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**Sierra Club Comments on Draft 2018 Integrated Energy Policy Report
Update, Volume II**

Additional submitted attachment is included below.



November 2, 2018

Via online submission

California Energy Commission
Dockets Office, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

**Re: Sierra Club Comments on Draft 2018 Integrated Energy Policy Report Update,
Volume II**

Dear Commissioners:

The Sierra Club, on behalf of our 168,000 California members, appreciates the opportunity to comment on the California Energy Commission's ("CEC") Draft 2018 Integrated Energy Policy Report Update ("IEPR Update").

The IEPR Update comes just after the Intergovernmental Panel on Climate Change ("IPCC") has released its most dire climate assessment to date. The IPCC climate assessment identifies far more immediate and severe consequences of climate change than previously estimated, and concludes that limiting climate change impacts will "require a rapid escalation in the scale and pace of" the transition to a decarbonized economy "for which there is no historical precedent."¹ Limiting warming to 1.5 degrees Celsius will require a reduction in greenhouse gas emissions to 45% below 2010 levels by 2030, outpacing California's current ambitious targets.

In this context, the IEPR Update has an important role to play in strengthening our collective resolve here in California to continue innovating and continue taking bold action to prevent the worst impacts of climate change. The IEPR Update should endorse all the changes that are necessary, even where the required transformation is overwhelming, or the needed policies attract stark opposition from fossil fuel industry interests.

Sierra Club unreservedly supports the IEPR Update's conclusion that building electrification is a "key strategy" to reduce and eventually eliminate greenhouse gas emissions from buildings, and is the "next innovation" in California's decarbonization trajectory.² In order to facilitate this transformation, we recommend a more comprehensive discussion of the benefits

¹ United Nations, IPCC, Global Warming of 1.5°C, SR1.5°CFAQs (Oct. 8, 2018), FAQ 4.1, http://report.ipcc.ch/sr15/pdf/sr15_faq.pdf.

² California Energy Commission, *Draft 2018 Integrated Energy Policy Report Update*, Vol. II, p. 7 (October 2018) ("IEPR Update").

of building electrification, as well as a more specific iteration of the policy changes necessary to overcome the challenges. As the state transitions to clean sources of energy, it is important to ensure all Californians benefit. To this end, Sierra Club additionally appreciates the IEPR Update's attention to how barriers to clean energy access in low-income communities can be addressed. In order to improve this section of the IEPR, we recommend adding separate discussions of barriers impacting all low-income customers –not just those in multi-family housing – and addressing barriers affecting rural communities.

DISCUSSION

1. Sierra Club strongly supports the IEPR Update's focus on building electrification as a key strategy to decarbonize buildings.

As the IEPR Update recognizes, reducing greenhouse gas emissions from buildings will be essential to meeting state climate goals, and building electrification should be the primary strategy to do so. All independent studies Sierra Club is aware of on pathways to reach California's greenhouse gas reduction targets conclude that widespread electrification of end uses of energy that currently use fossil fuels, including building electrification, will be required.³ The IEPR Update is correct to state that there is "growing consensus that building electrification is the most viable and predictable path to zero-emission buildings."⁴

This transition must begin immediately. Because of the long life of the built environment, the IEPR Update correctly notes that the state must stop locking in investment in fossil fuel infrastructure that will persist for 50 to 100 years – long after the state will have transitioned to 100% carbon-free sources of electricity, and long after the deadline for achieving carbon neutrality across California's economy.⁵ Sierra Club therefore strongly supports the IEPR Update's statement that "[i]t is essential that when constructing new buildings, retrofitting existing buildings, or replacing appliances and equipment that zero-emission technologies, designs, and measures be readily available and easy to implement."⁶

The IEPR Update will help facilitate this transition by identifying the benefits of electrification as well as the challenges that need to be addressed by directed policy changes. To this end, we have two suggestions for how to make the IEPR more impactful:

