

# Resource Guide for Reducing Energy Use and Carbon Emissions from Municipal Buildings

---

June 2021



**BAYREN**

Local Governments Empowering Our Communities

In the face of increasing atmospheric carbon dioxide levels and climate change, Bay Area local governments are working hard to reduce their greenhouse gas (GHG) emissions. Many have adopted climate emergency resolutions, Climate Action Plans, and related policies. One key area for action is municipal buildings—including offices, libraries, police stations, fire stations, and recreational facilities. Reducing carbon emissions produced by these buildings is a goal for many local governments.

This goal is within reach when a building can be built or retrofit to be efficient and powered by clean renewable electricity. With seven Community Choice Aggregators (CCAs) in the Bay Area, each acting as the default public power provider in the cities they serve, cleaner and even carbon-free electricity products are available. Modifying buildings is more complicated and includes both making buildings more efficient and, often, switching to electric systems and technologies. Some building upgrades may pay for themselves through energy savings, while others may not. Upgrades often have other benefits, however, such as improved comfort for occupants and better indoor air quality. Upgraded buildings are also more resilient in a world where wildfires and Public Safety Power Shutoffs are regular events, and adding onsite renewable energy and battery storage systems can make them even more resilient.

BayREN created this resource guide to help jurisdictions reduce energy use and carbon emissions from municipal buildings. The first section of the guide summarizes some approaches jurisdictions can take, from working on individual buildings to adopting wider policies for entire portfolios, and provides information and examples of each approach. The second section provides information about resources available to cities and counties to help implement this work, including technical assistance and funding and financial resources.

## Contents

- Section 1: What can a local government do?..... 2**
- Upgrade Individual Buildings .....2
- Benchmarking.....2
- Building Tune-Ups/Retrocommissioning.....4
- Municipal Building Standards .....5
- Section 2: What programs are available? ..... 7**
- Incentive Programs .....7
- Financing Programs .....9
- Technical Assistance Programs .....13
- Program Summaries + Acknowledgements ..... 18**

## Section 1: What can a local government do?

Local governments have several options to begin reducing energy use and carbon emissions from their municipal buildings. This section describes approaches that local governments have taken and provides related resources and examples.

### Upgrade Individual Buildings



One approach is to simply start with a single building and carry out energy and carbon reduction upgrades as needed. For small jurisdictions with fewer than 10 buildings, tackling each building individually, one-at-a-time may be all that is needed. Larger jurisdictions may also find this approach to be appropriate in certain situations or for unique buildings. The approach taken may be determined by the level of information available about the buildings. The more data that can be found or gathered on the age of equipment, fuel type, and energy consumption,

the easier it will be to prioritize and plan. Other factors to consider are the expected remaining life of mechanical systems, estimated cost of upgrades, and which projects are already included in the Capital Improvement Plan.

#### Resources:

Local governments may need both technical assistance and funding/financial assistance for this work. [Section 2](#) of this Guide reviews the existing resources that are currently available to local governments in the Bay Area.

### Benchmarking

Benchmarking measures and reports a building's energy use, then compares it to the average for similar buildings. Because it is difficult to manage what you can't measure, benchmarking municipal buildings provides data that can be used to identify buildings that may need physical improvements or tuning up of mechanical systems. The State of California requires owners of large commercial and multifamily buildings,<sup>1</sup> including those owned by local government entities, to report their energy use to the California Energy Commission annually and posts data on building energy use on a public dashboard [here](#).

<sup>1</sup> Over 50,000 square feet (sf) and either no residential units or 17+ residential units

Cities can also adopt their own requirements, starting with required benchmarking for all municipal buildings. San Francisco does this and makes the data public, for example. Although beyond the scope of this Guide, cities can also require benchmarking for other types of buildings, such as smaller commercial or multifamily buildings. Because it takes time and effort to collect the data needed for benchmarking, it works best for larger buildings, particularly those that have professional property or facility managers.

**Resources:**

- Department of Energy's benchmarking resources guide: [www.energy.gov/eere/slsc/building-energy-use-benchmarking](http://www.energy.gov/eere/slsc/building-energy-use-benchmarking)
- American Council for Energy-Efficient Economy (ACEEE)'s State and Local Policy Database: <https://database.aceee.org/city/benchmarking-disclosure>
- Institute for Market Transformation's fact sheet on benchmarking: [www.imt.org/resources/fact-sheet-energy-benchmarking-and-transparency-benefits/](http://www.imt.org/resources/fact-sheet-energy-benchmarking-and-transparency-benefits/)

**Examples:**

- The City and County of San Francisco's Existing Buildings Ordinance requires annual benchmarking and makes benchmarking information publicly available for nonresidential and public buildings. Nonresidential and public buildings 10,000 square feet (sf) or greater report benchmarking scores to the San Francisco Department of Environment (SFD OE) in an Annual Energy Benchmark Summary using the ENERGY STAR Portfolio Manager tool.
- The City of Brisbane's [Building Efficiency Program](#) uses benchmarking data to lower the environmental impact of existing buildings through reductions in greenhouse gas (GHG) emissions. Owners and/or tenants of identified municipal and private properties are required to complete annual building energy and water benchmarking and demonstrate savings. This includes municipal buildings 2,000 sf to 10,000 sf.
- The City of San Jose's [Energy and Water Building Performance Ordinance](#) builds on existing state law (CA Assembly Bill 802). It requires commercial and multifamily buildings 20,000 sf and over and City owned buildings 15,000 sf and over to track their yearly whole building energy and water usage data with the EPA platform ENERGY STAR Portfolio Manager and share this data with the City. The City publishes a subset of summary data to support market transparency and recognize high-performing buildings across San José.
- The City of Eugene worked with the Northwest Energy Efficiency Alliance and others on a [Public Buildings Portfolio Management process](#). In addition to developing an inventory, they coordinated with a consultant to establish benchmarking, identify areas of low-performing buildings, and develop a plan to measure and manage energy consumption and implement upgrades.

