Joint Comments of The Climate Center, Vote Solar, Sierra Club California and California Alliance for Community Energy

Submitted to OPR
In response to the
Draft Climate Adaptation Plan
November 17, 2021

Kurt Johnson
The Climate Center
Telephone: 970-729-5051
E-mail: kurt@theclimatecenter.org

Ed Smeloff
Vote Solar
Telephone: 707-677-2107
E-mail: ed@votesolar.org

Lauren Cullum
Sierra Club California
Telephone: 916-557-1107
Email: lauren.cullum@sierraclub.org

Al Weinrub
California Alliance for Community Energy
Telephone: 510-912-3549
Email: al.weinrum@comcast.net

Summary

The current draft California Climate Adaptation Strategy fails to mention a key climate change impact: power outages, which have increased in frequency because of increased wildfire risk due to the climate crisis. Power outages endanger vulnerable energy-dependent people and have cost Californians billions of dollars. Energy resilience is a key adaptation strategy, yet it is currently missing from the draft plan.

Responses to enhance energy resilience have favored rapid procurement of diesel-fueled back-up generators. These fossil back-up generators -- installed by homeowners, businesses, local governments, state agencies and utilities -- undermine California's greenhouse gas reduction and clean energy goals while imposing toxic emissions on local residents.

California climate adaptation planning and implementation funding should recognize and encourage the urgent need to deploy clean local energy resources that can provide electricity for essential functions when the grid is out of service, and should prioritize frontline communities and vulnerable households. Poor communities, already disproportionately exposed to air pollution, should not have to choose between the toxic emissions of diesel-powered generators and loss of power for essential functions. This crucial element of climate adaptation can leverage dramatic recent cost reductions for distributed clean energy, and build upon lessons learned from relevant state programs overseen by the California Energy Commission and the California Public Utilities Commission.

In the coming years other climate-related events in addition to wildfires, such as extreme storms and flooding, will likely cause power system outages. We urge the Natural Resources Agency and the Office of Planning and Research to add a section to the Climate Adaptation Strategy focused on the risks of climate-related power outages and offering specific strategies for mitigating their harm to California residents without relying on fossil-fuel solutions that produce toxic and environmentally harmful side effects.

Introduction

Power outages are a problem, costing California billions of dollars.

Because of climate change, wildfire risk has increased, leading to a dramatic recent increase in power outages. The CPUC reviewed Public Safety Power Shutoff events in 2019 and found that PG&E customers experienced power outages ranging from 14 to 55 hours, affecting nearly 2 million customers. Academics have estimated costs to California of billions of dollars.

The default energy resilience strategy is diesel.

Back-up diesel generators, one of the most polluting sources of electricity, are currently the default solution to maintain resilience across all customer classes in California. According to a recent study by M.Cubed, back-up generators -- 90% of which burn dirty diesel fuels -- have jumped in popularity, with the Bay Area seeing a 34% increase over the last 3 years. The generator fleets also grew significantly in southern California, with a 22% increase in cities and counties located within the South Coast Air Quality Management District. Pollutants from these generators harm disadvantaged communities with enormous health impacts. The M. Cubed study estimates that health costs attached to this increase in emissions in the Bay Area and South Coast are $31.8 and $103.9 million respectively every year. This increase in diesel generation has been funded by state government. Recent CalOES grants to local governments to enhance resilience ($125M over two fiscal years) primarily support procurement of new diesel generation.

There is a better strategy to enhance energy resilience: distributed clean energy.

As noted in a Vote Solar report, on-site solar plus storage is more cost effective than fossil fuel back-up generators when factoring in lifecycle cost, and can provide revenue and load shifting benefits on a daily basis, unlike diesel generators which only provide sporadic value during grid outages.

Recommendations

The California Climate Adaptation Plan should fund local governments in developing clean-energy-based community energy resilience plans.

