



COMMUNITY IMPACT REPORT

Clean Power, Lower Rates and
Community Investment



San Mateo County's
Community
Electricity Provider

WHO IS PENINSULA CLEAN ENERGY?

Your community electricity provider is investing in tomorrow

Peninsula Clean Energy is San Mateo's official electricity provider – generating clean and affordable power and making significant reinvestments back into the community.

As one of California's 19 Community Choice Aggregators (CCAs), Peninsula Clean Energy has the flexibility and local control to use innovative options in purchasing and generating electricity for residents and businesses.

This has allowed Peninsula Clean Energy to pursue aggressive goals of providing 100% greenhouse gas-free electricity by 2021 and 100% power from wind, solar and other renewable sources by 2025 – all while charging its customers less than PG&E.

Since it first began providing electricity to San Mateo County in October 2016, Peninsula Clean Energy has built a trendsetting clean energy portfolio. That includes the January 2020 launch of

the 200-megawatt Wright Solar Park, the largest renewable project currently delivering power to a CCA in California.

And unlike an investor-owned utility such as PG&E, Peninsula Clean Energy – as a not-for-profit community-

Peninsula Clean Energy generates electricity for close to 300,000 customers in San Mateo County

controlled CCA – reinvests earnings to provide incentives and other programs that directly benefit its customers. For example, they offer incentives for electric vehicles to reduce emissions from cars, and a program to remove and recycle

old refrigerators to improve home energy efficiency.

While Peninsula Clean Energy generates electricity for the 750,000 residents of San Mateo County, PG&E remains responsible for the distribution lines and other infrastructure that carries the electricity from the energy source to wherever it is used. Peninsula Clean Energy generation charges and PG&E distribution charges appear as part of a consolidated bill provided by PG&E.

Peninsula Clean Energy's ECOplus electricity product is cleaner and costs 5% less than the comparable PG&E rate. For about one cent more per kilowatt-hour, customers can choose Peninsula Clean Energy's ECO100, which is 100% renewable energy. Solar customers also can get more value on Peninsula Clean Energy's NEM and NEM 2.0 rates.

Find out more at PenCleanEnergy.com



Fighting climate change here at home

Dear Neighbors,

According to a 2019 survey, **76% of San Mateo County residents feel climate change is not being addressed aggressively enough.***

The good news is that by working together we have steadily cut hundreds of thousands of metric tons of greenhouse gas emissions by using cleaner electricity. And this has been done while saving our residents and businesses millions of dollars through lower electric rates.

We also reinvest in programs to slice tailpipe emissions through electric vehicle incentives, and provide clean energy backup for customers most vulnerable to power outages.

Peninsula Clean Energy is pleased to highlight here what we and members of our communities are doing to achieve our collective vision of offering affordable and reliable emission-free power.

Of course, there is much more to do. But if our progress so far is any indication, San Mateo County will continue to lead efforts to fight global climate change for California and the country.

And we'll continue to save you money while we provide you cleaner and greener electricity.

Jan Pepper
CEO
Peninsula Clean Energy

** January 2019 survey of 572 respondents chosen randomly.*

How it works



Peninsula Clean Energy Electricity Generation

Peninsula Clean Energy provides electricity from clean energy sources at lower rates than PG&E.

PG&E Distribution

PG&E owns the power lines and other infrastructure to deliver the power we generate. They also send a consolidated bill.

You Customer

As a customer of Peninsula Clean Energy, you are helping the environment and saving money.

KEEPING THE LIGHTS ON

Peninsula Clean Energy plans to help the community become energy resilient

| BY ANNE STOKES |

Over the next three years, Peninsula Clean Energy will be investing \$10 million to develop short- and long-term plans and infrastructure to ensure communities will have access to potentially life-saving energy, even in the event of a natural disaster.

“Energy resiliency is the idea that all of our customers have access to electricity even if the grid goes down,” said Siobhan Doherty, Peninsula Clean Energy director of Power Resources. “It’s important for all types of emergencies. That could be earthquakes, it could be wildfires ... anything that might cause interruption of electricity services.”

