DOCKETED	
Docket Number:	20-RENEW-01
Project Title:	California Schools Healthy Air, Plumbing, and Efficiency
TN #:	242196
Document Title:	California Schools Healthy Air, Plumbing, and Efficiency Program Activities and Expenditures, Annual Report on Program Year 2021
Description:	N/A
Filer:	Theresa Daniels
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	3/2/2022 9:50:05 AM
Docketed Date:	3/2/2022

CALIFORNIA ENERGY COMMISSION

CALIFORNIA NATURAL RESOURCES AGENCY

California Energy Commission

STAFF REPORT

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

Annual Report on Program Year 2021

March 2022 | CEC-300-2022-004

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 purposes. 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, and repairing ventilation systems and replacing aging and water inefficient plumbing fixtures and appliances with water-conserving plumbing fixtures and appliances in California schools. This report is prepared in accordance with Section 25208 of the Public Resources Code and describes the first year of program activities — including the development of the program, design, budget, received applications, and proposed awards — as well as an overview of the upcoming year's activities and any potential changes.

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, underserved community, HVAC, assessment, ENERGY STAR®, fixture, appliance

Please use the following citation for this report:

Daniels, Theresa, Hughson Garnier, and David Velazquez. 2022. *California Schools Healthy Air, Plumbing, and Efficiency Program Activities and Expenditures, Annual Report on Program Year 2021*. California Energy Commission. Publication Number: CEC-300-2022-004.

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

The funds provided by these grant programs will assist local educational agencies 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 located 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

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 has been successful in administering a swift implementation of the program during the first year of operation. CEC staff began development of the CalSHAPE Program in November 2020. The CalSHAPE Ventilation Program and CalSHAPE Plumbing Program were developed concurrently, and the guidelines for both programs were adopted by the CEC in June 2021. During this time, CEC staff reached out to local educational agencies with information on the programs and their associated benefits. CEC staff also created an online application and reporting system, the CalSHAPE Online System, which was designed to provide a simplified and easy to complete application and award process. The CalSHAPE Online System opened for user registration in June 2021, shortly after the adoption of the program guidelines.

The CEC began accepting applications for Funding Round One of both programs in the third quarter of 2021. Funding Round One of the CalSHAPE Plumbing Program was open from August 2021 until December 2021. The CEC received 127 applications for the CalSHAPE Plumbing Program, totaling $18,573,635 in grant funding, and issued 43 notices of proposed award. Funding Round One of the CalSHAPE Ventilation Program was open from September 2021 until January 2022. The CEC received 312 applications for a total of $151,728,739 in CalSHAPE Ventilation Program funding and issued 84 notices of proposed award.

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 separate grant programs: the CalSHAPE Ventilation Program and CalSHAPE Plumbing Program.

The CalSHAPE Ventilation Program provides funding to local educational agencies (LEA) to assess, maintain, and repair heating, ventilation, and air-conditioning (HVAC) systems in schools. The program requires filter replacement, the installation of carbon dioxide monitors in each classroom, testing of HVAC systems, and a verification report upon completion of the work. Any deficiencies in the HVAC system or ventilation rates of occupied areas found during the assessment must be documented in an assessment report. The assessment report will be reviewed by a licensed professional for recommendations on repairs or upgrades that can be made to correct the deficiencies and meet the minimum ventilation and filtration requirements.

The CalSHAPE Plumbing Program provides funding to LEAs 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 measure and intended to save energy, create jobs, and provide direct support to schools in underserved communities, as defined by statute. Both the CalSHAPE Ventilation and Plumbing Programs require that a skilled and trained workforce perform the work, so grant funding will go toward supporting and promoting high-quality jobs. Both programs also limit the initial phase of program awards to schools in underserved communities. As such, 100 percent of the grants awarded in the first year will be to schools in those areas. In order to ensure these goals are met, the CalSHAPE Program will collect information on the skilled and trained workforce and the energy and water savings of the projects in the progress and final reports that will be provided by LEAs.