California should create a new technical assistance and grant program to enable local governments to develop community energy resilience plans. Local governments are uniquely responsible for resilience. Under the federal Disaster Mitigation Act of 2000 (along with state legislation), local

governments have primary responsibility for fostering resilient communities, obligations that overlap with reliability-related energy services provided by load-serving entities. A few large local governments have capacity to address energy resilience, such as Los Angeles County. Most local governments, however, have little capacity and need state support.

Local governments, which have jurisdiction over local infrastructure, should determine how and where to site local energy resilience infrastructure in coordination with the local distribution utility, rather than having crucial local electrical resource investment decisions made solely by a utility disconnected from local priorities and needs. Investor-owned utilities have been seeking to enhance resilience through mechanisms available to them, including grid segmenting to reduce the number of locations and customers subject to PSPS events. Utilities, however, do not typically invest in community-level clean energy resilience resources like microgrids because they typically do not control local public facilities, e.g., roofs and parking lots of municipal facilities.

Installation of distributed energy resources (DERs) usually requires local permitting approval, including the siting of clean energy generation, storage, and EV charging infrastructure. Local governments, particularly in lower income communities, currently lack the staff capacity and funding needed for energy resilience planning. Absent state policy leadership and funding support, the wealthiest individuals, businesses and communities will achieve clean energy resilience, leaving poor communities with more exposure to diesel pollution or without electricity.

Community adaptation planning could link energy resilience goals with other public policy goals, including electric vehicle acceleration goals.

By addressing resilience needs using an integrated and collaborative approach, California can accelerate its progress on meeting transportation electrification, clean energy and emissions reduction goals. For example, increased market penetration by electric vehicles can provide a critical back-up power source for homes, businesses and local governments, if coordinated as part of an integrated plan. These mobile batteries represent assets already paid for by public and private entities and could be marshalled to support community resilience. They can be rolled into microgrids that can keep operating when the larger grid goes down. Those same batteries can be orchestrated by intelligent software to form virtual pools of resources that can also help fill in gaps in supply in wholesale markets, as occurred during power

outages of August of 2020. One recent study estimated the magnitude of CA's existing EV fleet at 40 GW, growing to 100 GW by 2025, a massive resource which is currently largely untapped to enhance grid resilience.

New state adaptation efforts focused on community energy resilience can build on related existing state programs.

New state funding should build upon and integrate previous related CEC and CPUC programs. A CPUC Decision issued in June of 2020 required investor-owned utilities to share information with and engage local governments in energy resilience planning, but the decision did not allocate resources to local governments to enable completion of energy resilience planning.

The CEC's Advanced Energy Communities program has been funding development of clean energy microgrids in low-income communities, including the Blue Lake Rancheria project, which is credited with helping to save lives of medically-dependent people during the 2019 power shutoffs. There are also related CEC transportation electrification programs.

Recent CPUC Decisions and a CEC Report have recognized that providing support for local governments is a critical prerequisite for achieving community energy resilience.

As noted above, in its June 2020 Decision issued in the microgrid proceeding pursuant to SB 1339, the CPUC directed investor-owned utilities to collaborate with local jurisdictions to support community resilience efforts and pre-PSPS event planning. In its January 2021 decision in the same proceeding, the CPUC allocated $200M to create a new microgrid incentive program to support development of microgrids in vulnerable communities. What is still missing from this process is the acknowledgement that local governments are currently ill-equipped in terms of staff capacity and technical knowledge to integrate energy resilience into local planning. The CEC's February 2021 "Public Safety Power Shutoff Workstream Report" noted as follows: "Creating standardized pathways for community energy and microgrid projects will enable more projects to be successful" and "Communities should design community-focused energy projects that address their core objectives and recognize their unique needs." This type of community planning will typically not occur absent new state support, particularly for local governments in California's most vulnerable communities.

Current state adaptation efforts do not account for the magnitude of the currently unmet need for local energy resilience.

