dioxide monitor installation, and completion of an HVAC Verification Report. The grant pathway includes an additional 20 percent of the requested amount as a contingency fund for repairs, upgrades, or replacements necessary to make the system functional or more energy efficient.
Investor-owned utility (IOU)	Means both of the following: (1) An electrical corporation with 250,000 or more customer accounts within the state. (2) A gas corporation with 400,000 or more customer accounts within the state. This definition currently includes Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), San Diego Gas & Electric Company (SDG&E), and Southern California Gas Company (SoCalGas).
Local educational agency (LEA)	A school district as defined in Section 41302.5 of the Education Code, a charter school that has been granted a charter under Part 26.8 (commencing with Section 47600) of Division 4 of Title 2 of the Education Code, or a regional occupational center established pursuant to Section 52301 of the Education Code that is operated by a joint powers authority and that has an active career technical education advisory committee pursuant to Section 8070 of the Education Code.

Term	Definition
Licensed professional	A professional eligible under Division 3 (commencing with Section 5000) of the Business and Professions Code in the applicable classification to perform system design, construction, or installation of features, materials, components, or manufactured devices for mechanical systems.
Limited or No Mechanical Ventilation Pathway	One of the three grant pathways for sites receiving an Assessment and Maintenance Grant. This pathway requires a modified assessment, completion of a modified HVAC Assessment Report, installation of carbon dioxide monitors in each classroom, and completion of an HVAC Verification Report.
Noncompliant Appliance	Means all the following: (1) Any commercial dishwasher that was manufactured prior to January 1, 2010, that does not meet the efficiency requirement of the ENERGY STAR® Product Specification for Commercial Dishwashers, Version 1.1. (2) Any automatic commercial ice maker that was manufactured prior to January 1, 2010, that does not meet the efficiency requirement of the ENERGY STAR Product Specification for Automatic Commercial Ice Makers, Version 1.0. (3) Any commercial clothes washer that was manufactured prior to January 1, 2010, that does not meet the efficiency requirement of the ENERGY STAR Product Specification for Clothes Washers, Version 5.0.
Noncompliant Plumbing Fixtures	Has the same meanings as set forth in Section 1101.3 of the Civil Code, which is any of the following: (1) Any toilet manufactured to use more than 1.6 gallons of water per flush. (2) Any urinal manufactured to use more than one gallon of water per flush. (3) Any showerhead manufactured to have a flow capacity of more than 2.5 gallons of water per minute. (4) Any interior faucet that emits more than 2.2 gallons of water per minute.
Notice of proposed award (NOPA)	CEC notification to the LEA following approval of a grant application.

Term	Definition
Project	"Project" refers to school sites that receive a CalSHAPE Ventilation Program grant to fund HVAC assessments, HVAC general maintenance, adjustments of ventilation rates, filter replacements, and carbon dioxide monitor installations or a CalSHAPE Plumbing Program grant to fund the replacement of Noncompliant Plumbing Fixtures and Appliances.
PUC	Public Utilities Code
Scheduled for Replacement Pathway	One of the three grant pathways for sites receiving an Assessment and Maintenance Grant. This pathway allows for filter replacement and requires the installation of carbon dioxide monitors, completion of a modified HVAC Assessment Report, and completion of an HVAC Verification Report.
School Energy Efficiency Stimulus (SEES) Program	School Energy Efficiency Stimulus Program established in Chapter 8.7 Article 1 of the PUC. For program administration purposes, the SEES Program will be referred to as the CalSHAPE Program.
Site	School where CalSHAPE Ventilation Program or CalSHAPE Plumbing Program work will be performed.
Skilled and Trained Workforce	Has the same meaning as set forth in Section 2601 of the Public Contract Code.
State agency	Any agency, board, bureau, commission, department, office, or other division of the State of California, including the University of California, California State University, and California Community Colleges and the affiliated foundations acting on their behalf.

Term	Definition
Underserved Community	A community that meets one of the following criteria: (1) Is a "disadvantaged community" as defined by subdivision (g) of Section 75005 of the Public Resources Code. (2) Is included within the definition of "low-income communities" as defined by paragraph (2) of subdivision (d) of Section 39713 of the Health and Safety Code. (3) Is within an area identified as among the most disadvantaged 25 percent in the state according to the California Environmental Protection Agency and based on the most recent California Communities Environmental Health Screening Tool, also known as CalEnviroScreen. (4) Is a community in which at least 75 percent of public school students in the project area are eligible to receive free or reduced-price meals under the National School Lunch Program. (5) Is a community located on lands belonging to a federally recognized California Indian tribe.
Water-Conserving Appliance	Means any of the following: (1) A commercial dishwasher that meets the criteria of the ENERGY STAR Product Specification for Commercial Dishwashers, Version 2.0, or any revision to those criteria published by the United States Environmental Protection Agency that is adopted by the CEC for the program. (2) An automatic commercial ice maker that meets the criteria of the ENERGY STAR Product Specification for Automatic Commercial Ice Makers, Version 3.0, or any revision to those criteria published by the United States Environmental Protection Agency that is adopted by the Energy Commission for the program. (3) Any commercial clothes washer that meets the criteria of the ENERGY STAR Product Specification for Clothes Washers, Version 8.0, or any revision to those criteria published by the United States Environmental Protection Agency that is adopted by the Energy Commission for the program.
Water-Conserving Plumbing Fixtures	Has the same meanings as set forth in Section 1101.3 of the Civil Code, which is any fixture that complies with current building standards applicable to a newly constructed real property of the same type.