AB 841 was signed by Governor Gavin Newsom in September 2020 and required the CEC to begin soliciting grant applications in April 2021. It also required the CEC to adopt guidelines and begin to approve grant applications by May 1, 2021. The CEC appreciated the urgency of this legislation and, in 2021, the program activities consisted primarily of developing program guidelines, which were adopted in June 2021, and creating the online application and reporting system. The CEC began accepting applications and issuing notices of proposed award (NOPA) to LEAs with complete applications in the third and fourth quarters of 2021, respectively. This annual report describes CalSHAPE Program activities and spending in 2021

and summarizes expected program activities and changes to the guidelines and budget in 2022.

CHAPTER 2:
Budget

CalSHAPE Program funding comes from the energy efficiency budgets of California's large electric and gas investor-owned utilities, 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 utilities' energy efficiency budgets and authorizes the utilities 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 utilities.

For 2021, the CPUC calculated the estimated total annual program budget to be $276,931,128.[1] The total program budget is allocated to the two programs with 75 percent to the CalSHAPE Ventilation Program and 25 percent to the CalSHAPE Plumbing Program. CPUC Decision (D.) 21-01-004 provided the 2021 estimated total funding amounts for each utility, which are provided in Table 1.

Table 1: CalSHAPE Program Funding for 2021

	PG&E	SCE	SDG&E	SoCalGas	Total
2021 Program Funding	$102,466,340	$116,488,293	$52,976,495	$5,000,000	$276,931,128

Source: CPUC D. 21-01-004

Distribution of Funding

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.[2] The program has five funding categories: one for each of the four utilities 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 moneys collected in the separate electric and gas service territories go towards projects in the specific service territory areas.

In addition to the funding categories, CalSHAPE Program funding is also distributed to applicants by application tiers. LEAs are awarded funding from one of the three tiers based on the LEA's student enrollment. The available funding in each funding category is allocated to

1 The total program budget includes the prior year's unspent and uncommitted funds. This amount is an estimate until the following year when the amount of unspent and uncommitted funds is known and is confirmed as accurate by the CPUC. For additional information, see CPUC D. 21-01-004.

2 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.

the application tiers based on the percentages shown in Table 2. The CalSHAPE Program awards grants on a first-come, first-served basis, so the application tiers were created to encourage equity in the distribution of program funds and 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.

Table 2: Percentage of Funding Allocated to the Application Tiers

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

Source: California Energy Commission

Available Funding

The CalSHAPE Program uses funding rounds to make a portion of the program funding available for grant awards and to accept applications. The first funding round, referred to as Funding Round One, was open from August 31, 2021, to December 31, 2021, for the CalSHAPE Plumbing Program and from September 28, 2021, to January 31, 2022, for the CalSHAPE Ventilation Program.

A total of $220,008,128 was available to LEAs for CalSHAPE Program grant awards in Funding Round One. The total funding available for each program was:

- CalSHAPE Ventilation Program — $165,006,096.
- CalSHAPE Plumbing Program — $55,002,032.

The allocation of the available funding to the funding categories and application tiers for the CalSHAPE Ventilation Program and CalSHAPE Plumbing Program are provided in tables 3 and 4, respectively.

Table 3: Available Funding in Funding Round One for CalSHAPE Ventilation Program

Tier	PG&E Electric	PG&E Gas	SCE	SDG&E	SoCalGas
1	$5,756,029.67	$1,178,945.84	$7,467,396.98	$2,098,237.13	$0
2	$5,756,029.67	$1,178,945.84	$7,467,396.98	$2,098,237.13	$0
3	$46,048,237.32	$9,431,566.68	$59,739,175.80	$16,785,897.00	$0
Total	$57,560,296.66	$11,789,458.36	$74,673,969.76	$20,982,371.26	$0

Source: California Energy Commission

Table 4: Available Funding in Funding Round One for CalSHAPE Plumbing Program

Tier	PG&E Electric	PG&E Gas	SCE	SDG&E	SoCalGas
1	$1,918,676.56	$392,981.95	$2,489,132.33	$699,412.38	$0
2	$1,918,676.56	$392,981.95	$2,489,132.33	$699,412.38	$0
3	$15,349,412.44	$3,143,855.56	$19,913,058.60	$5,595,299.00	$0
Total	$19,186,765.55	$3,929,819.45	$24,891,323.25	$6,994,123.75	$0