In 2018, wildfires decimated several Northern California communities. The following year, power companies expanded their public safety power shut-off (PSPS) programs in response. While the purpose of a PSPS is to prevent deadly catastrophes, they can have significant safety and economic repercussions for:

- Medically vulnerable residents who rely on electricity to power medical equipment.
- Businesses forced to close during outages for unknown amounts of time.
- Critical public safety services and utilities such as communications, health care facilities, transportation, water pumping facilities and first responders.

Peninsula Clean Energy has a better plan: Solar power stored in batteries. Solar photovoltaic systems can provide power independent of the larger power grid for long periods by meeting electric needs during the day and charging batteries for power after the sun goes down.

Today, Peninsula Clean Energy is working with municipalities in San Mateo County to place photovoltaic storage systems at the homes of medically vulnerable residents and at public facilities such as community centers that could act as emergency shelter locations. While these plans are currently serving as a contingency plan for PSPS events,

Peninsula Clean Energy is also looking to take a proactive approach rather than a

“Energy resiliency is the idea that all of our customers have access to electricity **even if the grid goes down.**”

Siobhan Doherty
Director, Power Resources
Peninsula Clean Energy



reactive response to an emergency. One of the company’s goals is to design a power portfolio sourced entirely by renewable energy by 2025.

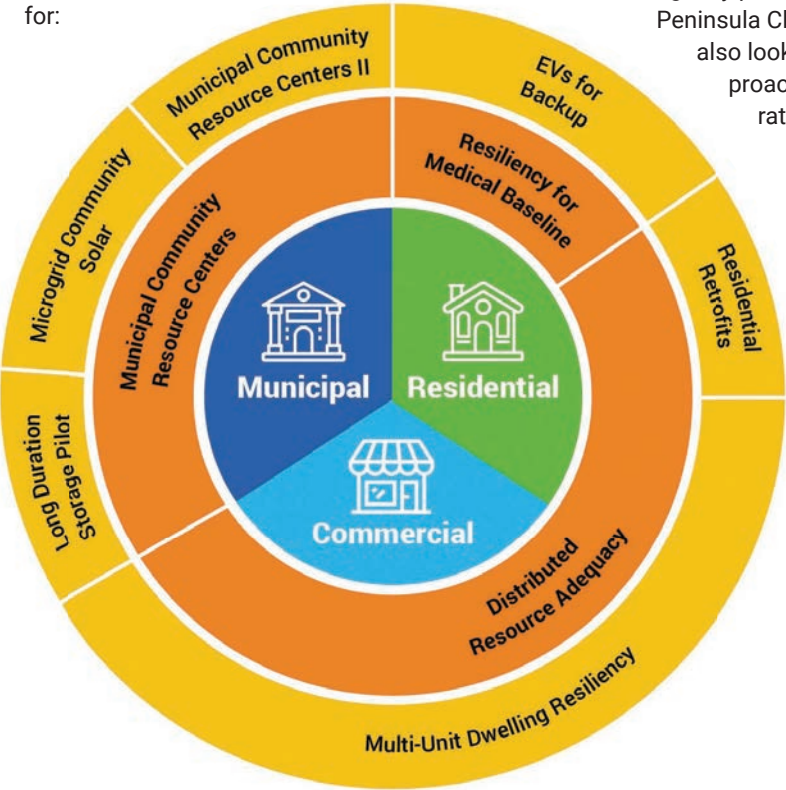
“For the longer term, we’re looking at critical infrastructures — such as communications and water — and to figure out how we can best support creating resiliency around those,” Doherty said. “We’re working with municipalities and other local agencies to think ahead instead of going in after the fact ... such as designing solar energy and electricity storage that can support their buildings and systems.”



Why energy resiliency is so important

“Energy resilience can be lifesaving for residents who rely on electricity for medical needs. Peninsula Clean Energy’s programs that equip these residents with **clean and reliable backup power** to support them during power outages will be very helpful.”