³ See, e.g., California Energy Commission, Energy and Environmental Economics, *Deep Decarbonization in a High Renewables Future*, p. 58 (June 2018), https://www.ethree.com/wp-content/uploads/2018/06/Deep_Decarbonization_in_a_High_Renewables_Future_CEC-500-2018-012-1.pdf. (finding a high electrification scenario offers the most promising path to achieving needed carbon reductions in the least costly manner); Max Wei *et al.*, *Scenarios for Meeting California's 2050 Climate Goals*, University of California, Berkeley and Lawrence Berkeley National Laboratory (Sept. 2013), <http://www.energy.ca.gov/2014publications/CEC-500-2014-108/CEC-500-2014-108.pdf> (finding electrification of buildings is an essential component of meeting 2050 climate goals).

⁴ IEPR Update, p. 18.

⁵ Executive Order B-55-18 (Sept. 10, 2018), <https://www.gov.ca.gov/wp-content/uploads/2018/09/9.10.18-Executive-Order.pdf>; Senate Bill 100.

⁶ IEPR Update, p. 16.

a) ***The IEPR Update should include a more comprehensive discussion of the benefits of building electrification.***

A comprehensive accounting of the benefits of building electrification will help policy makers rebut resistance to this policy pathway by entrenched fossil fuel interests. The document already discusses some benefits, such as electric appliances' higher efficiency compared to gas appliances, and the possibility for electrification to facilitate better grid management.⁷ The IEPR Update mentions additional benefits of building electrification elsewhere in the document, but for clarity, all benefits should be included in the "Benefits of Building Electrification" section, including:

- **Improved indoor air quality.** Upon combustion, all types of methane, regardless of origin, emit the same criteria pollutants, including nitrogen dioxide, carbon monoxide, nitric oxide, formaldehyde, acetaldehyde, and ultrafine particles, all of which are harmful to human health.⁸ Gas combustion pollutants can cause minor respiratory irritation as well as more serious conditions; the California Air Resources Board warns that "cooking emissions, especially from gas stoves, have been associated with increased respiratory disease."⁹ The IEPR Update recognizes the negative health impacts of fossil combustion indirectly, when discussing the additional ventilation requirements needed in gas-fired buildings to "minimize the indoor air pollutants caused by incomplete combustion."¹⁰ We recommend the Benefits section also acknowledge the air quality and attendant health benefits of eliminating indoor gas combustion – of both fossil gas and biomethane – through electrification.
- **Avoided greenhouse gases from methane leakage.** When methane leaks from pipelines or within homes, it has the same global warming impact – 28 to 86 times that of carbon dioxide – regardless of whether it is fossil gas, biomethane, or synthetic gas. The problem of pervasive methane leakage from the gas system has been gaining attention: a recent report for the Commission estimated that in 2015, over 6

⁷ IEPR Update, p. 22. Sierra Club also appreciates that the IEPR Update correctly recognizes the efficiency of heat pumps, acknowledging that they consume 3-5 times less energy than conventional heaters. IEPR Update, p. 18. As discussed in more detail in our August 24, 2018 comments in the Building Decarbonization track of this proceeding, many industry-sponsored studies assume heat pump efficiencies far below current industry standards – so the recognition of this fact in the IEPR is very helpful. See 18-IEPR-09, *Sierra Club Comments on SoCalGas and Navigant Report*, TN 224588 (Aug. 24, 2018).

⁸ See, e.g., Jennifer Logue et al., "Pollutant Exposures from Natural Gas Cooking Burners: A Simulation-Based Assessment for Southern California" *Environmental Health Perspectives* Vol. 122 No. 1 at pp. 43-50, (2013); Victoria Klug and Brett Singer, "Cooking Appliance Use in California Homes—Data Collected from a Web-based Survey." Lawrence Berkeley National Laboratory (August 2011); John Manuel, "A Healthy Home Environment?" *Environmental Health Perspectives*, Vol. 107, No. 7 1999, pp. 352–357; Nasim Mullen et al. "Impact of Natural Gas Appliances on Pollutant Levels in California Homes" Lawrence Berkeley National Laboratory, 2012.