Source: California Energy Commission

As shown in tables 3 and 4, the SoCalGas funding category had no available funding in Funding Round One. CEC staff decided not to release any of SoCalGas' funds in the first funding round due to an audit of the unspent and uncommitted funds by the CPUC that was happening at the time. SoCalGas' contribution is, and is expected to be, significantly lower than the other IOUs and is entirely composed of the prior year's unspent and uncommitted funds. The CPUC budget filings show that there is a relatively small amount of program funding available that will be contributed by SoCalGas. This funding will be released for grant awards in an upcoming funding round.[3]

Even though no funding is available for SoCalGas in Funding Round One, grant applications for schools in the SoCalGas funding category were received for both the CalSHAPE Ventilation and CalSHAPE Plumbing programs. As shown in the program statistics provided in Chapter 4, the amount of funding requested in applications for sites the SoCalGas funding category now exceeds the expected total program funding from SoCalGas, so the funds in this funding category will be exhausted at the time the funds are made available in an upcoming funding round.

3 See the *Energy Efficiency Program Performance Audit for Southern California Gas Company, January 1, 2020 through December 31, 2020*, (https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/utility-audits--risk--and-compliance-division/reports/energy/2021/energy_2021-09-27_scg_ee.pdf) and CPUC D. 21-01-004 for information.

CHAPTER 3:
Program Activities

CalSHAPE Program implementation activities in 2021 consisted of designing the program, holding public workshops and stakeholder meetings, conducting outreach to potential applicants, writing program guidelines, and developing an online application and reporting system. Both grant programs began accepting applications in the third quarter of 2021 and began issuing NOPAs to LEAs shortly after. Each of these program activities are described in this chapter.

Workshops and Outreach

CEC staff conducted public workshops and meetings with stakeholders during 2021 to solicit feedback on the proposed program design. During development of the guidelines, CEC staff held two public workshops via the Zoom online platform. Both workshops had more than 500 attendees and the CEC received many written comments providing input on the program design proposals presented at the workshops. The feedback and information provided in the workshop comments were considered in developing the program.

CEC staff also had many meetings with LEAs, school advocacy organizations, and HVAC and plumbing trade representatives during the development of the program. These meetings were productive and the program benefited immensely from the ideas and feedback contributed by each of these stakeholders.

Direct outreach to LEAs was also conducted to inform them of the grant opportunities offered by the programs and the process to apply. CEC staff called and sent emails to all school districts, charter schools, and regional occupational centers in the state with eligible schools. This direct outreach was performed several times at different stages of program development. Schools in communities located on lands belonging to a federally recognized California Indian tribe were also contacted directly and encouraged to apply in a separate round of outreach. This direct outreach resulted in increases in the subscription to the CalSHAPE Program list serve and ensured that LEAs and these schools were aware of the programs and offered assistance in completing the applications for both programs.

Program Guidelines

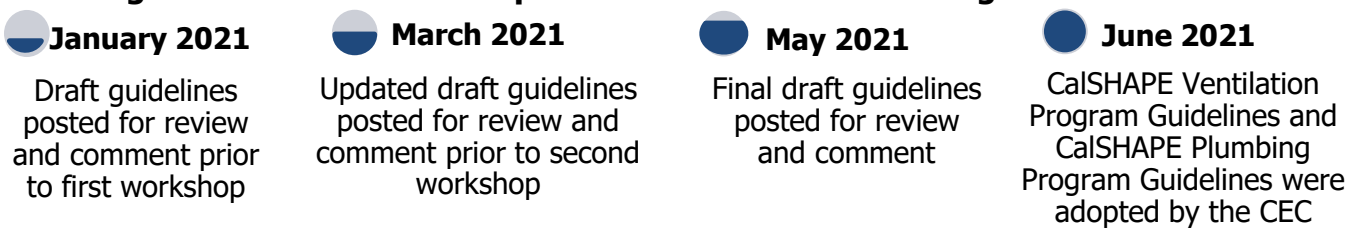
The CEC created program guidelines for both the CalSHAPE Ventilation Program and CalSHAPE Plumbing Program. CEC staff approve applications that meet the program requirements on a first-come, first-served basis. The use of program guidelines to approve applications instead of a grant solicitation provides the opportunity for CEC staff to work with applicants on making corrections to applications submitted with minor inconsistencies so that these applications can receive a grant award. The guidelines contain all program requirements, including:

- Applicant and site eligibility requirements.
- Project requirements.
- Application and award process.