Dr. Shruti Dhapodkar
Health Emergency Preparedness
Manager, San Mateo County Health



Energy resiliency programs by customer class



THE FUTURE OF CLEAN ENERGY

Starting students out on a solid environmental foundation

| BY ANNE STOKES |



Kindergartners learn about clean energy by building their own paper wind turbines. PHOTOS COURTESY OF SILVIA MARTINEZ

While Peninsula Clean Energy is working diligently to meet today's energy needs, we're also nurturing the next generation of innovators. To help educators bring environmental literacy into classrooms, Peninsula Clean Energy gave \$25,000 to the San Mateo County Office of Education in 2018 to start a Clean Energy Teacher Fellowship. Ormondale Elementary School kindergarten teacher Silvia Martinez was one of those lucky teachers.

"I thought it was important for the students to be more aware of the environment in ways that they can understand it, so hopefully in the future they can solve problems," says Martinez, who actually started teaching her students about the environment eight years ago. "It gives them the power to do something about it."

Martinez says she was able to gain valuable professional development through the fellowship program as well as comprehensive support in developing lessons. That support includes ensuring curriculum meets the state's Next Generation Science Standards and Environmental Principles and Concepts requirements, while still enabling her to tailor lessons to what works best in her classroom.

"There's a lot of hands-on activities for them to touch, feel and experience and then get their knowledge and build upon that," she says.

While kindergartners aren't ready to understand the science behind solar panels and greenhouse gasses, students in Martinez's classroom learn about renewable energy by building paper wind turbines and experimenting with a solar-powered K'Nex merry-go-round. And

"I thought it was important for the students to be more aware of the environment in ways that they can understand it, so hopefully in the future they can solve problems."

Silvia Martinez
Kindergarten teacher, Ormondale Elementary School

instead of building holiday gingerbread houses — which end up uneaten and thrown away after a few weeks — Martinez's students design and make a model clean energy house.

"They know about wind power, solar energy and recycling, but we also add other things like insulation and we add in roof top plants, we add in a lot of windows and a garden, rain barrels to make this earth-friendly house," she says. "The goal [is] for them to be able to walk

away from this with an understanding that they could make simple changes to the energy system and still protect their environment."

And it isn't just Martinez's class that's benefited from the fellowship. She's been able to integrate Earth-friendly practices and learning experience across the entire campus.

"We've had assemblies where our students teach others. We have worm bins for the entire school, we have beautiful school gardens where we use the compost we get from that," she says. "I think it's wonderful we have this resource. It's so important."



San Mateo County schools expand environmental learning programs

Preparing leaders for clean energy starts as early as kindergarten in some San Mateo County schools.

The San Mateo County Office of Education (SMCOE) is expanding its Environmental Literacy and Sustainability Initiative for students grades K-12. SMCOE is the first county office of education in the state to have launched an initiative of this kind. The program teaches sustainability across the campus, curriculum, community and culture.

SMCOE works closely with Peninsula Clean Energy, which has provided staff support and more than \$250,000 for environmental literacy programs. One of these is the Clean Energy Teacher Fellowship program. After a successful pilot that reached 970 students in 2018-2019, Peninsula Clean Energy increased funding for 2020-21, so that more teachers can participate and more students be reached.

2019 Teacher Fellowship schools:

- Aragon High School
- Arroyo School
- Bayshore School
- Borel Middle School
- Foster City Elementary School
- Hillview Middle School
- Hoover Elementary School
- La Entrada
- Ormondale Elementary School
- Summit Public Schools — Shasta
- Willow Oaks School

ELECTRIFYING THE FUTURE

SamTrans bus system is on track to be all-electric and emission-free

| BY ALLEN PIERLEONI |

The San Mateo County Transit District (SMCTD) is looking into the future, and what it sees is electric-powered buses and trains that will move public transportation into a new era of emission-free sustainability and clean energy.