## Building Tune-Ups/Retrocommissioning



Building tune-ups, also known as retrocommissionings, aim to optimize energy and water performance by identifying low- or no-cost actions related to building operations and maintenance. Building tune-ups assess buildings and implement operational and maintenance improvements to achieve energy and water efficiency such as changing thermostat set points or adjusting lighting or irrigation schedules.

Tune-ups also review HVAC, lighting, and water systems to identify maintenance, cleaning, or repair needs such as replacing faulty sensors or fixing problems with an economizer. Retrocommissioning can save 5% to 30% in energy use, according to the Department of Energy, with typical payback within three years.

While retrocommissioning can be done for individual buildings as needed, cities can also adopt policies requiring tune-ups for municipal (and even private) buildings on a regular schedule. This ensures that buildings function the way they were designed and minimizes energy use and carbon emissions.

### Resources:

- Pacific Northwest National Laboratory has developed a “Building Re-tuning” approach to detect energy savings opportunities and implement improvements in commercial buildings: <https://buildingretuning.pnnl.gov/>
- Retrocommissioning for State and Local Governments: [www7.eere.energy.gov/seeaction/system/files/documents/commercialbuildings\\_factsheet\\_retrocommissioning\\_stateandlocal.pdf](http://www7.eere.energy.gov/seeaction/system/files/documents/commercialbuildings_factsheet_retrocommissioning_stateandlocal.pdf)
- City of Seattle Building Tune-Ups website: [www.seattle.gov/environment/climate-change/buildings-and-energy/building-tune-ups/about-building-tune-ups](http://www.seattle.gov/environment/climate-change/buildings-and-energy/building-tune-ups/about-building-tune-ups)

### Example:

The City of Seattle passed the [Municipal Building Tune-Ups Resolution](#) that requires tune-ups on City buildings 50,000 sf or larger. Building tune-ups are required every 5 years.

## Municipal Building Standards

Jurisdictions can adopt building standards that require all of their municipal buildings to meet specific criteria. For example, a jurisdiction could require all buildings to meet LEED standards, be Zero Net Energy, or produce no carbon emissions. While all of these standards would reduce energy use and carbon emissions, each one contains different requirements and tactics:

- LEED standards are achieved by choosing from a menu of green building features, including energy and non-energy components (i.e., building materials, water use, indoor environmental quality, and access to public transit). Certification takes time and costs money.
- Zero Net Energy (ZNE) includes renewables as well as energy efficiency, with the goal of balancing the energy needed and the energy generated. ZNE may not be possible for buildings with limited space for renewables. Some ZNE buildings may also be mixed-fuel and therefore still produce on-site carbon emissions.
- Zero carbon buildings by definition cannot include natural gas and must be all electric, powered by clean electricity. Energy efficiency and load flexibility need to be part of zero carbon efforts in order to reduce impacts on the electric grid and minimize costs. Zero carbon could also include a standard for embodied carbon, as well as operational carbon (see below for information from Marin County on an embodied carbon requirement for new buildings).

### Resources:

- LEED for existing buildings information: [www.usgbc.org/leed/rating-systems/existing-buildings](http://www.usgbc.org/leed/rating-systems/existing-buildings)
- LEED for new construction information: [www.usgbc.org/leed/rating-systems/new-buildings](http://www.usgbc.org/leed/rating-systems/new-buildings)
- New Buildings Institute information on zero energy buildings: <https://newbuildings.org/hubs/zero-energy/>, including information related to zero energy/carbon codes: [https://newbuildings.org/code\\_policy/zero-codes/](https://newbuildings.org/code_policy/zero-codes/)

### Examples:

- City and County of San Francisco requires LEED Gold certification for all municipal building construction, both existing and new construction. For more information: [https://codelibrary.amlegal.com/codes/san\\_francisco/latest/sf\\_environment/0-0-0-661](https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_environment/0-0-0-661).
- County of San Mateo requires new county-owned construction projects over 10,000 sf to be LEED certified, with at least 50% of available LEED Energy and Atmosphere points. In addition, these projects are required to be Zero Net Energy if feasible. For more information: <https://cmo.smcgov.org/sites/cmo.smcgov.org/files/County%20of%20San%20Mateo%20Municipal%20Green%20Building%20Policy.pdf>.

