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# Sierra Club Comments on the CEC Workshop on Incremental Efficiency Improvements to the Natural Gas Fleet

*Additional submitted attachment is included below.*

December 16, 2020

*Via online submission*

California Energy Commission
Dockets Office
1516 Ninth Street
Sacramento, CA 95814-5512

**Re: Sierra Club Comments on the CEC Workshop on Incremental Efficiency Improvements to the Natural Gas Fleet for Electric System Reliability and Resiliency**

The rolling outages of August 2020 were unacceptable and cannot be repeated. There are multiple, immediate steps that the California Energy Commission ("CEC"), California Public Utilities Commission ("CPUC"), and the CAISO must each take to prevent future outages due to extreme weather events as early as 2021. None of those immediate steps include incremental improvements to the gas fleet.

Incremental gas capacity would only further entrench fossil fuel infrastructure that has contributed to the exact climate-induced weather events that we are trying to address. New gas procurement would further damage the climate and public health, frustrate the state's progress towards its climate and environmental justice mandates, and risk shackling ratepayers with stranded investments. The Commission must move forward by fixing market rules on exports during emergencies and mandating investments in demand-side and clean energy resources. Now is the time to move forward towards clean energy, not backwards towards the fossil fuels that brought us to this crisis in the first place.

## I. The Commission cannot in good conscience support new investment in the gas industry rather than prioritizing demand-side resources and cleaner supply-side alternatives.

The stated purpose of this proceeding is to "explore potential technology options for increasing the efficiency and flexibility of the existing natural gas powerplant fleet to help meet near-term electric system reliability and the longer-term transition to renewable and zero-carbon

resources."[1] The technology certainly exists to increase capacity and efficiency of California's gas fleet. However, multiple better options exist to meet near-term reliability needs, and the Commission should be under no illusion that incremental gas capacity would somehow advance the state's longer-term climate and equity goals.

Gas infrastructure—from extraction to combustion—emits enormous amounts of greenhouse gases. Gas resources rely on extraction and delivery systems with intense environmental and local health impacts, including well-documented leakage emissions of methane gas with a warming potential 20x that of carbon emissions. Average national leakage rates for methane from conventional gas extraction is estimated to be 3.3%, and average national leakage rates for methane from shale or fracked extraction is estimated to be 3.9%.[2] Abundant natural gas can slow the process of decarbonizing the electric grid by delaying deployment of renewable energy.[3] California has strong climate policies, but those policies have little impact if this Commission does not implement them consistently and tenaciously. New fossil fuel investment has no place in either the near-term or long-term.

In planning for the next summer, the Commission needs to advance solutions that align with the state's long-term goals, and there are many such alternatives. The available options to address this include recommendations found in the Preliminary Root Cause Analysis as well as brisk but robust discussion in the CPUC proceeding on emergency reliability. Simultaneous to this CEC proceeding, the California Public Utilities Commission is steering Rulemaking 20-11-003, a proceeding on policies, processes, and rules to prevent future outages due to extreme weather events.[4] There, the CPUC and stakeholders are thinking far more broadly about the available options to prevent future heat-induced outages. For example, the CPUC has proposed multiple worthwhile demand-side measures, including efforts to increase participation in Flex Alerts, the Critical Peak Pricing Programs, and other existing demand response programs in addition to new Emergency Load Reduction Programs ("ELRP"). Multiple utilities have already developed proposals for how to implement an ELRP.[5] All of the above solutions are higher in the Loading Order set out in the California Energy Action Plan and should be prioritized here.

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[1] Notice of Lead Commissioner Workshop on Incremental Efficiency Improvements to The Natural Gas Powerplant Fleet for Electric System Reliability and Resiliency, Docket No. 20-SIT-01 (Nov. 18, 2020), *available at* https://www.energy.ca.gov/event/workshop/2020-12/morning-session-technology-improvements-and-process-modifications-lead**.**

[2] *See* Robert W. Howarth et al., *Methane and the greenhouse-gas footprint of natural gas from shale formations*, at 683 (2011), *available at* https://link.springer.com/content/pdf/10.1007%2Fs10584-011-0061-5.pdf; Andrew Burnham et al., *Life-Cycle Greenhouse Gas Emissions of Shale Gas, Natural Gas, Coal, and Petroleum* (2011), *available at* https://pubs.acs.org/doi/pdf/10.1021/es201942m.

[3] Christine Shearer et al., *The effect of natural gas supply on US renewable energy and CO2 emissions*, Environmental Research Letters, Vol. 9, Number 9 (2014) at 6, *available at* https://iopscience.iop.org/article/10.1088/1748-9326/9/9/094008/pdf.