Its SamTrans bus system is “on track to convert our fleet to 100% zero emissions by 2040,” says Amelia Timbers, SMCTD’s principal planner for sustainability.

“We’ve just begun this transition,” she says. “We have two battery-electric buses now, with eight more coming in the near future.”

SamTrans sources 100% renewable energy from Peninsula Clean Energy’s ECO100 product. The bus fleet services San Mateo County and parts of San Francisco and Palo Alto.

“The community response to electric buses has been really positive,” Timbers says. “Our riders are excited about the growth of the fleet. We’ve [displayed] the buses at festivals, where they’ve been very popular.”

In addition to the bus fleet is SMCTD’s Caltrain, with a fleet of 134 passenger cars, each seating between 78 and 149 travelers. But that will change when the Caltrain Peninsula Corridor Electrification Project is in place, eventually eliminating the need for diesel-driven locomotives.

“We’re very much in the planning stage, but we have already purchased 133 electric-fueled self-propelled mobile units for 19 seven-car trainsets (each car holding 600 to 700 passengers),” Timbers says. “We plan to start electric service for most of the Caltrain Corridor by 2022.”

Caltrain serves from Oracle Park in San Francisco, south through San Mateo County to Gilroy.

“It’s not just a matter of getting electric trains, but also a matter of getting the

electric infrastructure along the corridor,” points out Dan Lieberman, SMCTA public affairs specialist. “We’re now erecting poles to support the catenary system (overhead wires) that will provide electric power to the trains.”

Current yearly passenger numbers are startling – 11 million riders for SamTrans and 18 million for Caltrain. Compared to 2019, projections show a potential 300% increase in demand for the Caltrain system by 2040.

“The community response to electric buses has been really positive.”

Amelia Timbers
SMCTD’s principal planner for sustainability

“We don’t expect electrifying SamTrans to have as immediate an effect on bus ridership, but it will certainly help to shrink our carbon footprint and reduce the amount of particulate matter in the air,” Lieberman says.

“Electrifying a railroad does have huge environmental benefits, but it will also allow us to increase the frequency of our service and move more people faster,” he says.

“Electrifying (SamTrans and Caltrain) will help us operate a cleaner fleet overall,” Timbers says. “We consider ourselves a mobility leader, and a big part of that is ensuring we’re contributing to a sustainable future that meets our diverse community and ridership needs.”



SamTrans’ new electric buses are very popular with riders.
PHOTO COURTESY OF SAN MATEO COUNTY TRANSIT DISTRICT



Lyngso Garden Materials, a renewable connection

“Anything that helps grow plants or is related to landscaping, we have here,” says Kan Parthiban, sustainability coordinator of green-devoted Lyngso Garden Materials in San Carlos. That includes organic composts, soils and fertilizers, of course, but the family-run employee-owned business is also the source of larger landscaping items, such as boulders, flagstones and rocks, water features and pottery.

“What ties everything together is our community involvement, sustainability of raw materials and environmental conscientiousness,” she says. As part of that, Lyngso upgraded to Peninsula Clean Energy’s ECO100 product, which provides energy from 100% renewable sources.

Lyngso has held free Saturday learning sessions for more than a decade. “We host DIY classes and educational classes with the UC Master Gardeners,” Parthiban says. “We have been a community resource and a people-based business since the early 1950s.”

Another key is the emphasis on organics. “We don’t have any synthetics or chemical products on site,” she says.

“Our customers care about the environment, so all of our soils and amendments are natural and eco-friendly.”

HOW HEALTHY IS YOUR HOME?

Healthy Home Connect examines houses for problems that can trigger health issues and fixes them free of charge

| BY ALLEN PIERLEONI |



Healthy Home Connect tackles many home repairs that can benefit health and energy use such as properly venting a chimney.
PHOTO COURTESY HEALTHY HOME CONNECT

Among the many innovative programs that Peninsula Clean Energy offers its customers in San Mateo County is its Healthy Home Connect program.

It's designed to assist struggling families in San Mateo County not only with energy-efficiency issues that call for such improvements as new insulation, weather stripping and window replacement, but with health-related concerns as well.