- Final report requirements.

There are separate guidelines for the CalSHAPE Ventilation Program and CalSHAPE Plumbing Program, but the guidelines for each program were developed concurrently. A timeline of the development and adoption of the guidelines for both programs is provided in Figure 1.

Figure 1: Timeline for Adoption of Initial CalSHAPE Program Guidelines



Source: California Energy Commission

In July 2020, AB 137 (Committee on Budget, Chapter 77, Statutes of 2021) updated the definition of LEA to add regional occupational centers as eligible applicants. CEC staff immediately incorporated this updated definition into the guidelines of both programs. Revised CalSHAPE Ventilation Program Guidelines and revised CalSHAPE Plumbing Program Guidelines were adopted by the CEC in August 2021.

The final version of guidelines that was adopted in June 2021, a month after the statutory deadline, was the result of extensive stakeholder engagement and a public workshop process that resulted in a program design that best fit the various needs of LEAs.

GIS Web Map

CalSHAPE Ventilation and Plumbing program grant awards were limited to schools in an underserved community, as defined by statute, in the initial phase of program awards.[4]

4 An underserved community is defined in PUC Section 1601(e) as 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 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.

CEC staff collected data to determine if a school meets the underserved community criteria, which came from the California Department of Education, U.S. Census Bureau, California Office of Environmental Health Hazard Assessment, and federal Bureau of Indian Affairs. The data were added to a geographic information system (GIS) map of the more than 10,000 schools in California to develop a GIS web map tool that can be used by LEAs to determine which schools qualify as eligible to receive a grant award. The GIS web map is available to the public on the CalSHAPE Program webpage and includes the ability to filter and sort the data based on school district, funding category, tier, and eligibility. It has become the primary resource for determining school eligibility for the CalSHAPE Program. The data in the GIS web map is also used by the CalSHAPE Online System, as discussed below.

Online Application and Reporting System

CEC staff developed an online application and reporting system for the CalSHAPE Program, which is referred to as the CalSHAPE Online System. The development of the CalSHAPE Online System began in December 2020, and the system opened for account registration in June 2021.

The CalSHAPE Online System is used for both the CalSHAPE Ventilation and Plumbing programs and includes a streamlined application for each program. A major goal of CEC staff was to create an application for LEAs that is easy to complete. The application built into the CalSHAPE Online System accomplishes this goal. As mentioned above, the CalSHAPE Online System uses the GIS web map data to automatically identify an LEA's eligible schools and provide information about the school for the LEA to add to the application. The application also includes pages to upload supporting documents, agree to the self-certifications, and submit the application with the click of a button.

In addition to completing and submitting the grant application, applicants submit the signed grant agreement, required documents, and final reports after completion of the project in the CalSHAPE Online System and are able to access these documents for future reference. The CalSHAPE Online System also allows CEC staff to efficiently:

- Review of the applications and ability to send detailed emails to the applicants about necessary corrections.
- Issue notices of proposed award to applicants with grant agreement(s) attached.
- Execute and store grant agreements.
- Process STD-204 forms and track awards and available funding.

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. As stated in the Program Guidelines section above, staff had initial draft guidelines posted for public comment in January 2021. After numerous versions of guidelines, which were responsive to public stakeholder input and workshops, adoption of the program guidelines occurred in June 2021. The CalSHAPE Program began accepting applications for Funding Round One of the CalSHAPE Plumbing Program on August 31, 2021, and for Funding Round One of the CalSHAPE Ventilation Program on September 28, 2021. The applications were submitted by LEAs in the CalSHAPE Online System. CEC staff reviewed each

application in the CalSHAPE Online System and worked with applicants to correct any errors or inconsistencies found in the information provided in the applications.

