



PERSPECTIVES



by Rinaldo S. Brutoco

Rinaldo S. Brutoco is the Founding President and CEO of the Santa Barbara-based World Business Academy and a Co-Founder of JUST Capital. He's a serial entrepreneur, executive, author, radio host, and futurist who's published on the role of business in relation to pressing moral, environmental, and social concerns for over 35 years.

Transmission Woes on the Central Coast

Southern Santa Barbara County is *literally* at the end of the line in terms of the electrical transmission grid. Sixty-six percent of our power is carried through a single pair of high voltage transmission lines owned by Southern California Edison (Edison). They sit in the back of the foothills that ring our county and bring the energy we use between Goleta and Ventura. Since they run on the same easement next to each other in the remote back country, if a tower goes down, we would be without power. As the World Business Academy (the Academy) discovered in 2012 in an obscure filing made by Edison at the California Public Utilities Commission (CPUC), Edison *specifically* warned the transmission lines *would* fail from erosion under the towers from rain or fire. Edison hid this statement again in another unrelated 2014 filing.

According to Edison's report to the CPUC on this issue, when a tower goes down, "all 82,700 metered customers in South Santa Barbara County would lose power until emergency electrical power could be delivered to the area... Without an answer to local reliability needs in South Santa Barbara County, long term outages could occur for several weeks."

Since Edison reported that the lines *would* come down, this is not a theoretical discussion. Based on Edison's warning, City and County officials should have already initiated a full examination of the threatened transmission network crisis and started to develop local resiliency solutions.

The Academy knows the solution to this precarious situation is simple: generate energy locally from renewable resources with a statewide "honeycomb" of interconnected

microgrids to replace the existing grid one substation at a time. Microgrids can be built to rely solely upon renewable resources and economically store that energy in numerous ways. When the rest of the electrical grid goes down from transmission line failure, a microgrid could "island" itself and continue to function. It could also interconnect to other microgrids forming that honeycomb described above. The Academy several years ago provided a detailed map to the CPUC for replacing the entire transmission network with solar cells.

Abandoning the grid's 1,100-mile-long California "backbone" in favor of microgrids is the only feasible solution for Santa Barbara and ultimately the State. About a decade ago, I created a plan called the California Moonshoot to demonstrate that the state could shift to renewables-driven microgrids at no additional cost within ten years by deploying microgrids one substation at a time to avoid any power disruption during the transition.

Santa Barbara has started to install microgrids for critical facilities like schools, fire and police departments, grocery stores, and shelter sites, but hasn't begun to tackle this issue on a countywide basis.

A proposal is now pending to build substantial battery storage at the Glenn Annie substation as an immediate "hedge" against a sudden loss of power for a short period of time. The Academy advocated this step more than three years ago and is delighted to see this first small step taken. We could also build a solar installation on the abandoned land surrounding Glenn Annie. The real solution, however, is to locate a hydrogen fuel cell at each substation



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so that power can be generated indefinitely from renewable hydrogen.

A study published in January 2020 by the American Council for an Energy-Efficient Economy found that the most resilient cities in the world had common energy efficiency measures to combat climate change. The most common measures included encouraging sustainable transportation, benchmarking and auditing buildings, and establishing municipal build and fleet efficiency policies.

The authors of the report concluded that the objectives of energy efficiency and other related measures are “to reduce damage to critical infrastructure, minimize disruptions, and shorten the duration of negative impacts.”

Energy resilience measures increase a community’s capacity to cope with stresses by providing benefits to public health, safety, and quality of life. In the case of Santa Barbara County, building local resiliency is literally a matter of life or death, as we are all too well aware.

In addition to ambitious renewable energy (and climate mitigation goals) in the last year, the county of Santa Barbara, the city of Santa Barbara, and the city of Goleta have passed strategic energy plans, each with key sections focusing on resilience and emergency preparedness.

However, to truly be both sustainable and resilient, our region must demand cooperation from Edison to assist with the widespread deployment of community microgrids rather than restrict them as they currently do. They must be forced, as our *public* utility, to actively support instead of block renewable and resilient plans.