- City of Hayward has a resolution requiring city buildings to be Zero Net Energy starting after 2020. All existing City of Hayward buildings that receive renovations exceeding 50% of the buildings' value shall be ZNE. All other lesser improvements to work toward ZNE by 2030. For more information:  
<https://hayward.legistar.com/LegislationDetail.aspx?ID=2453452&GUID=F0279C7B-2DE8-4A9E-A12F-36B86E93E240&Options=&Search=&FullText=1>.
- San Diego County has developed a Zero Net Energy Portfolio Plan that includes requiring ZNE for all new facilities and major renovations, as well as reducing energy use and installing on-site renewable energy at existing sites.  
[www.sandiegocounty.gov/content/dam/sdc/common\\_components/images/dgs/Documents/Energy\\_COSD\\_ZPP\\_Public\\_Summary\\_2017.pdf](http://www.sandiegocounty.gov/content/dam/sdc/common_components/images/dgs/Documents/Energy_COSD_ZPP_Public_Summary_2017.pdf)
- Marin County has adopted a Low Carbon Concrete Code that requires the use of low carbon concrete in all building projects in order to address embodied carbon: [www.marincounty.org/depts/cd/divisions/sustainability/low-carbon-concrete-project](http://www.marincounty.org/depts/cd/divisions/sustainability/low-carbon-concrete-project); the City of Berkeley has a requirement that cement used in concrete mix must be reduced by at least 25%; the requirement is in Subsection 4.405.1 of Berkeley Municipal Code Chapter 19.37 [here](#).

## Section 2: What programs are available?

This section focuses on programs that are currently available for jurisdictions to utilize when upgrading municipal buildings at the individual or portfolio level. These focus on three areas: incentives, financing options, and technical assistance programs.

### Incentive Programs

#### PG&E's Public Energy Efficiency Program

This new program offered by PG&E starts in 2021 and is funded to operate through 2023. Qualifying municipal PG&E customers can receive an audit identifying key energy efficiency measures, as well as incentives for certain measures. The program also provides referrals to trade professionals for installation or will work with your preferred contractors. The program is meant to serve projects that are cost-effective, where more funds will be saved through implemented energy efficiency measures than the cost of the measures. Only projects that are cost-effective will be accepted for the program.

#### Resources:

The website for this program has not yet launched, but the program has started. Contact information: [publicenergy@willdan.com](mailto:publicenergy@willdan.com); phone 844-250-8505.

#### Self-Generation Incentive Program



This state program is offered through PG&E and provides incentives for battery equipment installation for critical facilities and infrastructure, including municipal buildings, to stay online for customers and communities vulnerable to Public Safety Power Shutoff (PSPS) events. The base incentive amount varies between \$0.85 and \$1.00 per watt-hour (Wh), based on location in a high fire threat district (HFTD) and disadvantaged community or low-income community. Incentives vary based on remaining funding and eligibility; see program link below for additional information.

There are three levels of incentives: 1) equity and resiliency, 2) equity, and 3) large-scale general market. Those that qualify for the equity and resiliency incentive are eligible to receive \$1.00/Wh, which can cover up to 100% of project costs. Those that qualify for the equity incentive are eligible to receive \$0.85/Wh, which can cover up to 85% of project costs. The general market incentives decrease based on the funds still available and

vary based on many factors; visit the [statewide SGIP](#) page for additional information. There are also incentives available for other self-generation measures including wind turbines; onsite biogas, directed biogas or vented biogas; and pressure reduction turbines. Solar photovoltaics (PV) are not included in this program.

**Resources:**

PG&E's SGIP website: [www.pge.com/en\\_US/small-medium-business/energy-alternatives/private-solar/understand-the-solar-process.page](http://www.pge.com/en_US/small-medium-business/energy-alternatives/private-solar/understand-the-solar-process.page)

**Healthcare Energy Efficiency Program**

The Healthcare Energy Efficiency Program is for hospitals, medical office buildings, and skilled nursing homes, as well as other medical facilities that may be eligible upon PG&E's approval. The program offers a combination of financial incentives, energy audits, engineering analyses, implementation oversight, and retrocommissioning assistance to help facility owners and managers upgrade their existing equipment with new, energy efficient equipment and controls. Incentives vary by measure; see program link below for additional information. Qualifying measures include HVAC (chillers, cooling towers, controls, pump and motor upgrades, variable frequency drives (VFD) installations, boilers, motors, including air handlers and boiler fans), lighting (LED retrofits, lighting controls), and specialty equipment (medical equipment, food services, including VFD on hoods, refrigeration, ice machines and storage appliances, laundry). The program also offers technical assistance for healthcare facilities looking to upgrade buildings.

**Resources:**

PG&E Healthcare Energy Efficiency Program website: [www.willdan.com/programs/HEEP-PGE.aspx](http://www.willdan.com/programs/HEEP-PGE.aspx)

**BayREN Business Program**

Smaller municipal office buildings may also be able to participate in the BayREN Business Program. Buildings must be less than 50,000 sf in size or have an annual electricity use of less than 500,000 kilowatt hour (kWh). This is a "pay for performance" program and does not require any upfront out-of-pocket costs. The program covers technologies such as lighting, lighting controls, HVAC, smart thermostats, and energy management control systems.

**Resources:**

Program website: [www.bayren.org/business](http://www.bayren.org/business)

### East Bay Community Energy Municipal Electrification Assistance Program

This new program, offered by East Bay Community Energy (EBCE), provides resources to EBCE's member agencies, including up to \$10,000 gap funding to complete projects, as well as technical assistance for electrification projects or plans and reach code development and implementation. Eligible customers are municipal agencies or school districts who are EBCE customers.