Your home could literally be making you ill. Health-related "triggers" such as poor ventilation, rodent infestation and leaking roofs can set off a host of ailments, including asthma, headaches and fatigue. To compound the problem, an unhealthy house affects the most vulnerable – the elderly and children.

Peninsula Clean Energy funds Healthy Home Connect in partnership with PG&E and local, state and federal agencies. The result is free home repair for qualified customers.

"We really get into the health of the house, that's where we have to concentrate in our community, especially for fixed-income and low-income (homeowners)" says Joaquin Narvaez, green programs manager with El Concilio, a community nonprofit dedicated to improving quality of life for the underserved. It's contracted by Peninsula Clean Energy to help run Healthy Home Connect.

"People's houses are deteriorating along with their health," Narvaez adds. "We want to fix that, and our goal is to expand the program at least county-wide and maybe state-wide."

The Healthy Home Connect process is straightforward, involving an interview with the homeowner and a detailed house inspection.

"We get information about any mold or plumbing issues, what the air inside the house is like, the year the house was built, if the homeowner lives near an industrial

"People's houses are deteriorating along with their health. We want to fix that."

Joaquin Narvaez
Green programs manager,
El Concilio



area or a freeway, if they have any health issues when they're at home," Narvaez says.

The gathered data are analyzed using the Hayward Score, a tool used to assess health-impactful problems in a home and to develop recommendations for repairing and/or replacing items involved. "The results from the Hayward Score give us our direction for making health-related

improvements to the house," Narvaez says. "Does it need exhaust fans for the air environment? Does the carpeting need replacing?"

Franklin Energy of Oakland is another Peninsula Clean Energy contractor involved in Healthy Home Connect.

"We manage the relationship between those getting the work done in the field and Healthy Home Connect, tailored around helping these residents eliminate health triggers and create healthier homes," says Franklin Energy senior technical services manager Russell Bayba.

"The health aspect is really important and can be a bigger concern than just reducing energy use," he adds.

That's something Florence Jordan appreciates. She's a senior citizen and widow living alone in an East Palo Alto house built in the 1950s.

Her main issue was a rodent infestation. Workers replaced the vent coverings underneath and on the outside of the house, including the eaves. They also replaced her water heater, added weather stripping to the windows and doors, and repaired leaky faucets.

"I'm very appreciative, you don't know how much," she says. "I talked with (the workers) and they seemed to like what they do – helping people."



Incentive program makes used electric vehicles more affordable

Karl Jensen clocked about 450,000 miles on a series of motorcycles during his 35-year career as an art professor at a private college, commuting from his Redwood City home to San Francisco and back. "I used to wear them out," he says.

Jensen averaged 45 miles per gallon on the bikes. Now, he gets 100 miles to the gallon from his 2017 Plug-In Prius Hybrid. Not only do electric vehicles save on fuel, they also help reduce greenhouse gas emissions.

Jensen was able to make the switch because of a grant from Peninsula Clean Energy's innovative DriveForward Electric program. **It helps income-qualified San Mateo County residents buy used plug-in electric vehicles by offering incentives for up to \$4,000.**

A main focus of DriveForward Electric is making applicants aware of other, similar grants. In Jensen's case, he was told about the Driving Clean Assistance Program, and stacked that grant with the one he got from DriveForward Electric.

"All that support let me put this car in my driveway," he says. "The two grants combined put \$7,000 toward the car. Without them, I couldn't have afforded it."

It wasn't just gas mileage that motivated Jensen.

"Reducing my carbon footprint was a big thing for me," he says. "I'm very into that in whatever way my little lifestyle may support."

WRIGHT SOLAR PARK FARMS THE SUN

Solar panels on former grazing land power
100,000 San Mateo County homes

Wright Solar Park covers 1,200 acres of
former grazing land in Merced County.
PHOTO COURTESY OF PENINSULA CLEAN ENERGY

Now online, Wright Solar Park — developed and managed by Clēnera, a renewable energy company — is making clean energy in a big way. It's the largest renewable energy project ever built for a Community Choice Aggregator.