[4] *Order Instituting Rulemaking to Establish Policies, Processes, and Rules to Ensure Reliable Electric Service in California in the Event of an Extreme Weather Event in 2021*, Proceeding No. R.20-11-003 (Cal.P.U.C. Opened Nov. 19, 2020) [hereinafter "R.20-11-003"].

[5] R.20-11-003, SCE Comments at 4 (Nov. 30, 2020); R.20-11-003, PG&E Comments at 7 (Nov. 30, 2020); R.20-11-003, SDG&E Comments at 12 (Nov. 30, 2020).

In the same proceeding, the CPUC also raised the idea of procuring incremental gas capacity.[6] Many stakeholders responded with direct and clear opposition, noting that additional gas capacity would directly contradict the CPUC's long-term planning in the Integrated Resources Planning proceeding,[7] compound environmental injustices,[8] and would fail to address the primary cause of the supply shortfall—an export of 3,50 MW of capacity during the August 14 and 15 emergencies.[9] Multiple parties, including Sierra Club, strongly recommended that the CPUC prioritize other efforts to support near-term reliability instead of or before looking to incremental gas capacity.

## II. Incremental Gas Capacity is at odds with the state's clean energy mandates.

State officials and stakeholders have spent thousands of hours at the CEC and CPUC figuring out how many gigawatts of new renewable and storage resources we need to hit our climate targets and alleviate pollution burdens for disadvantaged communities. None of the plans made to date include increasing gas capacity. There have been SB 350 proceedings, SB 100 workshops, and years of resource planning leading up to plans to deploy gigawatts of new renewable energy and storage resources to get the state to hit its climate goals. In the most recent Integrated Resource Planning ("IRP") cycle, neither the Reference System Plan and Preferred System Plans included any new gas capacity by 2030, and no utility or CCA that filed a plan included new gas capacity in their long term planning.[10] A number of CCAs told the Commission that they would be planning for procurement in line with a lower, more ambitious greenhouse gas target.[11] This makes it seem likely that there will be even less demand for energy from gas plants than the CPUC is currently anticipating. Incremental gas capacity investments are completely misaligned with the State's long-term planning in the IRP as well as SB 100 and would only frustrate the Commission's own work on these matters.

Furthermore, incremental gas capacity risks the creation of stranded assets. Many of the state's gas plants have capacity factors below 5% and can be used only rarely in order to avoid violating their air permits. If the Commission authorizes this capacity, it is very likely that the plants will run infrequently and even less frequently over time. Yet, ratepayers would need to fund the entire capital and maintenance costs for the plants. Because there is no established role for the incremental capacity in California's long-term needs, it is highly likely that these investments will be expensive, stranded, or both.

Last, the Commission should not authorize incremental capacity from fossil-fired resources that would require an update to the facility's air permit. These resources are unlikely to receive

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[6] R.20-11-003, *Order Instituting Rulemaking Emergency Reliability*, at 13 R.20-11-003, *available at* https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M351/K809/351809897.PDF.
[7] R.20-11-003, Cal Advocates Opening Comments at 6 (Nov. 30, 2020).
[8] R.20-11-003, Reply Comments of CEJA, Sierra Club, Union of Concerned Scientists, and Grid Alternatives at 1 (Dec. 10, 2020).
[9] R.20-11-003, The Utility Reform Network Opening Comments at 4-5 (Nov. 30, 2020).
[10] *See Order Instituting Rulemaking to Continue Electric Integrated Resource Planning and Related Procurement* Processes, Proceeding No. R.20-05-003 CEJA-Sierra Club Comments on LSE Integrated Resource Plans at 16-17 (Oct. 23, 2020) (listing which LSEs stated a preference for the more ambitious 38 MMT greenhouse gas planning target over the Commission's mandated 46 MMT target).
[11] *Id.*

approval from the relevant Air Quality Management Districts in time for the capacity to be available by Summer 2021. Increased capacity from a fossil-fired power plant corresponds to an increased potential to emit, requiring the facility owner to obtain an updated permit under federal and state law. The required permit process takes months and includes set windows of opportunity for comments and petitions from stakeholders. If the incremental capacity measures meet opposition from communities or organizations, the timeline for a new permit would likely extend beyond the Commission's deadline for availability.

## III. Incremental Gas Capacity would exacerbate the state's environmental injustices on Disadvantaged Communities.

Air pollution from gas plants is poisoning California's air and our communities. Approximately half of the state's gas plants are located in disadvantaged communities.[12]

Even assuming all that new renewable energy and storage investment, the state's plan for 2030 falls short of meeting state requirements for reducing air pollution in disadvantaged communities. SB 350 requires that we minimize air emissions, with a priority for disadvantaged communities,[13] and yet the 2030 electric sector target adopted by the CPUC for the CAISO system (46 MMT GHG) is expected to increase emissions in the South Coast and San Joaquin air basins—two of the most polluted areas in the country.[14] With all the current procurement plans falling short on state mandates to reduce pollution in disadvantaged communities, there is even less reason to generate new investments in California's gas plants, particularly those located in disadvantaged communities.