**Resources:**

Program website (expected to launch in June 2021): [www.ebce.org/meap](http://www.ebce.org/meap)

### MCE Commercial Energy Efficiency Program

MCE's Commercial Energy Efficiency Program serves most non-residential customers in the MCE service area, including municipalities. The program offers various participation pathways to meet the needs of different customers and facilities. Municipal customers may receive facility audits, feasibility analyses and rebates, or they can participate in the Strategic Energy Management (SEM) pathway. SEM provides no-cost energy management coaching and training over a two-year period, to help identify no- or low-cost savings opportunities. The Program also facilitates coordination with financing opportunities, including PG&E's On Bill Financing Program.

**Resources:**

Program website: [www.mcecleanenergy.org/business-savings/](http://www.mcecleanenergy.org/business-savings/)

[> See Incentive Programs Summary](#)

## Financing Programs

---

### Municipal Financing

All building improvements cost money, and some improvements have a significant up-front cost. Local governments have the ability to raise funds in several ways.

#### *Bonds, Green Bonds, and Capital Improvements Set-Asides*

- One traditional way for municipalities to raise funds is through a bond measure. Green bonds are a type of bond earmarked for environmental or climate projects. A set-aside occurs when a percentage of bond proceeds is reserved for particular projects or types of projects, such as capital improvements for municipal buildings to reduce their energy use and greenhouse gas emissions. The City of Albuquerque



adopted a mandate for a 3% set-aside from the General Obligation Bond Program for the 3% for Energy Conservation and Renewable Energy Set-A-Side for Capital Improvements to fund projects that reduce energy consumption in municipal buildings. Building upgrades are chosen by a committee of city fiscal and technical staff based on specific criteria such as return on investment and life cycle cost analysis. Department applications for building upgrades are submitted to the committee for consideration. A project cannot use more than 40% of the funding allocated to the Set-A-Side.

### *Impact Fees*

- Local governments can adopt impact fees on new development to cover the costs created by that development. In 2015, the City of Watsonville adopted a Carbon Fund Ordinance that charges a fee to all new residential and non-residential building projects, as well as additions and alterations. The funds are placed in a Carbon Fund, which is used to pay for greenhouse gas reducing projects in the city.

### *Taxes (and Utility User Taxes)*

- Local governments can also levy certain types of taxes in order to raise funds. One type of tax that may be appropriate to consider for this purpose is the Utility Users Tax (UUT), which can be charged to users of specific utilities including electricity and gas. Local governments can set the tax rates, determine who is exempt, and how the funds generated will be used.

### **Example/Resources:**

- Information on green bonds in California: [www.treasurer.ca.gov/cdiac/webinars/2019/greenbonds/green-bonds-session.pdf](http://www.treasurer.ca.gov/cdiac/webinars/2019/greenbonds/green-bonds-session.pdf)
- Albuquerque's Energy Conservation and Renewable Energy Set-A-Side for Capital Improvements: [www.cabq.gov/sustainability/sustainability-projects/buildings](http://www.cabq.gov/sustainability/sustainability-projects/buildings). The City's Municipal Code language for its Capital Improvements Program is here: [https://codelibrary.amlegal.com/codes/albuquerque/latest/albuquerque\\_nm/0-0-0-1862](https://codelibrary.amlegal.com/codes/albuquerque/latest/albuquerque_nm/0-0-0-1862); see sections 2-12-1(J), (K), and (L) for information on the set aside program.
- City of Watsonville Carbon Fund Ordinance: [www.cityofwatsonville.org/1765/Carbon-Fund-Ordinance](http://www.cityofwatsonville.org/1765/Carbon-Fund-Ordinance)
- Utility User Tax Facts: <http://californiacityfinance.com/UUTfacts21.pdf>

### **PG&E Energy Efficiency Retrofit Loan Program/On Bill Financing**

PG&E offers on-bill financing with and without rebates to nonresidential customers within PG&E territory. This financing provides zero interest, zero penalty loans and eliminates up-front costs. The loans are repaid based on projected energy savings through installments on the customer's PG&E bill. Customers may install the equipment themselves or hire a contractor to perform the work. PG&E may need to inspect the site before the old equipment is removed and may perform another inspection upon project completion.

Loan terms include 0% financing with loan periods of up to 10 years. Project energy savings must be more than \$1,000 per year. Financing can cover \$5,000 to \$250,000 of the project cost after incentives, and is available to fund many energy efficient technology upgrades, including LED lighting, refrigeration, HVAC, food service, and LED streetlight projects. Loans up to \$4,000,000 may be available for projects where a unique opportunity to capture large energy savings exists. To qualify, a project's total cost savings must be sufficient to repay the loan within the maximum loan term limits. Energy generation, such as rooftop solar, is not eligible under this product.

