



9th Annual Statewide Energy Efficiency Forum

The Santa Rita Unified School District Story:

Solar-Powered, Carbon-Free Microgrids

Powered Emergency Response Centers (PERCs)



June 20 – 21, 2018

Sacramento, CA

The City of Salinas

The Home of Steinbeck

“The Salad Bowl of the World”



SRUSD at a Glance

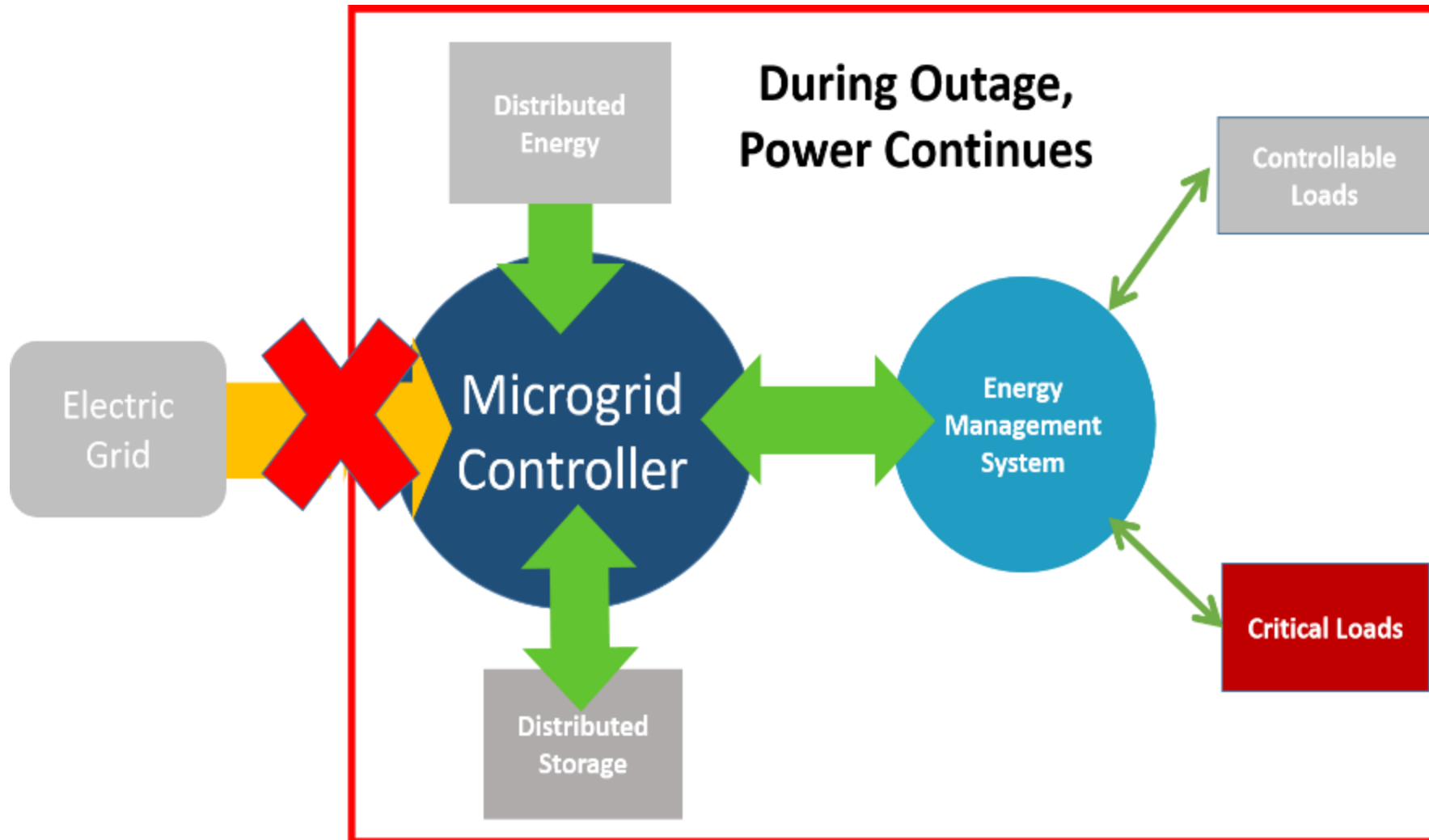
- Six school sites
 - Four elementary
 - Two middle schools
- District Office
- Serving students from Salinas and Monterey County
- Largely Hispanic student body
- Energy Consultant: EcoMotion



Power Outage Protection Program

- SRUSD's goal was for students to “shelter in place” during power outages using new battery technology
- We wanted 7-hour battery storage for all six SRUSD campuses
- EcoMotion's initial analysis showed that the battery solution would cost ~\$5 million; SRUSD had only ~ \$750,000 in Prop 39 funds
- EcoMotion was tasked with finding a cost-effective solution to achieve our goal for Power Outage Protection

EcoMotion's Ultimate Solution: Six, Fully Financed, Carbon-Free Microgrids



The SRUSD Solution

- Solar is installed to cover the entire campus power bill
- Solar savings are used to pay for battery storage
- A PPA is crafted for the microgrid system that is “at parity” with our current PG&E cost
- The project consists of 1.05 MW of solarports, 1,096 kWh of battery storage, microgrid controls to island during power outages
- Prop 39 funds were used for advanced energy management system to control curtailable loads during “rainy day” scenarios

Bolsa Knolls Middle School



Battery to be placed within the concrete walls at the electrical switchgear

Gavilan View Middle School



Battery to be placed within a fenced area at the electrical switchgear

La Joya Elementary School



Battery to be placed in a fenced area with the electrical switchgear

New Republic Elementary School



Battery to be placed in a grassy area with the electrical switchgear

Santa Rita Elementary School



Battery to be placed within a fenced area at the electrical switchgear
5/4/2016

McKinnon Elementary School



Battery to be placed in a fenced area with the electrical switchgear

At the End of the Day...

- Ultimately, Generate Capital funds the project
- Sharp Energy Solutions is hired to serve as “Asset Manager” – bound to performance guarantees for storage
- Woman-owned MBL Energy becomes “Lead Contractor”
- Black and Veatch engineered the system
- Fully permitted with the Division of the State Architect; Interconnection with PG&E
- SRUSD slated to get exactly what it wanted with no money down! Students can now shelter in place



Secondary Project Benefit

PERCs: Powered Emergency Response Centers

- During prolonged outages, the campuses will be powered by solar and storage for community energy resilience
- PERCs will provide:
 - 📞 Cell Phone and EV/Ebus Charging
 - 🏥 Medical and Triage support
 - 🚒 Incident Command Centers
 - 🚚 Emergency Sheltering



Teachable Moments in Monterey!

- Making every student, teacher, and staff member fully aware of the carbon-free microgrids and the islanding benefit!
- “Battery-mode drills” planned for each campus
- Student curricula being developed for each grade level
- Awareness program being developed for parents and the community
 - Linking in electric transportation



PERCs and Disaster Preparedness

- SRUSD working with City of Salinas and Monterey County officials
 - City and County officials
 - Fire Departments
 - Police Departments
- SRUSD working with American Red Cross
 - Protocols for prolonged outages
 - Turning over campuses to Red Cross





Santa Rita
Union School District

Thank You for Your Attention!

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