Peninsula Clean Energy has exclusive rights to Wright's output, a staggering 200 megawatts — enough to power 100,000 San Mateo County homes.

The project not only benefits the environment, but the California economy too, by creating 400 union jobs. Swinerton Renewable Energy worked with the Brotherhood of Electrical Workers Local 684, Ironworkers Local 155, Operating Engineers Local 3, Laborers International Local 1130, and Northern California Carpenters Local 152 to complete the project.

"This project illustrates the vast potential that solar and other renewable generation can have in Merced County and Central California, from new construction jobs to millions of dollars in new tax revenues," said Lloyd Pareira, chairman of the Merced County Board of Supervisors.

Where we get power

Peninsula Clean Energy buys low-cost, price-stable, clean and green sources of energy. This includes wind, hydro and solar power from several locations in California. Peninsula Clean Energy's goal is to develop a diverse power portfolio that meets its objectives of 100% greenhouse gas-free power by 2021, 100% renewable energy by 2025 and a minimum of 20 megawatts of new local power by 2025.

Where are these power sources? Peninsula Clean Energy has Power Purchase Agreements for renewable energy with these facilities, listed with their generating capacity (in megawatts). These sources represent a portion of Peninsula Clean Energy's overall energy portfolio.



Solar

Wright
Merced County
200 MW

Mustang Two*
Kings County
100 MW



Wind

Shiloh
Solano County
150 MW

Buena Vista
Contra Costa County
38 MW

Karen Avenue
Palm Springs
11.7 MW



Hydro

Hatchet Creek
Shasta County
7.5 MW

Roaring Creek
Shasta County
2 MW

Bidwell Ditch
Shasta County
2 MW

Clover
Shasta County
0.99 MW

*Under construction





Opened in January 2020, 200-megawatt Wright Solar Park provides enough power for 100,000 San Mateo County homes.
PHOTO COURTESY OF PENINSULA CLEAN ENERGY

MORE THAN POWER

Innovative programs

Energy resiliency

Peninsula Clean Energy is investing \$10 million over the next three years to address community readiness for power shutoffs and emergencies. This will include solar plus storage solutions for the medically vulnerable, community emergency response centers and critical infrastructure.

Electric vehicle (EV) incentives

Peninsula Clean Energy offers incentives for new and used EV purchases. Incentives for new EVs were offered in 2018 and 2019. The 2020 program for new EVs is under development. The ongoing DriveForward Electric Program makes it more affordable for income-qualifying San Mateo County residents to purchase a used EV by providing a vehicle incentive up to \$4,000.

EV test drive events

Peninsula Clean Energy organizes events where you can try out the latest electric vehicles. Launched in 2018, the events have delivered nearly 3,000 EV experiences.

EV Ready program

Peninsula Clean Energy will be offering \$24 million in incentives and technical assistance in partnership with the California Energy Commission to install electric vehicle charging stations in workplaces, apartments, condos and retail locations throughout San Mateo County.

Community pilots

Peninsula Clean Energy has awarded \$450,000 for six innovative local energy pilot projects to spur local innovation, reduce greenhouse gas emissions, support low-income customers, and advance electric transportation.

UPGRADE TO 100% RENEWABLE

Want to do something more to help the environment that is easy and inexpensive? Switch to 100% renewable energy, available for about \$4 more per month for the average household. Upgrade to ECO100 on line at PenCleanEnergy.com/opt-up/ or call 866-966-0110.

HOW TO STAY UP TO DATE

Keep informed by signing up to receive updates at PenCleanEnergy.com/updates.



Learn more about these and other programs at PenCleanEnergy.com/CIR20



The Peninsula Clean Energy difference

\$18 million

Annual savings for San Mateo County customers

144,660

Estimated metric tons of carbon emissions reduced per year

That's equivalent to:

30,713

Cars removed from the road per year