

# New Microgrid in Gonzales Promises Major Benefits

By Irwin Speizer



When rolling power blackouts hit California's Salinas Valley in the future, they should roll right past the energy-dependent packing houses that anchor the industrial parks in the city of Gonzales.

Gonzales will soon become one of a scant few communities in California to have an operational microgrid – a small, autonomous energy grid that can supply power to a limited area. It will also become a pioneer in creating a microgrid that supplies multiple users rather than just one designated customer. Additionally, it will enable the city to independently supply power to its industrial companies (mainly produce processing plants) apart from the regional grid that carries electricity to customers.

Once it starts producing and selling electricity next year, the microgrid promises to provide power to these businesses that is more reliable, cleaner and cheaper than what is currently available. The results of the project are being closely watched by communities nationwide as the microgrid concept gains traction. Rep. Jimmy Panetta, D-Carmel Valley, has recently introduced

legislation in Congress offering tax incentives to expand and deploy microgrids at the local level.

Says Gonzales City Manager René Mendez, "We think the microgrid will not only provide reliable energy at competitive prices to the businesses now in our industrial parks but will help us attract new industrial customers and expand our tax base. The benefits to our overall community are significant."

The microgrid is a joint project between the new Gonzales Electric Authority and Concentric Power, a Salinas-based company that specializes in developing intelligent microgrids for agricultural and industrial clients. Concentric Power will build new facilities in Gonzales to generate the power that the electric authority will distribute. Once operational, the microgrid project will supply 34.5 megawatts of electricity, the equivalent of power to 13,800 homes, and enable energy independence from the regional grid for participating industrial customers. Excess power will be sold back to the grid while at the same time improving power quality issues.

Concentric Power CEO Brian Curtis says what is being built in Gonzales is "a watershed project that we think can be duplicated elsewhere to give communities power resilience that is also clean and cost effective."

The idea of a microgrid offering an alternative to legacy electric utilities sounds simple enough. But layers of regulation and competitive forces have kept multi-customer microgrids on the sidelines. In some cases, individual companies have installed their own power generating facilities or small microgrids. Indeed, Concentric Power built a 2MW cogeneration plant for Taylor Farms in Gonzales that incorporates an intelligent microgrid controller to optimize their pre-existing wind and solar installations.

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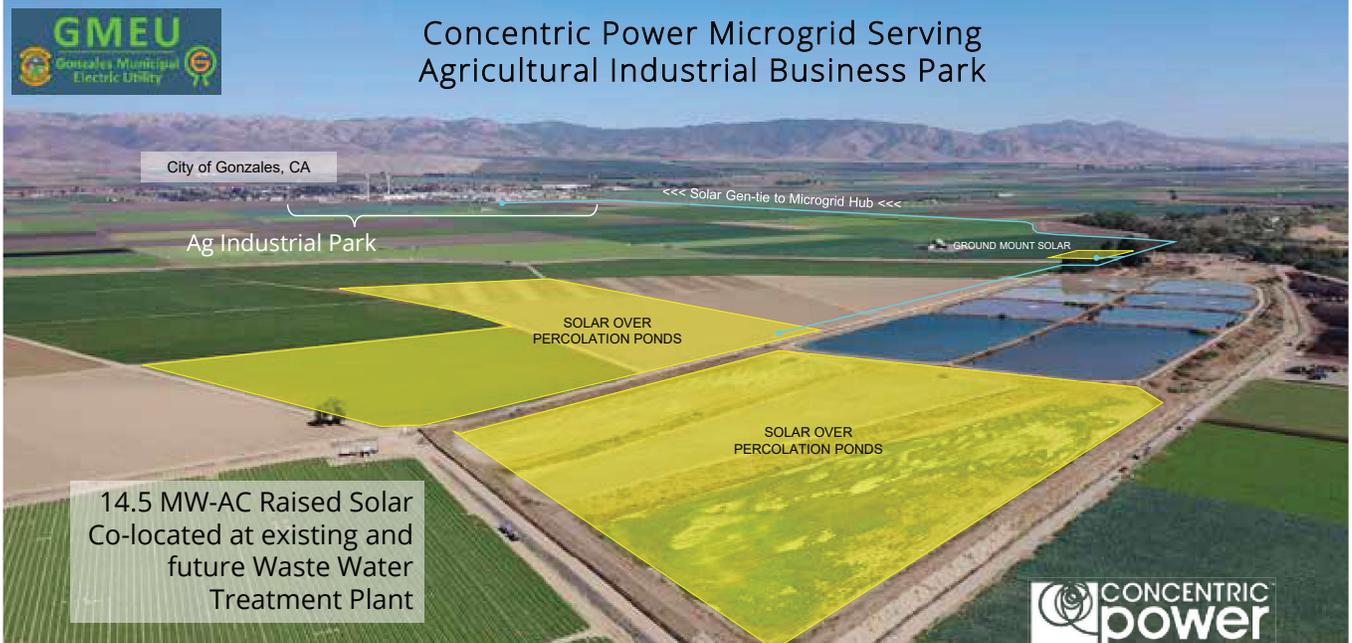
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Creating a microgrid with multiple customers is a much more challenging task. Among the stumbling blocks for communities trying to get into the microgrid game is the significant cost and the question of distribution: who will own the lines and bill customers for power. Solving that question can be a bureaucratic challenge dealing with a complex web of regulation. It can be especially daunting for small communities like Gonzales, a city of about