#### **Resources:**

- PG&E's Energy Efficiency Financing website: [www.pge.com/en\\_US/small-medium-business/save-energy-and-money/energy-efficiency-financing.page](http://www.pge.com/en_US/small-medium-business/save-energy-and-money/energy-efficiency-financing.page)
- PG&E Energy Efficiency Financing overview handout: [www.pge.com/pge\\_global/common/pdfs/save-energy-money/financing/energy-efficiency-financing/fs\\_obf.pdf](http://www.pge.com/pge_global/common/pdfs/save-energy-money/financing/energy-efficiency-financing/fs_obf.pdf)
- PG&E blog on the ABCs of OBF: [www.pge.com/en/mybusiness/save/smbblog/article/the\\_abcs\\_of\\_obf\\_learning\\_how\\_pg\\_es\\_onbill\\_financing\\_works.page?redirect=yes](http://www.pge.com/en/mybusiness/save/smbblog/article/the_abcs_of_obf_learning_how_pg_es_onbill_financing_works.page?redirect=yes)

### **CEC Energy Conservation Assistance Act – Low-Interest Loans**

The California Energy Commission Energy Conservation Assistance Act (ECAA) Low Interest Loan Program provides 1% interest loans to cities, counties, special districts, public colleges and universities, public care institutions, and public hospitals to finance energy efficiency and energy generation projects throughout California. Example projects include: lighting system upgrades, pumps and motors, streetlights and LED traffic signals, energy management systems and equipment controls, building insulation, energy generation including renewable and combined heat-and-power projects, HVAC equipment, water and wastewater treatment equipment, and load-shifting projects, such as thermal energy storage. Jurisdictions looking to

include energy generation in their project might be a good fit for this program, since energy efficiency and generation are eligible for this financing product.

The maximum loan amount is \$3 million and there is no minimum amount. Energy efficiency projects must be technically and economically feasible. The loan must be repaid from energy savings (including principal and interest) within a maximum of 20 years. The repayment schedule is based on the estimated annual energy cost savings from the project.

**Resources:**

- CEC's ECAA website: [www.energy.ca.gov/programs-and-topics/programs/energy-conservation-assistance-act/low-interest-loans](http://www.energy.ca.gov/programs-and-topics/programs/energy-conservation-assistance-act/low-interest-loans)
- Solicitation website with ECAA application form: [www.energy.ca.gov/solicitations/2019-04/pon-17-401-financing-energy-efficiency-and-renewable-energy-generation](http://www.energy.ca.gov/solicitations/2019-04/pon-17-401-financing-energy-efficiency-and-renewable-energy-generation)

**Energy Savings Performance Contracts**

Energy savings performance contracts (ESPCs) allow government agencies to procure energy savings and facility improvements with minimal up-front capital costs. An ESPC is a partnership between a municipality and an energy service company (ESCO) where the ESCO typically completes a comprehensive facilities audit and proposes a scope of work that saves enough energy that the avoided energy costs can finance the project over the course of several years. The scale and scope of ESPCs vary greatly as the scope is tailored to a municipality's existing facilities and energy demand. Most ESPCs offer a comprehensive energy and financial analysis that provides a facilities inventory and prioritizes buildings based on needs. It requires a high financial commitment that is paid back over a long period.

Loan terms and financing limits vary by ESCO. Measures are identified based on building need and can vary from individual measures to comprehensive building retrofit. This type of financing might be a good choice for jurisdictions that need help identifying and planning upgrades, as well as financing support.

**Resources:**

- CCEC EE Coordinator ESPO Guidance: <https://eecoordinator.info/wp-content/uploads/2020/09/ESPO-Guidance-TA-Response.pdf>
- Summary of ESCO financing from the Department of Energy: <https://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/ESCO%20Financing%20Summary.pdf>

- Guide to Performance Contracting with ESCOs:  
[www.pnnl.gov/main/publications/external/technical\\_reports/PNNL-20939.pdf](http://www.pnnl.gov/main/publications/external/technical_reports/PNNL-20939.pdf)

**Examples:**

The cities of Fremont, Mountain View, and South San Francisco have each engaged with the ESCO Sysserco to implement ESPCs for their municipal building stock.

To learn more about their respective projects, visit their case studies here:

[Fremont](#), [Mountain View](#), and [South San Francisco](#).

**Joint Procurement**

Local governments can band together to procure services or equipment, saving administrative time and effort and sometimes also obtaining more favorable prices or terms. Existing agencies that represent multiple local governments, such as Joint Powers Authority (JPA) or Community Choice Aggregators, may carry out joint procurements for their members.

**Example:**

SPURR (School Project for Utility Rate Reduction) is a JPA that can carry out procurements that local agencies can then utilize. Their [Renewable Energy Aggregated Procurement \(REAP\) Program](#) offers pre-negotiated pricing and terms that are available to any eligible agency that adopts the REAP Program RFP as its own competitive process. They also offer a LED Lighting and Controls procurement program [here](#).

> [See Financing Programs Summary](#)

**Technical Assistance Programs**


The California Energy Commission's Energy Partnership Program offers services to help identify the most cost-effective, energy-saving opportunities for buildings and new construction. Cost-saving measures are needed with shrinking budgets and increasing operating costs. Reducing energy costs is one way to save money.

**CONTACT**  
Energy Partnership Program  
855-380-8722

**CEC Energy Partnership Program**

The CEC's Energy Partnership Program offers technical assistance services to help identify the most cost-effective, energy-saving opportunities for existing buildings and new construction. The program offers up to \$20,000 of a consultant's cost to conduct energy audits and prepare feasibility studies, review existing and new construction proposals and designs, perform

energy modeling, develop equipment performance specifications, review equipment bid specifications, assist with contractor selection, and review commissioning plans.