⁹ California Air Resources Board, "Combustion Pollutants" (reviewed Jan. 19, 2017), <https://www.arb.ca.gov/research/indoor/combustion.htm>.

¹⁰ IEPR Update, p. 18.

billion cubic feet of methane leaked from “ungraded” or small leaks in California’s gas system – more than from the entire Aliso Canyon leak.¹¹ Electrifying buildings prevents methane leakage. The IEPR acknowledges in a subsequent section that “concerns about methane leakage remain regardless of whether the gas is renewable or fossil.”¹² This benefit of building electrification should be explicitly called out in the “Benefits of Building Electrification” section.

- **Improved public safety.** Reducing methane transport in pipelines also improves public safety, particularly because of the fire hazards that result from fugitive methane. Methane leakage can be particularly hazardous in earthquake and fire-prone areas: The California Seismic Safety Commission identified that “[t]he number of post-earthquake fire ignitions related to natural gas can be expected to be 20% to 50% of the total post-earthquake fire ignitions.”¹³ Given the many fault zones in California and the current severe drought conditions exacerbating the severity of wildfires, reducing the risk of fire through building electrification is a major benefit.
- **Utility bill savings for customers.** The IEPR Update includes a brief discussion on cost savings to the consumer from electrification due to electric appliances higher efficiency.¹⁴ Another dynamic creating cost savings from electrification is the rising cost of gas service: For example, in its ongoing General Rate Case, SoCalGas has requested a 45% increase in its overall revenue requirement by 2022.¹⁵ As noted elsewhere in the IEPR, large investments in gas infrastructure to address safety concerns have additionally driven up natural gas transmission rates. The California Public Utilities Commission recently approved over \$300 million in investments, across all the investor-owned utilities, for natural gas leak abatement.¹⁶ We encourage the IEPR Update to acknowledge that rising gas costs will increase the potential cost savings for electric appliances.

¹¹ R.15-01-008, California Air Resources Board (ARB) and Public Utilities Commission Joint Staff Report, *Analysis of the Utilities’ June 17, 2016 Methane Leak and Emissions Reports Required by SB 1371* p. 3. (Jan. 2017), Available at <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M172/K518/172518969.PDF>.

¹² IEPR Update, p. 27.

¹³ California Seismic Safety Commission, *Improving Natural Gas Safety in Earthquakes*, p. 1 (Adopted July 11, 2002), http://ssc.ca.gov/forms_pubs/cssc_2002-03_natural_gas_safety.pdf.

¹⁴ IEPR Update, pp. 22-23.

¹⁵ California Public Utilities Commission (“CPUC”) Application 17-10-007, *Protest of the Utility Reform Network*, p. 2 (Nov. 17, 2017), <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M199/K266/199266516.PDF>.

¹⁶ CPUC Resolution G-3538 (Oct. 11, 2018), <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M232/K459/232459359.PDF>.

- b) *The IEPR Update should more clearly state how regulatory agencies can help overcome the identified challenges to building electrification.*

The transition to electrified buildings is achievable, but a transformation of this scale will require commitment and planning from agencies across the state. Sierra Club agrees with the challenges listed in the IEPR Update, and further agrees that policy changes and further research are needed to overcome these barriers. In order to provide clearer direction to the state agencies who have a mandate to carry out these changes, we recommend that the IEPR update explicitly endorse the following policy recommendations.