The CalSHAPE Program began issuing notices of proposed award (NOPA) to applicants with complete applications on November 30, 2021, for both the CalSHAPE Ventilation and CalSHAPE Plumbing programs. Information on the number of applications received, notices of proposed award issued, and amount of funding requested for both programs in Funding Round One is provided in Chapter 4.

CHAPTER 4:
Program Statistics

In 2021, the CalSHAPE Ventilation and Plumbing programs started accepting applications and issuing NOPAs to applicants with complete applications. This chapter provides data, statistics, and information regarding the applications received, NOPAs issued, and requested funding for CalSHAPE Ventilation and Plumbing program projects.

Schools in Underserved Communities

The CalSHAPE Program limited eligibility for the first funding round to schools in underserved communities to meet program requirements to prioritize these schools.[5] Because of this, 100 percent of the applications submitted and requested funding amounts in Funding Round One were for grants for 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 in the state that have applied for one or both programs is provided in Table 5. As shown in Table 5, 37 percent of the eligible LEAs submitted grant applications, representing 26 percent of the state's schools in underserved communities.

Table 5: Eligible LEAs and Schools With CalSHAPE Program Applications

	LEAs	Schools
CalSHAPE Program Applications	309	1,629
Total Number of Eligible LEAs/Schools	829	6,262
Percent of Eligible LEAs/Schools with Applications	37%	26%

Source: California Energy Commission

Table 6 shows the amount of funding requested in Funding Round One for each program and the total for both programs. The total requested funding amount in Funding Round One was $170 million, which, as mentioned above, is entirely for grant awards to schools in underserved communities. This amount represents 77 percent of the total funding available in Funding Round One and around 24 percent of the expected total program funding.[6]

5 PUC Section 1612 requires that that at least 25 percent of all CalSHAPE Program funds be awarded to schools located 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.

6 Total program funding is expected to be $600 million to $700 million.

Table 6: Requested Funding in Applications Submitted in Funding Round One

	Requested Funding Amount	Funding Round One Available Funding	Percentage of Funding in Funding Round One
Plumbing Program	$18,573,635	$55,002,032	34%
Ventilation Program	$151,728,739	$165,006,096	92%
Total	$170,302,373	$220,008,128	77%

Source: California Energy Commission

CEC staff began issuing NOPAs for complete applications submitted in Funding Round One in November 2021. The number of NOPAs issued and the award amounts in the NOPAs are provided in Table 7. As of February 15, 2022, 127 NOPAs have been issued both programs for a total of $61 million in grant awards. This amount represents 28 percent of the total funding available in Funding Round One.

Table 7: Number and Award Amounts of Issued NOPAs*

	Number of Issued NOPAs	Award Amount in Issued NOPAs	Available Funding	Percentage of Available Funding
Plumbing Program	43	$9,942,166	$55,002,032	17%
Ventilation Program	84	$51,459,766	$165,006,096	22%
Total	127	$61,401,932	$220,008,128	28%

*CEC staff continue to issue NOPAs. The amounts in the table are current as of February 15, 2022.

Source: California Energy Commission

Distribution of Funds

CalSHAPE Program funding is distributed to LEAs based on the funding category of the school and the application tier of the LEA. There are five funding categories, one for each utility service area that contributes funding to the program. A school is awarded a grant from the funding category corresponding to the utility service territory in which it's located. CalSHAPE Program funding is reserved for LEAs based on student enrollment in three application tiers. A more detailed description of the funding categories and applications tiers is provided in Chapter 2.

The distribution of the requested funding and available funding in Funding Round One by funding category and application tier are shown in Tables 8 and 9, respectively. As shown in Table 8, the SoCalGas Funding Category had $0 in funding available in Funding Round One. The reason for this is discussed in Chapter 2. The CalSHAPE Program accepts applications from LEAs with schools in a funding category with exhausted funds but will not award a grant until there is sufficient funding in the funding category. For the SoCalGas funding category,

there will be a relatively small amount of grant funding available for grant awards to schools; however, the current amount of requested funding in applications already exceeds the expected total program funding for the SoCalGas funding category. Additional information on the SoCalGas funding category is provided under Program Funding Sources in Chapter 5.