The program is available statewide for cities, counties, special districts, public colleges and universities, public care institutions, and public hospitals. Both gas and electric projects are eligible. If the cost of the study exceeds \$20,000, the applicant may opt to share in the cost or reduce the scope. The CEC contracts with experienced engineering and architectural consultants who provide the technical assistance. To qualify, the governing board must adopt a resolution to seek funding to implement the recommended feasible energy efficiency projects identified through the program.

**Resources:**

- CEC Energy Partnership Program website: [www.energy.ca.gov/programs-and-topics/programs/energy-partnership-program](http://www.energy.ca.gov/programs-and-topics/programs/energy-partnership-program)
- Governing board resolution template: [www.energy.ca.gov/sites/default/files/2020-10/EPP\\_Resolution\\_governing\\_board\\_rev032020\\_ADA.docx](http://www.energy.ca.gov/sites/default/files/2020-10/EPP_Resolution_governing_board_rev032020_ADA.docx)

**PG&E's Sustainable Solutions Turnkey (SST) Program**

SST is a “one-stop solution” that identifies, prioritizes, funds, and implements energy efficiency, energy generation, energy storage, and water conservation measures for medium and large customers, including local governments. SST has completed dozens of successful multi-measure projects for municipal customers. Project measures include lighting, HVAC, controls, distributed generation (PV, cogeneration, etc.), batteries, microgrids, EV chargers, water, and more. In addition to carrying out project assessments and audits, SST helps customers find and put together optimal financing from all available sources (including on-bill financing), and has a deep bench of experienced contractors it manages to implement the projects. On a typical project, the projected energy savings are equal to or greater than the financing costs to implement the measures. Measures with particularly good paybacks are combined with others to create an overall project that both meets the customer’s goals and works financially. Projects typically reduce utility bills by 20-40%, and those savings are used to pay for the project, including the SST fee of 10%.

**Resources:**

Contact David Carter ([David.Carter2@pge.com](mailto:David.Carter2@pge.com)) or John Garnett ([l7gb@pge.com](mailto:l7gb@pge.com)) for more information

**BayREN Municipal Zero Net Energy/Zero Net Carbon Assistance**

BayREN provides free engineering technical assistance to help local governments in the San Francisco Bay Area save energy and money while reducing their carbon footprints.

The Municipal ZNE/ZNC Technical Assistance program helps municipalities retrofit or construct buildings to meet zero net energy (ZNE) or zero net carbon (ZNC) goals by providing engineering analysis and recommendations for projects. Services include single site/project analysis, municipal portfolio review, and technical assistance for Municipal Building ZNE/ZNC Policies. Jurisdictions within BayREN territory (the nine Bay Area Counties) are eligible to receive support on projects that are planned or underway.

**Resources:**

BayREN Municipal ZNE/ZNC Assistance program website: [www.bayren.org/local-government-resources/zero-net-energyzero-net-carbon-assistance-municipal-buildings](http://www.bayren.org/local-government-resources/zero-net-energyzero-net-carbon-assistance-municipal-buildings)

**Marin Energy Watch Partnership/Marin Energy Management Team**

Marin Energy Management Team's staff assist local governments and school districts in Marin County with energy management. The team acts as an extension of public agency staff, helping to reduce and manage energy use, improve the comfort and productivity of staff, and save scarce dollars. The team sits on the agency's side of the table, helping them to understand how much energy their facilities use, to evaluate how they can be more efficient and to finance and implement energy-efficiency projects. They also help staff find products, contractors, engineering and other public or utility-sponsored programs. Technical assistance can include energy use data analysis, project identification, connection to available incentives, support writing RFPs, staff reports, and other tasks necessary to design and implement an energy efficiency project. Marin County staff help agencies with limited funds and/or staff bandwidth to complete effective energy efficiency projects.

**Resources:**

Marin Energy Management Team website: [www.marincounty.org/depts/cd/divisions/sustainability/energy-programs/energy-watch](http://www.marincounty.org/depts/cd/divisions/sustainability/energy-programs/energy-watch)

**Sonoma County Public Energy Partnership**

Sonoma County Energy and Sustainability Division (ESD) staff provide technical assistance to governments, school districts, special districts, and disadvantaged community (DAC)/hard-to-reach (HTR) businesses in Sonoma County through energy efficiency assessments, upgrade planning, and identification of and connections to resource programs. This no-cost program provides technical assistance to facility owners and operators to assess and document existing conditions within their facilities and evaluate opportunities for energy efficiency, water efficiency, and demand reduction upgrades. Staff work with facility operators and owners to create a short-term

and long-term planning roadmap to help prioritize improvements and identify incentives, financing, and available public and utility-sponsored resource programs. Sonoma County Energy and Sustainability Division Staff also assist with benchmarking.

**Resources:**

Energy and Sustainability website: <https://sonomacounty.ca.gov/General-Services/Energy-and-Sustainability/>

**Peninsula Clean Energy/Silicon Valley Clean Energy Electrification Technical Assistance Program**

Peninsula Clean Energy and Silicon Valley Clean Energy's Electrification Technical Assistance Program provides extensive free technical assistance to architects, builders, developers, design engineers, contractors, and energy consultants to learn about all-electric building technologies and electric vehicle infrastructure. Although aimed primarily at privately owned buildings, municipal building owners and facility managers can also take advantage of the services and support provided by the program, including electrification design approach recommendations (such as load reduction and shirting strategies, equipment specifications, and cost implications) and energy modeling and code compliance support. Projects must be all-electric to participate. Signing off or stamping of drawings and cost negotiations for equipment are not included in the service.