- **Further Work On California Building Efficiency Standards**
 - **Building efficiency standards should be aligned with building decarbonization targets by focusing on greenhouse gas emissions reductions.** Upcoming revisions to the building code should make zero emissions buildings the goal, rather than focusing on “zero net energy.” California’s greenhouse gas reduction targets are significantly more ambitious now than when Zero Net Energy building goals were adopted in 2008. To achieve our climate targets, we need to focus on actual emissions from buildings and the building efficiency standards should reflect this goal.
 - **Building efficiency standards should be revised to use an hourly source metric for greenhouse gas emissions.** Sierra Club supports updating metrics in the 2022 cycle of the Title 24 building efficiency standards. In order to align the building code with California’s climate mandate, the standards should rely upon a metric that reflects the greenhouse gas emissions of hourly energy use instead of Time Dependent Valuation and Energy Design Rating.¹⁷
 - **Building efficiency standards should include the cost of gas infrastructure.** We also strongly agree with the Sacramento Municipal Utility District’s recommendation, as cited in the IEPR Update, that costs for all natural gas measures, including the cost of the gas service line, gas meter, and gas piping, be included in building standard cost estimates since gas infrastructure is discretionary where electric infrastructure is not.¹⁸ We recommend the IEPR Update endorse these changes to the next round of building standards.
- **Customer Acceptance**
 - **Customer acceptance of new electric technologies requires concerted education and outreach programs.** The IEPR Update raises the challenge of addressing the perceived customer preference for gas cooking, where customers have had past lackluster experiences with electric resistance stoves. Customer awareness of electric induction cooking – and how it differs from past resistance technologies – is in its early stages. Induction stoves are extremely responsive

¹⁷ IEPR Update, pp. 24-25.

¹⁸ IEPR Update, p. 26.

and have high customer satisfaction ratings: Consumer Reports recently gave three induction cooktops an “exceedingly rare” perfect rating of 100, and all fourteen induction cooktops tested were rated “excellent.”¹⁹ Sonoma Clean Power has had success lending induction cooktops to its customers as part of its outreach program.²⁰ After testing out the technology, nine out of ten people said they would prefer induction cooking in their home.²¹

Additionally, while customers may not have a preference for the fuels used to heat their home, heat pump technology for space heating and cooling and water heating is also not widespread and unfamiliar to many consumers. The IEPR Update should identify market development programs that can support outreach and consumer education on electric induction cooking and heat pumps. Just as state agencies supported state-wide public education campaigns for LEDs and electric vehicles, California must also anticipate that these new electric technologies call for public outreach.

- **Studies on the relative costs of gas and electric equipment should be conducted by a neutral party.** The IEPR Update states that due to concerns that all-electric homes may contribute to housing unaffordability, “[t]he relative cost paths between natural gas and electricity equipment in buildings needs further study.”²² This recommendation should be revised to specify that the study should be overseen by a neutral party, like the CEC or another state agency. Past industry-sponsored but ratepayer-funded studies on this topic have favored the retention of gas end uses by using inaccurate assumptions. For example, SoCalGas spent \$384,000 of its ratepayer-funded research and development budget on a study to examine the relative costs of gas-fueled and all-electric ZNE homes.²³ As illustrated in the excerpted graph below, the study assumed use of the most efficient gas appliance available on the market and compared that to a home using an inefficient electric model. Other key assumptions, such as efficiency of electric water heating, were not disclosed.

¹⁹ Consumer Reports, Best Induction Cooktops From Consumer Reports' Tests (Jan. 30, 2018), <https://www.consumerreports.org/electric-cooktops/the-best-induction-cooktops/>.

²⁰ See, e.g., Sonoma Clean Power, Induction Cooking, <https://sonomacleanpower.org/programs/inductioncooking>.

²¹ Sonoma Clean Power (Rachel Kuykendall), Presentation at Electric Power Research Institute Conference on August 22, 2018.

²² IEPR Update, p. 27.

²³ CPUC Application 17-10-007, *Opening Brief of Sierra Club and Union of Concerned Scientists*, pp. 25-26 (Sept. 21, 2018) (citing Navigant Consulting, *Strategy and Impact Evaluation of ZNE Regulations on Gas-Fired Appliances Phase I Technology Report*, p. 52 (March 2015)), <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M236/K009/236009060.PDF>.