Table 8: Distribution of Funds by Funding Category

Funding Category	Requested Funding Amount	Available Funding in Funding Round One	Percentage of Available Funding in Funding Round One
PGE Electric	$56,167,911	$76,747,063	72%
PGE Gas	$8,093,979	$15,719,277	51%
SCE	$78,677,876	$99,565,293	79%
SoCalGas	$10,647,863	$0	0%
SDGE	$16,717,331	$27,976,495	60%
Total	$170,302,373	$220,008,128	77%

Source: California Energy Commission

Table 9: Distribution of Funds by Application Tier

Tiers	Requested Funding Amount	Available Funding in Funding Round One	Percentage of Funding Requested in Funding Round One
Tier 1	$10,164,515	$22,000,813	46%
Tier 2	$27,618,069	$22,000,813	126%*
Tier 3	$132,519,789	$176,006,502	75%
Total	$170,302,373	$220,008,128	77%

*According to Chapter 1, Section D in both the *CalSHAPE Ventilation Program Revised Commission Guidelines* and *CalSHAPE Plumbing Program Revised Commission Guidelines,* CEC staff may reallocate unused funds in one or more application tiers depending on applicant demand.

Source: California Energy Commission

Statewide Impact

The CalSHAPE Program received an application for at least one of the programs from LEAs in 43 of the state's 58 counties, which is 74 percent of the counties in the state. A map displaying the counties represented in the applications are shown in blue in Figure 2.

Figure 2: 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 system 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.[7] The HVAC Assessment and Maintenance Pathway provides the full assessment and

7 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 Revised Commission Guidelines* at

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 to participate in the program that do not have an HVAC system or are in the process of replacing the HVAC system, which would not need a full assessment and maintenance. Table 10 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 75 schools applied to follow the Scheduled for Replacement Pathway, and no LEAs have yet to apply for a grant award for a school to follow the Limited or No Mechanical Ventilation Pathway.

Table 10: Number of LEAs and Schools Following Each Ventilation Pathway

Grant Pathways	Number of LEAs	Number of Schools
HVAC Assessment and Maintenance	211	1,367
Scheduled for Replacement	9	66
Limited or No Mechanical Ventilation	0	0

Source: California Energy Commission

In addition to the assessment and maintenance of the grant pathways, the CalSHAPE Ventilation Program provides for air filter replacement and requires the installation of carbon dioxide monitors for each of the grant pathways. Table 11 provides the number and cost of the filters and carbon dioxide monitors that were requested in the applications received during Funding Round One.

Table 11: Number and Cost of Filters and Carbon Dioxide Monitors Installations

Item	Number of Requested Units
Filters	143,661
Carbon Dioxide Monitor	57,970
Total	201,631

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. Table 12 provides the

https://www.energy.ca.gov/publications/2021/california-schools-healthy-air-plumbing-and-efficiency-ventilation-program

number and cost of the noncompliant plumbing fixture and appliance replacements that were requested in the applications received during Funding Round One.

Table 12: Number and Cost of Noncompliant Plumbing Fixture and Appliance Replacements

Plumbing Fixture or Appliance	Number of Requested Units
Automatic Ice Maker	33
Clothes Washer	33
Commercial Dishwasher	31
Interior Faucet	4,027
Showerhead	175
Toilet	4,453
Urinal	1,314
Total	10,066

Source: California Energy Commission

CHAPTER 5:
Challenges and Opportunities

Although the implementation of the CalSHAPE Program was effective and Funding Round One was productive, 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 two areas of the program that have presented challenges and opportunities for improvement.

Program Funding Source

As discussed above in Chapter 2, the CalSHAPE Program is funded by California's large utilities, PG&E, SCE, SDG&E, and SoCalGas. Pursuant to statute, the amount of funding provided by each utility is based on each utility's energy efficiency budget, so the amount of funding contributed by each utility to the CalSHAPE Program is specific to the utility.[8] In addition, the funding provided by each utility can only be awarded to projects in the utility's service territory.[9]

As Table 1 shows in Chapter 2, SoCalGas' estimated 2021 program funding was $5 million based on the estimated unspent and uncommitted funds from 2020. However, the CalSHAPE Program did not make any funds available for grant awards in Funding Round One due to a then pending CPUC audit of unspent and uncommitted funds that created uncertainty in the amount of actual funding that would be contributed by SoCalGas.