Community energy resilience is related to multiple proceedings currently underway before the CPUC, including resource adequacy, the emergency reliability proceeding as well as the microgrid proceeding. However, none of these activities address the fact that most local governments, particularly those serving vulnerable communities, are currently ill-equipped to complete the project pre-development planning necessary to apply for funds expected to be made available. The commercialization of microgrids has been exceedingly slow. According to data available through the DOE database of microgrids, California currently has fewer than 100 microgrids. Among California's tens of thousands of critical facilities, most are currently served by diesel back-up or have no back-up generation.

The California Climate Adaptation Plan should explicitly support accelerated development of distributed energy resources and microgrids because energy resilience can only be achieved by locating generation and storage resources near end-use locations.

The reliable electric service Californians need to be prepared for extreme and unexpected climate disruptions cannot be achieved without deploying microgrids on critical facilities, including community shelters and resilience hubs, in all communities throughout the state. Depending entirely on the grid for resilient electric service in the coming years could prove fatal for customers and communities that do not have dependable alternatives. The varieties of severe climate-related disruptions in recent years -- most recently the extreme freeze that was fatal for many people in Texas -- clearly signal that people should not be entirely dependent on the grid for electricity service.

New state adaptation efforts should prioritize energy resilience funding for vulnerable communities that suffer the most from air pollution and power outages.

Power shutoffs disproportionately impact vulnerable communities since low-income households have fewer back-up resources in the event of an outage and are less able to absorb financial losses. Loss of electricity exacerbates and amplifies existing inequities, such as homelessness, substandard housing, and inadequate access to healthcare. A study from the National Bureau of Economic Research found that had a nationwide moratorium on electricity and water shutoffs been implemented during COVID-19, such a moratorium would have prevented 14.8% of COVID-related deaths. Disadvantaged communities are already disproportionately impacted by

health burdens of fossil fuel electricity generation, while having the least resources to respond to a loss of power.

As noted by the CPUC in its Microgrids and Resiliency Staff Concept Paper, "recent Public Safety Power Shutoff events have demonstrated that as a percentage of income lost due to economic disruption, low-income and disadvantaged communities are more highly impacted by disruptive energy events." As an example, a refrigerator full of food for a family of four, costing $500 represents a higher percentage of a low-income family's monthly income than a high-income family's monthly income."

Businesses closed during an extended outage can result in lost wages for employees and as shown during the current pandemic, school closures can leave families scrambling to find childcare with lost wages should parents be forced to stay home with their children. Medical care, including access to prescription drugs, can also be compromised. Transportation is compromised when public transport hubs or gas stations don't function for lack of power. Disadvantaged communities with high rates of respiratory problems are also especially vulnerable to adverse health impacts from high emissions when fossil-fuel backup generators are widely used during power outages.

Conclusion

Local governments need additional technical and financial resources in order to tackle adaptation strategies, including energy resilience. The draft California Climate Adaptation Plan fails to account for the electric grid reliability risks that worsening climate volatility has created. Every community should have provisions for resilient electric service that is not grid dependent.

Absent significant state leadership and investment in community energy resilience planning and implementation, public investment in energy resilience will likely continue to focus on new fossil fuel power generation – a short-sighted outcome which endangers public health and safety, particularly for the most vulnerable. State policy needs to harness dramatic technology advances in clean, scalable, cost-effective DER so that the DER deployment revolution leads to outcomes which are consistent with California's equity, decarbonization, air quality and energy resilience goals.

Without a statewide adaptation plan that enables all local governments to plan and implement clean energy resilience, many communities will be left without reliable energy, exacerbating energy and environmental inequities.

We respectfully urge the Natural Resources Agency and the Office of Planning and Research to add a section to the Climate Adaptation Strategy focused on the risks of climate-related power outages and offering specific strategies for mitigating their harm to California residents without relying on fossil-fuel solutions that produce toxic and environmentally harmful side effects.