Figure 1. Excerpt from Navigant Report: Strategy and Impact Evaluation of Zero-Net-Energy Regulations on Gas-Fired Appliances (Text Boxes Added by Sierra Club)²⁴

Table C-1. Baseline and ZNE Building Features for Mixed-Fuel and Electric-Only Homes

Fuel Type	Mixed-Fuel		Electric-Only	
	Baseline	ZNE	Baseline	ZNE
Foundation Insulation	None	R-10	None	R-10
Framing / Insulation	2x4, 16in oc, R-15	2x6, 21in oc, R-21	2x4, 16in oc, R-15	2x6, 21in oc, R-21
Attic Type / Insulation	R-38	R-60	R-38	R-60
Internal Insulation	R-5 wall sheathing; R-15 internal walls	R-10 wall sheathing; R-21 internal walls	R-5 wall sheathing; R-15 internal walls	R-10 wall sheathing; R-21 internal walls
Air Sealing	5 ACH	2 ACH	5 ACH	2 ACH
Windows	Dual-pane, low-e, U 0.32, SHGC 0.25	Dual-pane, low-e, R-5, U 0.26-0.29, SHGC 0.19-0.22	Dual-pane, low-e, U 0.32, SHGC 0.25	Dual-pane, low-e, R-5, U 0.26-0.29, SHGC 0.19-0.22
HVAC System	14 SEER A/C; 80% gas furnace	16 SEER A/C; 0.96 EF tankless combination space and water heating system w/ hydronic air handler	14 SEER, 8.6 HSPF heat pump	16 SEER, 9.3 HSPF heat pump
Duct Insulation	R-8, 5% leakage	R-8, 5% leakage	Best systems have SEER 28/- HSPF 13.5, i.e. 50% more efficient.	
Water Heater	0.62 EF gas storage	0.96 EF tankless combination space and water heating system	Heat pump water heater	Heat pump water heater
Plumbing Insulation	R-2, trunk	R-2, manifold	Efficiency not stated - impossible to evaluate.	

The IEPR Update should specify that future research on these topics should be overseen by an unbiased party, not a fossil fuel company.

- **Electricity Rates to Support Decarbonization**

- **The CPUC should create electrification-friendly rates.** Sierra Club echoes the IEPR Update’s conclusion that the carbon content of electricity should be reflected in rates.²⁵ Establishing new rates that encourage beneficial electrification will be important to making building decarbonization economical

²⁴ *Id.* p. 26.

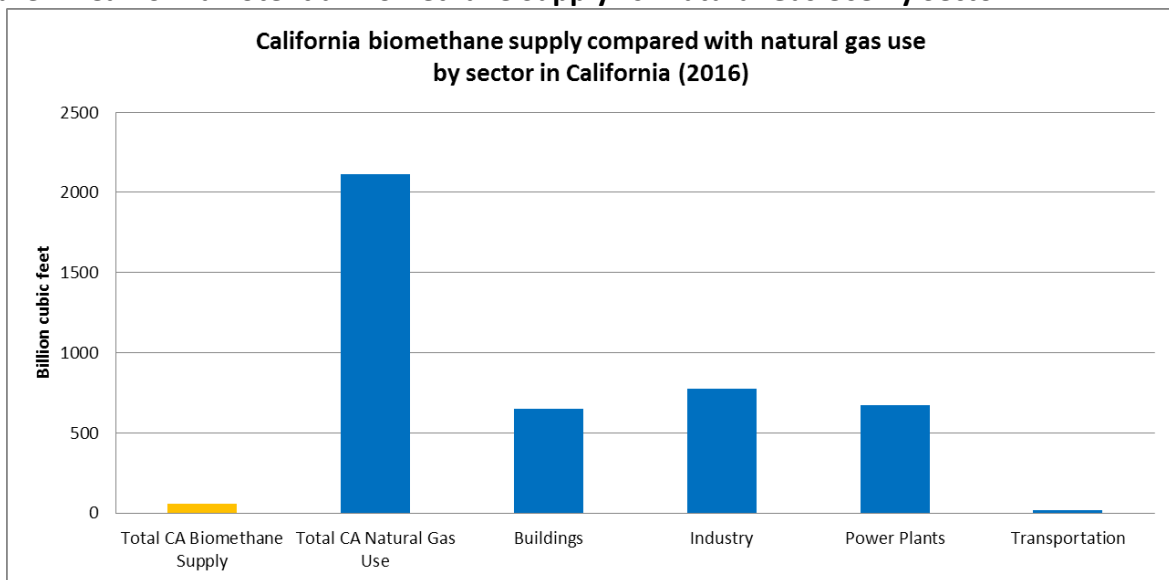
²⁵ IEPR Update, p. 28.