Following the CPUC audit, it is now estimated that SoCalGas' expected total program funding will be around $1.5 million.[10] There is no additional funding that is expected to be contributed by SoCalGas for the remainder of the program.[11] The other utilities contributed a combined $270 million of funding in 2021 and are expected to contribute an additional $358 million of funding by the end of 2023.

As stated in the program guidelines, the CalSHAPE Program accepts applications for schools even if there is no grant award funding currently available. The program received applications for more than $11 million in requested funding for schools in the SoCalGas service territory in Funding Round One. With only $1.5 million in total program funding available to these schools

8 See PUC Section 1615(a) or CPUC D. 21-01-004 for additional information on the CalSHAPE Program budget.

9 PUC Section 1615(c) requires that each utilities' funds are used for projects located in the service territory of utility from which the funds are received.

10 See the *Energy Efficiency Program Performance Audit for Southern California Gas Company, January 1, 2020, Through December 31, 2020*, (https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/utility-audits--risk--and-compliance-division/reports/energy/2021/energy_2021-09-27_scg_ee.pdf) and CPUC D. 21-01-004 for information.

11 Utility program funding amounts for 2022 and 2023 not including prior years' unspent and uncommitted funds are provided in Tables 2 and 3, respectively, in CPUC D. 21-01-004

and no future funding expected, most of these applications will not receive a grant award for needed ventilation and plumbing improvements.

There is not a proportional relationship between the amount of funding provided by each utility and the number of schools located in the utility service territory; that is, the source of the program funding results in differences in the amount of funding available to LEAs and schools in each utility service territory. These differences are shown in Table 12, which provides the percent of underserved schools and amount of 2021 funding in each service territory. For example, the SoCalGas service territory has 16.3 percent of the schools in underserved communities but only 0.5 percent of the total program funding in 2021. Whereas, SDG&E has 6.5 percent of the schools in underserved communities but 19.4 percent of the total program funding in 2021. Due to these differences in the amount of ratepayer monies contributed across the state, LEAs and underserved schools in certain areas of the state will not have the opportunity to take full advantage of the CalSHAPE Program.

Table 13: Number of Schools and Funding in Each Utility Service Territory

	PG&E	SCE	SDG&E	SoCalGas
Number of Underserved Schools in Service Territory	2,720	2,015	398	996
2021 Program Funding	$102,466,340	$116,488,293	$52,976,495	$1,500,000
Percent of Total Number of Underserved Schools	44.4%	32.9%	6.5%	16.3%
Percent of Total 2021 Funding	37.5%	42.6%	19.4%	0.5%

Source: CalSHAPE GIS Web Map and CPUC D. 21-01-004

Eligible Replacements in Plumbing Program

Although the CalSHAPE Program has received considerable interest from LEAs, the CalSHAPE Plumbing Program has not received as many applications as the CalSHAPE Ventilation Program. Specifically, only 34 percent of the CalSHAPE Plumbing Program funding available in Funding Round One was requested in applications compared to 92 percent of the CalSHAPE Ventilation Program funding. CEC staff conducted outreach to LEAs on the CalSHAPE Plumbing Program to gather information on reasons that there appears to be less interest in the program. AB 841 has specific requirements that a plumbing fixture or appliance must meet to be considered noncompliant and be eligible for replacement in the CalSHAPE Plumbing

Program.[12] Of the feedback provided by applicants, one of the most common was that there is no longer a lot of plumbing fixtures and appliances that meet the requirements to be considered as noncompliant in schools. As such, there are not many fixtures and appliances that qualify for replacement with CalSHAPE Program grant funding.

CEC staff has also received numerous requests for the CalSHAPE Plumbing Program to be expanded to specifically include replacements for touchless plumbing fixtures, since the installation of touchless plumbing fixtures in schools is a high priority for LEAs with the COVID pandemic. Other plumbing fixture and appliance replacements that were requested were drinking fountains, water bottle filling stations, pool pumps, and water heaters.