**Resources:**

Electrification Technical Assistance Program website: <https://allelectricdesign.org/>

**EBCE Municipal Facility Resilience Program**

To enhance community energy resilience, EBCE is funding a technical assistance program that will result in accelerated deployment of solar + storage systems across 100–200 facilities over the next two to three years. Participating local governments designate facilities to serve the community in times of emergency (e.g., extended grid outages, major events like earthquakes). EBCE will assess the facilities to determine technical specifications, lead a competitive solicitation, and act as the counter signatory to a third-party Power Purchase Agreement.

**Resources:**

Please contact EBCE's Local Development Program: [jdenver@ebce.org](mailto:jdenver@ebce.org)

> [See Technical Assistance Programs Summary](#)

## Summary of Resources for Municipal Building Energy Projects

Incentive Programs					
Program	Qualifying Measures	Incentive Amount	Geographic Area	Building eligibility	Website
Public Energy Efficiency Program	Over 100 measures available, including LED lighting & controls, whole-building retro-commissioning, Building Management System controls and optimization, and high efficiency boilers, chillers, and HVAC package units	Information not yet available	PG&E Territory	Qualified PG&E local government customers	Not yet available; contact <a href="mailto:publicenergy@willdan.com">publicenergy@willdan.com</a> or phone 844-250-8505 for more information
Self-Generation Incentive Program	Battery equipment & installation	Base incentive amount can be between \$0.85 and \$1.00 per Wh. Incentives vary based on remaining funding and eligibility; see program link for additional information.	PG&E Territory	Critical facilities and infrastructure	<a href="http://www.pge.com/en_US/small-medium-business/energy-alternatives/private-solar/understand-the-solar-process.page">www.pge.com/en_US/small-medium-business/energy-alternatives/private-solar/understand-the-solar-process.page</a>
Healthcare Energy Efficiency Program	HVAC equipment, boilers and related items, lighting, and special equipment	Incentives vary by measure; see program link	PG&E Territory	Hospitals, medical office buildings, skilled nursing homes, and other medical facilities with approval	<a href="http://www.willdan.com/programs/HEEP-PGE.aspx">www.willdan.com/programs/HEEP-PGE.aspx</a>
BayREN Business Program	Lighting, lighting controls, HVAC, smart thermostats, and energy management control systems	Pay for performance program	San Francisco Bay Area	Buildings must be less than 50,000 square feet in size or have an annual electricity use of less than 500,000 kWh	<a href="http://www.bayren.org/business">www.bayren.org/business</a>
EBCE Municipal Electrification Assistance	Electrification projects	Up to \$10,000 gap funding to complete projects	EBCE Service Area	Municipal agencies or school districts who are EBCE customers	<a href="http://www.ebce.org/meap">www.ebce.org/meap</a> Website expected to launch in June 2021
MCE Commercial Energy Efficiency Program	Lighting, lighting controls, HVAC, Window film, Pool Pumps, Refrigeration Controls,	Incentives vary by measure and participation pathway; contact the program to learn more	MCE Service Area	Non-residential customers	<a href="http://www.mcecleanenergy.org/business-savings/">www.mcecleanenergy.org/business-savings/</a>

## Summary of Resources for Municipal Building Energy Projects

Financing Options*					
Program	Qualifying Measures	Terms	Financing Limits	Geographic Area	Website
Energy Efficiency Retrofit Loan Program/On Bill Financing	Energy efficient technology upgrades, including LED lighting, refrigeration, HVAC, food service and LED streetlight projects. To qualify, a project's total cost savings must be sufficient to repay the loan within the maximum loan term limits.	0% financing with loan periods of up to 120 months	\$5,000 and \$250,000 per premises. Loans up to \$4,000,000 may be available for projects where a unique opportunity to capture large energy savings exists	PG&E Territory	<a href="http://www.pge.com/en_US/small-medium-business/save-energy-and-money/energy-efficiency-financing.page">www.pge.com/en_US/small-medium-business/save-energy-and-money/energy-efficiency-financing.page</a>
CEC Energy Conservation Assistance Act – Low-Interest Loans	<ul style="list-style-type: none"> <li>• Lighting system upgrades</li> <li>• Pumps and motors</li> <li>• Streetlights and LED traffic signals</li> <li>• Energy management systems and equipment controls</li> <li>• Building insulation</li> <li>• Energy generation including renewable and combined-heat-and-power projects</li> <li>• HVAC equipment</li> <li>• Water and wastewater treatment equipment</li> <li>• Load-shifting projects, such as thermal energy storage</li> </ul>	1% loans for energy projects: The loan can fund 100% of the project cost within a 17-year (maximum) simple payback. The loan must be repaid from energy savings (including principal and interest) within a maximum of 20 years	Maximum loan amount is \$3 million.	State of California	<a href="http://www.energy.ca.gov/programs-and-topics/programs/energy-conservation-assistance-act/low-interest-loans">www.energy.ca.gov/programs-and-topics/programs/energy-conservation-assistance-act/low-interest-loans</a>
Energy Savings Performance Contracts	Measures identified based on building need. Can vary from individual measures to comprehensive building retrofit.	Terms vary	Limits vary	Not applicable	Guide to Performance Contracting with ESCOs: <a href="http://www.pnnl.gov/main/publications/external/technical_reports/PNNL-20939.pdf">www.pnnl.gov/main/publications/external/technical_reports/PNNL-20939.pdf</a>

\* Municipal Financing (taxes, bonds, set-asides, impact fees, and in-lieu fees) and Joint Procurements are described in the text but not included in this table.