for the consumer and beneficial for the grid. We recommend that the IEPR Update strengthen its recommendation on this topic by noting that these policy changes should be addressed as soon as possible by the CPUC.

c. *The IEPR Update’s conclusions on the role of natural gas in building decarbonization are accurate and should not be changed.*

The IEPR Update’s conclusions that the role of renewable gas, or biomethane, in decarbonizing buildings are factual, well-reasoned, and should not be changed. As the IEPR Update recognizes, independent analyses are clear that even if California’s potential supply of biomethane is fully developed, building electrification will still be required, as biomethane can displace only a small amount of total fossil gas consumption in California. The IEPR Update references studies concluding that between 60 to 100 trillion BTU of biomethane can be derived from organic waste resources in California.²⁶ As context, total natural gas consumption in California in 2017 was 2,110 billion cubic feet, or about 1,954 trillion BTU – 20-30 times higher than this estimate.²⁷ Based on estimates of national biomethane potential from the National Renewable Energy Laboratory, California’s population-weighted share of *national* biomethane potential from waste could replace a very small fraction of our current use of natural gas.²⁸

Figure 2. California Potential Biomethane Supply vs. Natural Gas Use By Sector



Achieving our climate targets will require us to use the limited potential quantity of biomethane judiciously, in sectors that are the most difficult to electrify – and not in residential end uses, where, as the IEPR Update correctly notes, highly efficient electric options are widely

²⁶ IEPR Update, p. 30.

²⁷ See U.S. EIA, Natural Gas Consumption by End Use,

https://www.eia.gov/dnav/ng/ng_cons_sum_dc_u_SCA_a.htm. Conversion using 923.7 Btu/cf.

²⁸ See NREL, Biogas Potential in the United States, p. 3 (Oct. 2013),

<http://www.nrel.gov/docs/fy14osti/60178.pdf>; EIA, Natural Gas Consumption by End Use – California, https://www.eia.gov/dnav/ng/ng_cons_sum_dc_u_SCA_a.htm (2017 figures).

available today.²⁹ Independent analyses, such as the report commissioned by the CEC from Energy and Environmental Economics, have concluded that “a high electrification scenario offers the most promising path to achieving GHG reduction targets in the least costly manner.”³⁰ While the IEPR cites to a report commissioned by SoCalGas that also studied the use of biomethane to decarbonize buildings, as Sierra Club discussed in more detail in our August 24, 2018 comments in the Building Decarbonization track, the report’s findings were based on biased assumptions, including appliance cost estimates that used the worst case assumptions for electrification and the best case for gas and unrealistic assumptions about biomethane availability and cost.³¹ This industry-sponsored report should not alter the CEC’s conclusions.

2. The Energy Equity chapter should be revised to more comprehensively address the challenges to accessing clean energy in low-income and disadvantaged communities.