12 See PUC Section 1630(a) – (b) or *CalSHAPE Plumbing Program Revised Commission Guidelines* (available at https://www.energy.ca.gov/publications/2021/california-schools-healthy-air-plumbing-and-efficiency-plumbing-program) for information on the noncompliant plumbing fixture and noncompliant appliance requirements

CHAPTER 6:
2022 Outlook and Conclusion

Program Budget

As described in Chapter 2, CalSHAPE Program funding comes from the four large utilities. The CPUC follows the direction in statute and calculates the amount contributed by each utility for each of the three program years. CPUC D. 21-01-004 provides the 2022 program funding amounts for each utility, which are provided in Table 13. As shown, the estimated total 2022 program funding amount is $192,507,112.[13]

Table 14: Estimated CalSHAPE Program Funding for 2022*

	PG&E	SCE	SDG&E	SoCalGas	Total
2022 Program Funding	$80,908,048	$87,119,631	$24,479,433	$0	$192,507,112

* Program funding amounts do not include the prior year's unspent and uncommitted funds for each utility, which will be added to the program budget after amounts are confirmed by CPUC.

Source: CPUC D. 21-01-004

The 2021 program funding that is not reserved for Funding Round One grant awards will be carried over and added to the 2022 program funding. The CEC will make a portion of the program funding available for grant awards in one or more funding rounds during 2022.

Guidelines Changes

CEC staff is considering revisions to the guidelines for both the CalSHAPE Ventilation and Plumbing programs in 2022. The revisions being considered are:

- Expansion of grant award eligibility to all public schools in the state.
- Clarifications to the application requirements and review process.

As mentioned in this report, grant awards are currently limited to schools in an underserved community. CEC staff is considering removing the eligibility limit so that all public schools in the state will be able to apply for a CalSHAPE Program grant.[14] This expansion of eligibility will require a change to the guidelines for each program. The other anticipated changes to the

13 The 2022 program budget does not include the prior year's unspent and uncommitted funds or any budget changes related to CPUC's audits of utility 2020 unspent and uncommitted energy efficiency funds, which will be resolved in CPUC disposition letters for each utility's 2022-2023 energy efficiency budget advice letter. This amount is an estimate until the CPUC approves utility 2022-2023 budget advice letters and separately confirms the accuracy of 2021 unspent and uncommitted funds. For additional information, see CPUC D. 21-01-004.

14 PUC Section 1612 requires that not less than 25 percent of projects funded by the CalSHAPE Program be in underserved communities and that all schools in an underserved community are offered the opportunity to apply for and receive grants before those schools that are not in an underserved community.

guidelines are administrative changes that were determined to be necessary after evaluation of the application process in Funding Round One. Most of the administrative changes will be clarifications on the types of acceptable documents that are required to be submitted with the application as supporting documentation. There may also be minor changes to the description of the application review process in the guidelines.

Conclusion

The CalSHAPE Program has accomplished all the goals and met the requirements set for 2021, the first year of program activity. The program guidelines have been developed and the online application and reporting system is providing a streamlined application process for LEAs. The CalSHAPE Ventilation and Plumbing programs have received applications requesting more than $170 million which is about 24 percent of the total expected program funding. Prior to notification of future funding rounds, CEC staff will continue to direct outreach to LEAs providing guidance to apply for CalSHAPE Ventilation and Plumbing program grants. CEC staff continue to evaluate the program guidelines and data received in Funding Round One to look for additional opportunities to improve the program but anticipate ongoing success of the program in 2022.

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 Revised Commission 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 Revised Commission Guidelines	Guidelines that describe the program design, application process, and reporting requirements for the CalSHAPE Plumbing Program. The *CalSHAPE Plumbing Program Revised Commission Guidelines* are available at https://www.energy.ca.gov/publications/2021/california-schools-healthy-air-plumbing-and-efficiency-plumbing-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 Revised Commission Guidelines	Guidelines that that describe the program design, application process, and reporting requirements for the CalSHAPE Ventilation Program. The *CalSHAPE Ventilation Program Revised Commission Guidelines* are available at https://www.energy.ca.gov/publications/2021/california-schools-healthy-air-plumbing-and-efficiency-ventilation-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 which 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.
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.
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.

Term	Definition
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.
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

Term	Definition
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.
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.

Term	Definition
Utility or utilities	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).
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.