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9,000 residents. But Gonzales, which has a history of taking on difficult challenges and reaching innovative solutions, found a way, although it took years to get there.

A microgrid wasn't the first choice in Gonzales. The city started out trying to convince PG&E to upgrade infrastructure to

provide more effective and reliable power to the city's industrial parks and enable growth there. When that effort showed little progress after years of trying, the city changed course in 2017, adopting a clean energy strategy and hiring consultants to explore new avenues. The idea that came out

of that effort was to generate clean energy within the city and build a microgrid to distribute it.

Working with its consultants, Gonzales crafted a new governmental entity to make the microgrid possible. The new Gonzales Energy Authority won regulatory approval,

then selected Concentric Power to provide energy services as well as build, own and operate the system.

Solar panels will supply upwards of 80 percent of the microgrid's power. Batteries will store that power for 24-hour use with natural gas engines playing a supporting role and providing high levels of reliability. New distribution lines will carry power to local industrial customers. The price tag for the microgrid project was far beyond anything the city had ever attempted or could afford: \$70 million to build the power generation and storage facilities as well as the distribution lines. So some creative financing was needed.

The final deal has Concentric Power building and owning the power generation system and financing all but \$10 million of the \$70 million total project cost. Concentric Power gets to recoup its upfront costs and earn income over 30 years by selling wholesale power to the Gonzales Energy Authority and in the future connect to and sell excess power back to the regional grid. The authority will own the local distribution

lines and sell electricity at retail to local industrial customers hooked up to the microgrid. The authority will need to borrow the remaining \$10 million to pay for its part of the project. Gonzales figures the authority can pay it off as it begins to sell electricity.

The economics of the project are such that Gonzales believes it can sell electricity to its microgrid industrial customers at lower prices than what they pay when hooked to the existing regional grid. That discount comes despite the fact that basic wholesale electricity rates from Concentric Power are expected to be higher than typical California wholesale rates. But the city figures the authority can sell power at retail for a flat rate that winds up being less than the retail rates industrial customer currently pay. The city also believes the locally-generated and distributed power will be more reliable than what is offered through the regional grid and much greener than what is otherwise available.

If it succeeds in offering clean, reliable power at lower cost, Gonzales expects to enhance its attractiveness to industrial

customers looking to build or expand facilities, particularly companies involved in Salinas Valley agriculture. And industrial growth can not only provide new jobs to residents but can also boost the city's tax base and thus help finance other city activities.

One day the microgrid may be expanded to supply power not just to industrial customers but to residential customers as well. When that happens, Gonzales could effectively become a self-sufficient community whose main connection to the regional grid will be selling power to it rather than buying from it. **ee**



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