Last, Californians have been affected by multiple years of wildfires, air quality crises, and special to 2020, rolling blackouts, and the coronavirus—but the particular impacts to disadvantaged communities over the past year have been extreme. Disadvantaged communities already bear disproportionate pollution burdens, and the COVID-19 pandemic has highlighted how air pollution exacerbates health risks. Disadvantaged communities have faced coronavirus at rates far exceeding Whiter, more affluent, communities. COVID-19 risks increase significantly with increased exposure to air pollution. In particular, Harvard's School of Public Health found that a small increase in long-term exposure to particulate matter was associated with a 15 percent increase in the COVID-19 death rate.[15] Another analysis found that nearly 80% of the deaths in Italy, Spain, France, and Germany occurred in the five regions most polluted by nitrogen

[12] PSE Healthy Energy, *California Peaker Power Plants: Energy Storage Replacement Opportunities*, at 1 (May 2020) *available at* https://www.psehealthyenergy.org/wp-content/uploads/2020/05/California.pdf.
[13] Cal. Pub. Util. Code § 399.13(8)(A) ("In soliciting and procuring . . . renewable energy . . . , [LSEs] shall give preference to . . . projects that provide environmental and economic benefits to communities afflicted with poverty or high unemployment, or that suffer from high emission levels of toxic air contaminants, criteria air pollutants, and greenhouse gases.").
[14] R.16-02-007, Updated Criteria Pollutant Analysis, at 9, 13 (Feb. 20, 2020), *available at*: https://www.cpuc.ca.gov/General.aspx?id=6442459770.
[15] *See* Xiao Wu et al., *Air pollution and COVID-19 mortality in the United States: Strengths and limitations of an ecological regression analysis*, Science Advances, Vol. 6, No. 45 (Nov. 4, 2020), *available at* https://advances.sciencemag.org/content/6/45/eabd4049.

dioxide.[16] The health impacts of air pollution are very real for Californians, and the Commission should be investigating how to decrease emissions from gas plants rather than investing in projects to enable them to run more frequently.

The state needs more clean energy to hit its climate and equity targets, and the Commission should only be considering investments that are consistent with those targets. New investments in gas plant capacity runs contrary to those goals. These resources will hinder us from reaching our climate goals, exacerbate existing environmental injustices, and risk stranding costs with ratepayers. Any investment in the gas fleet will undercut the value of other preferred resource investments by displacing the need for capacity that is already slated for development between now and 2030.

In its review of these proposals, Sierra Club urges the Commission to consider both the short-term and long-term alternatives before approving investments that could further entrench gas plants in our communities at the expense of ratepayers, public health, and the gigawatts of new renewables and storage that California is already planning to make. The Commission would do better to accelerate the deployment of those alternative, preferred resources instead.

## IV. Incremental Capacity of any type will do little to prevent future outages unless the State ensures that California does not export electricity during system emergencies.

The Preliminary Root Cause Analysis ("PRCA") shows that CAISO market rules allowed over 3,500 MW of exports during the system emergencies.[17] CAISO—in coordination with the Energy Commission and the CPUC—should first address the problems in the day-ahead market: (1) under-scheduling of demand by Scheduling Coordinators; (2) the convergence bidding process; and (3) failure to perform a reliability check in the Residential Unit Commitment process (continuously exporting power during the time leading up to the blackouts).[18] It is a much more feasible, cost-effective, and reliable measure to change market practices than to expect physical resources to come online by summer 2021. Furthermore, if the day ahead market practices are not corrected before summer 2021, those failures will undermine the effectiveness of any new resources that come online. In the PRCA, CAISO has already committed to engaging the Commission in a stakeholder process. The Commission should monitor and support the CAISO in its efforts to resolve the export issue.

## V. Conclusion

Thank you for considering these comments. Sierra Club looks forward to continuing to work with the Energy Commission to ensure that California meets its near-term and long-term reliability, climate, and equity needs.

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[16] *See* Yaron Ogen, *Assessing nitrogen dioxide (NO2) levels as a contributing factor to coronavirus (COVID-19) fatality*, Science of The Total Environment, Volume 726, 138605 (July 15, 2020), *available at* http://www.sciencedirect.com/science/article/pii/S0048969720321215.

[17] CAISO, CEC, and CPUC, *Preliminary Root Cause Analysis: Mid-August 2020 Heat Storm* at 84-90, 100 (Oct. 6, 2020) *available at* http://www.caiso.com/Documents/Preliminary-Root-Cause-Analysis-Rotating-Outages-August-2020.pdf.

[18] *Id.* at 56-58, 97-106

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Respectfully submitted,

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