The Energy Equity chapter of the IEPR Update does well in covering existing efforts to address accessibility issues for clean energy in low-income communities and disadvantaged communities. As it has been said by numerous regulators, we must ensure that all Californians have access to clean energy and are a part of the clean energy economy we are equitably building for the future. While we agree with the contents of the Chapter, Sierra Club is concerned that there are a few gaps in the Chapter that, if addressed, could provide a more comprehensive landscape of the accessibility issues facing low-income and/or disadvantaged communities.

a) *The IEPR Update can be improved by calling out common challenges across all low-income customers, whether they live in single-family or multi-family homes.*

The CEC’s Senate Bill 350 Low-Income Barriers Study provides a comprehensive overview of the challenges facing low-income communities, stating that “[s]ome barriers are structural, inherent to the conditions of poverty in California. These barriers may be mitigated but are difficult to eradicate . . . Many challenges overlap, compounding one another.”³² The Study goes on to identify structural barriers that are limiting access to clean energy for low-income customers.

However, the IEPR Update appears to focus mostly on low-income customers that live in multi-family homes. Moreover, the chapter does not include the structural barriers identified in the CEC’s study. While it is true that half of low-income customers live in multi-family homes, by definition the other half live in single-family homes; additionally, while there are unique challenges to low-income customers based on whether they live in single-family or multi-family

²⁹ IEPR Update, p. 29.

³⁰ IEPR Update, p. 20.

³¹ See 18-IEPR-09, *Sierra Club Comments on SoCalGas and Navigant Report*, TN 224588 (Aug. 24, 2018).

³² California Energy Commission Final Report, *Low-Income Barriers Study, Part A: Overcoming Barriers to Energy Efficiency and Renewables for Low-Income Customers and Small Business Contracting Opportunities in Disadvantaged Communities*, p. 2 (“Low-Income Barriers Study”).

homes, the common challenges low-income customers face to access clean energy in general should be addressed first. After addressing these general challenges, we can effectively tackle some of the more unique challenges that come up for single-family and multi-family residents. For example, as mentioned in the chapter, one solution to address the barriers facing low-income communities is a “one-stop shop”³³ to simplify clean energy program outreach. A one-stop shop would benefit both single-family and multi-family residents because it can expand education and outreach to low-income communities. As we make progress in increasing education and outreach to low-income communities, we would then be able to provide specialized services that tackle the challenges that are unique to their living situation.

Recommendation: In addition to including the list of structural barriers identified in the Study for multi-family homes, the chapter should have a section that focuses on the challenges of low-income customers in single-family homes, and identifies general challenges shared by all low-income customers, with potential solutions.

b) Rural communities should be discussed separately from tribal communities as they have their own unique challenges.

The CEC’s Low-Income Barriers Study states that “rural and tribal communities underserved by a utility have been difficult to reach through traditional utility programs.”³⁴ The IEPR Update notes that the Study “afforded special attention to tribal communities and communities not served by utilities.”³⁵ However, the IEPR Update appears to specifically focus on tribal collaboration, and does not discuss any challenges or possible solutions specific to rural communities. Rural communities have their own set of distinct challenges, and should be afforded their own section that discusses those challenges and possible solutions.

Rural communities are in a unique position to to benefit from clean energy, as barriers to accessibility center around the lack of infrastructure in place to deliver power. Rather than investing in costly transmission infrastructure, and/or locking rural communities into decades of high polluting fossil fuels like natural gas, investing in nontraditional utility programs such as distributed energy resources is the most cost effective means to provide access to clean energy to rural communities.

For example, the California Public Utilities Commission is currently analyzing how to increase access to affordable energy in disadvantaged communities in the rural community of San Joaquin Valley. At a time when the rest of California is moving toward electrification, any proposal to extend transmission or gas infrastructure into the San Joaquin Valley would be cost prohibitive, run counter to California’s greenhouse gas reduction targets, and heighten barriers that limit access to the clean energy economy. Investment in local distributed energy resources is cost effective, provides access to clean energy, and improves resiliency, public health, and safety for rural communities that have generally been left behind and run the risk of being left behind again.