## Summary of Resources for Municipal Building Energy Projects

Technical Assistance Programs					
Program	Qualifying Projects	Services Provided	Cost	Geographic Area	Website
CEC Energy Partnership Program	Cities, counties, special districts, and more whose governing boards adopt a resolution to seek funding to implement projects identified through the program	<ul style="list-style-type: none"> <li>• Conduct energy audits and prepare feasibility studies</li> <li>• Review existing proposals and designs</li> <li>• Develop equipment performance specifications</li> <li>• Review equipment bid specifications</li> <li>• Assist with contractor selection</li> <li>• Review commissioning plans</li> </ul>	No cost	State of California	<a href="http://www.energy.ca.gov/programs-and-topics/programs/energy-partnership-program">www.energy.ca.gov/programs-and-topics/programs/energy-partnership-program</a>
PG&E Sustainable Solutions Turnkey (SST) Program	Energy efficiency, energy generation, energy storage, and water conservation measures for medium and large PG&E customers	<ul style="list-style-type: none"> <li>• Identifies, prioritizes, funds, and implements projects</li> <li>• Conducts assessments and audits</li> <li>• Puts together financing</li> <li>• Provides and manages contractors to implement projects</li> </ul>	10% of project costs	PG&E Service Area	Contact David Carter ( <a href="mailto:D6C4W@pge.com">D6C4W@pge.com</a> ) or John Garnett ( <a href="mailto:J7gb@pge.com">J7gb@pge.com</a> ) for more information
BayREN Municipal ZNE/ZNC Technical Assistance	New or retrofit municipal projects that are planned or underway that aim for Zero Net Energy or Zero Carbon	<ul style="list-style-type: none"> <li>• Municipal building ZNE/ZNC policies</li> <li>• Municipal portfolio review</li> <li>• Single site/project analysis</li> </ul>	No cost	San Francisco Bay Area	<a href="http://www.bayrencodes.org/services/zne/">www.bayrencodes.org/services/zne/</a>
Marin County Energy Watch/Energy Management Team	Public facilities intending to become more energy efficient	<ul style="list-style-type: none"> <li>• Energy use data analysis &amp; project identification</li> <li>• Connection to available incentives</li> <li>• Support writing RFPs or staff reports</li> <li>• Other tasks necessary to design and implement an energy efficiency project</li> </ul>	No cost	Marin County	<a href="http://www.marincounty.org/depts/cd/divisions/sustainability/energy-programs/energy-watch">www.marincounty.org/depts/cd/divisions/sustainability/energy-programs/energy-watch</a>
Sonoma County Public Energy	Local governments, school districts, special districts, and disadvantaged community/hard-to-reach businesses	<ul style="list-style-type: none"> <li>• Technical assistance to document existing communities through energy efficiency assessments</li> <li>• Upgrade planning and creation of short- and long-term roadmaps to prioritize improvements</li> <li>• Identification of incentives, financing, and available resource programs</li> <li>• Benchmarking assistance</li> </ul>	No cost	Sonoma County	<a href="https://sonomacounty.ca.gov/General-Services/Energy-and-Sustainability/">https://sonomacounty.ca.gov/General-Services/Energy-and-Sustainability/</a>

> Continued on next page

## Summary of Resources for Municipal Building Energy Projects

Technical Assistance Programs					
Program	Qualifying Projects	Services Provided	Cost	Geographic Area	Website
PCE/SCVE Electrification Technical Assistance Program	Electrification projects	<ul style="list-style-type: none"> <li>Recommended design approaches</li> <li>Design guide resources</li> <li>Energy model peer review</li> <li>Feasibility and performance analysis</li> </ul>	No cost	PCE and SVCE service areas	<a href="https://allelectricdesign.org/">https://allelectricdesign.org/</a>
EBCE Municipal Facility Resilience Program	Designated facilities that serve local communities in times of emergency	<ul style="list-style-type: none"> <li>Assesses facilities</li> <li>Leads a competitive solicitation</li> <li>Acts as county signatory to a third-party Power Purchase Agreement</li> </ul>	No cost	EBCE service area	EBCE's Local Development Program: <a href="mailto:idenver@ebce.org">idenver@ebce.org</a>

## Acknowledgements

### Authors:

Lauren Hotell, Jacob Tisinger, Russell Bayba, and David Myers – Franklin Energy  
 Karen Kristiansson – BayREN/Association of Bay Area Governments  
 Khain Lun So – Frontier Energy

### Reviewers/Contributors:

Jennifer West and Emily Alvarez – StopWaste  
 Dana Armanino – Marin County  
 Christine Condon – Sonoma County  
 Angela Hacker – Local Government Sustainable Energy Coalition  
 Beckie Menten and Jessie Denver – East Bay Community Energy