



# CALIFORNIA ENERGY MARKETS

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## New Montecito Microgrid Piece of Santa Barbara Resilience Initiative

The Montecito Fire Protection District Board of Directors at a Feb. 25 meeting unanimously approved developing a memorandum of understanding to bring a community microgrid to its headquarters and fire station.

The Montecito Community Microgrid Initiative will be the first piece in a larger Santa Barbara County microgrid to be developed in conjunction with the Clean Coalition, a Menlo Park-based nonprofit microgrid developer.

Critical facilities' microgrids—the fire station, followed by the water district and emergency shelters, such as area schools—will be developed first to ensure key structures are continually powered in emergencies. These facilities are predominantly located on San Ysidro Road, a primary north-south corridor in Montecito between Highway 101 and the Los Padres National Forest.

**An obstacle to the wider** microgrid might be the incumbent utility. Craig Lewis, executive director of the Clean Coalition, said the developers of the Montecito microgrid are attempting to work with Southern California Edison to gain access to area distribution lines. This would allow the various planned area microgrids to be interconnected.

Despite a dozen meetings “with people from [President] Ron Nichols on down,” the utility is not allowing its distribution grid to be used in a grid-outage scenario. All local renewables and storage will be islanded behind meters until and unless they can be otherwise configured to be part of a broader, interconnected microgrid, Lewis said.

The fire district microgrid, he said, will “maintain itself indefinitely, whether the grid is on or off.

The microgrid elements will be in place so that when Southern California Edison agrees to allow use of the distribution grid along certain segments . . . all of the monitoring, communication and control elements are in place to make that happen.”

Although Montecito, an unincorporated community populated with dozens of Hollywood stars, is wealthy, it is not immune to Mother Nature's whims. Floods, fires, landslides and other emergencies can easily physically isolate Montecito, as evidenced by the Thomas Fire, which devastated the area in December 2017, and a series of mudflows the following month.

The community microgrids are being designed primarily to provide renewables-driven energy resilience in emergencies.

“It's a proactive initiative to bring the trifecta of economic, environmental, and resilience benefits to communities,” Lewis said. Most of the Clean Coalition's projects to date have been “correlated to disaster,” since affected communities are “most ready to move forward with these types of projects.”

The area, referred to as the “Goleta Load Pocket,” stretches 70 miles from Point Conception to Lake Casitas. It is served by a single transmission line that runs through the mountains from Ventura and terminates at the Goleta Substation at the top of Glen Annie Road in Goleta. Larger cities in this pocket include not only Goleta and Montecito, but also Santa Barbara and Carpinteria, plus the University of California, Santa Barbara. The goal is to create microgrids throughout this area that can be interconnected.

The draft Montecito microgrid design consists of 70 MW of solar and a 175-MWh lithium-ion battery



The Goleta Load Pocket, a 70-mile-long stretch of coast from Point Conception to Lake Casitas, is the larger area microgrid of which the Montecito Community Microgrid Initiative would be a part. Source: Clean Coalition

energy storage array. The Clean Coalition is working with GI Energy, a company headquartered in Chicago that provides what Lewis calls a permit- and finance-ready design.

**Montecito also has the advantage** of residents and regular visitors with access to virtually unlimited financial resources that can be applied to these types of challenges. Some residents are well known internationally by a single name, Oprah and Ellen among them.

“One concern about microgrids being deployed absent clear policies on resilience and in light of issues such as the bankruptcy of [Pacific Gas & Electric] is that only those communities with affluence will be able to protect themselves through advanced technology,” Peter Asmus, research director with Navigant Research, said. “While a valid concern, there are also counter-forces at work that may help address those concerns, but likely will not be able to address all social-justice consequences associated with unique socioeconomic status of each community in California or the nation.”

As Lewis said, “It doesn’t hurt” that the community is wealthy, “but on the other hand they can’t get a [California Energy Commission] grant to bring resilience to Montecito.”

Supporting the Montecito Community Microgrid Initiative are the Kind World Foundation and the Zegar Family Foundation.

Having resources available does not automatically smooth the path to adoption. Asmus said he has advocated for a microgrid for his Marin County community for two years to no avail. He said “convincing those without deep understanding of new technology and how the grid works is still an uphill battle, despite widespread wealth within the community.”

Vendors offering packaged solutions, such as “energy-as-a-service” business models for municipal governments, might spur adoption of microgrids. Schneider Electric, for example, successfully deployed a sophisticated microgrid in Montgomery County, Maryland, without any upfront capital costs. This, said Asmus, “seems to be a great approach to replicate in California and other states. Ironically enough, the investor was an unregulated arm of a major utility, Duke Energy. At Navigant, we see these energy-as-a-service business models driving the market forward.”

Since most municipal microgrid projects are small-scale, Asmus said success might be possible through aggregation, “not an easy task given the lack of knowledge about new smart inverters and other technologies that now enable safe islanding of renewable resources such as solar [photovoltaics] from the larger utility grid.”

The Montecito facilities are scheduled to be owned by a third party that will sell its solar-generated power through a power-purchase agreement, but it will also provide “indefinite renewables” for backup power to the fire district at no cost.

A countywide community choice energy aggregator might help, but Lewis said CCAs “are not exactly easy to form for smaller communities.” The County of Santa Barbara as well as the cities of Santa Barbara, Goleta, and Carpinteria have all been working toward developing a CCA. “They’re not giving up. That effort is ongoing . . . but a lot of this is dictated by economics and politics.

“A CCA doesn’t resolve the issues that SoCal Edison still owns the wires and distribution,” Lewis said.

The goal is to have the fire district microgrid on line by the end of the year, while continuing to work on additional community microgrids that should be on line by 2020. This also includes UC Santa Barbara, the primary emergency sheltering site for Santa Barbara County. —*Linda Dailey Paulson*