³³ IEPR Update, p. 117.

³⁴ Low-Income Barriers Study, p. 2.

³⁵ IEPR Update, p. 138.

Recommendation: The Chapter should include a distinct section that discusses the unique challenges that rural communities face, and identifies possible solutions to these challenges, such as distributed energy resources.

3. The Southern California Energy Reliability section should make recommendations consistent with California’s zero emissions future.

The IEPR Update discusses the significant challenges that currently face Southern California’s electricity supply and transmission constraints. However, Sierra Club recommends the chapter be revised to discuss the possible solutions to addresses these challenges.

a) Because California is on a path to be fossil fuel free by 2045, zero-emission reliability solutions are needed in Southern California.

Under Senate Bill 100, California must source 100% of our electricity from clean energy by 2045. This legislation is particularly relevant for Southern California, where public utilities are considering spending \$2.7 billion in customer money on 2,000 megawatts of repowered gas generating stations. These power plants would not come online until the middle of the next decade, and they would be in place for decades to come. Southern California’s transmission constraints and dense urban load are well documented and generally understood by regulators, energy policy experts, and environmental advocates. Regulators such as the CEC have identified these challenges and the urgent need to reduce gas generation, particularly in the wake of the Aliso Canyon disaster.

The challenges with electricity supply and transmission constraints need to take into account the inevitable phase out of gas. As such, any further utility expenditures dedicated to repowering natural gas generating stations or other gas infrastructure investments to increase supply and capacity are an imprudent use of customer money and contrary to California’s climate agenda. State agencies and utilities must ensure that further public funding, via the state or utility bills, invest in “no regrets” strategies targeted at reducing gas consumption. The IEPR Update states that storage is a possible solution, but that its development may take too long to be relied upon. However, notwithstanding the timing issues, investing in storage is consistent with California’s climate objectives. Along with storage, the IEPR could recommend state agencies work to expand demand response programs, upgrades to existing transmission and distribution infrastructure, and zero-emission solutions that increase reliability and, critically, local capacity, while avoiding further locking California into decades of gas.

Recommendation: The IEPR Update should recommend new generation or reliability services in Southern California are met with zero-emission solutions, including preferred resources and transmission and distribution grid investments, and address Southern California’s significant reliability challenges in a manner consistent with the eventual phase out of gas.

b) Joint collaboration, planning, and resource sharing are key to addressing Southern California's reliability challenges.

The reliability challenges in Southern California are significant enough that they cannot be solved by one entity. Sierra Club appreciates the current collaboration occurring between the CEC, CPUC, California Independent System Operator (“CAISO”), and Los Angeles Department of Water and Power (“LADWP”).

However, Sierra Club notes that the reliability challenges in Southern California are regional in nature, and higher levels of collaboration between state agencies (CAISO, the CEC and CPUC), utilities (Southern California Edison, LADWP and other municipal utilities) and other groups involved in the procurement and delivery of power (like community choice aggregators) are needed to avoid additional repowering projects such as Grayson and Scattergood Generating Stations. Improved collaboration could provide a more comprehensive examination of possible solutions – and in particular, would enable better coordination across balancing authorities and encourage resource pooling, whether it be underutilized existing resources, new transmission, or additional local clean energy procurement. It is only through better coordination that we can tackle the reliability challenges in Southern California, which must include, to reiterate, taking steps to eventually eliminate gas in the region.

Recommendation: The IEPR Update should encourage joint collaboration, planning, and resource sharing between the entities involved in the procurement and/or delivery of power in Southern California, to address reliability challenges in a manner that works towards the phase out of gas.

CONCLUSION

Thank you for considering these comments. Sierra Club looks forward to continuing to work with the CEC to reduce and eventually eliminate the barriers forestalling building electrification and limiting access to clean energy in low-income communities.

Respectfully submitted,

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