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**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking Regarding
Building Decarbonization.

Rulemaking 19-01-011
(Filed January 31, 2019)

**WILD TREE FOUNDATION
COMMENTS ON PROPOSED DECISION**

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SUMMARY OF RECOMMENDED CHANGES

1. Wild Tree Foundation recommends that the proposed decision be amended to include a plan to address required utility bill savings and GHG emission reductions through the use of increased building and technology efficiency and behind the meter solar.
2. Wild Tree Foundation recommends that language regarding refrigeration be clarified so that the intention of the PD to incent and regulate high GWP refrigerants can be fully realized.
3. Wild Tree recommends that proposed metrics and tactics not be left to be determined in the future and not be presented as a pick and choose list but instead be set in a final decision as required.

TABLE OF AUTHORITIES

Authority	Page
SB 1477: Pub. Util. Code, §§ 921.1, 922	passim

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Pursuant to the Rule 13.4 of the Commission Rules of Practice and Procedure, Wild Tree Foundation (“Wild Tree”) submits the following comments on the Proposed Decision Establishing Building Decarbonization Pilot Program (“Proposed Decision” or “PD”).

COMMENTS

Wild Tree strongly supports some aspects of the PD but finds that some of the PD conclusions are in error or need improvement. Wild Tree supports the following aspects of the PD:

- a.) Distribution of funds with 40% to be used for BUILD and 60% for TECH
- b.) The implementation of TECH by third party to be selected by Commission with a scoring committee
- c.) Use of 75% of funding for BUILD for low-income residential housing
- d.) Not including renewable natural gas and hydrogen (pg 86) in any pilot programs
- e.) Focus on refrigerants

- f.) Although the PD should not leave GHG benefit metric methodology to be determined, the proposed metrics are appropriate
- g.) Although the PD should be more definitive in required tactics by TECH implementer, the proposed list of tactics appropriate

The following aspects of the PD are in error or need improvement:

- a.) Does not include any increased Building Efficiency and Solar PV which are necessary to meet SB 1477 Requirement that Utility Bills Decrease
- b.) The PD leaves too much to be determined by the implementers
 - a. The Commission should not leave GHG benefit metric methodology to be determined
 - b. The Commission should be more definitive in required tactics and technologies to be used by the TECH implementer
- c.) Appointing SCE to implement an RFO for the TECH implementer just adds a middleman increasing admin costs without providing any added benefit (p. 72)

Wild Tree discusses some of these aspects further below. Wild Tree reserves the right to address additional aspects of the PD in its reply brief.

A. The PD Does Not Include Any Increased Building Efficiency And Solar PV Which Are Necessary To Meet SB 1477 Requirement That Utility Bills Decrease

The PD states, “We find that a critical component of California’s transition to a cleaner energy future is ensuring that parts of the population are not left behind.”¹ Wild Tree wholly concurs with this statement and appreciated the poetic way in which the sentiment is expressed. The PD thus directs that 75% of BUILD funding will be for low-income residential housing and Wild Tree supports this decision. But, unfortunately, the PD fails to follow-through in any other way to ensure that parts of California’s population are not left behind in building decarbonization efforts.

While the PD acknowledges that SB 1477 requires that utility bills do not increase as a result of building decarbonization efforts, it does not establish any way in which to ensure that bills will not increase. The requirement that “that projects receive incentives under the programs created by this act only if they result in utility bill savings for the building occupant”² is not aspirational; as codified in the Public Utilities Code, any project funded with BUILD money cannot result in increased bills³ and, the expectation is that BUILD and TECH fund recipients will see utility bill *savings*.⁴

The PD states, “We direct the program evaluator to work with Energy Division to develop a cost-effectiveness analysis in its evaluation measure for the pilot program compliance and performance reviews to ensure customer utility bills do not increase, and that a full range of

¹ R.19-01-011, *Proposed Decision Establishing Building Decarbonization Pilot Program* (February 12, 2020) (“PD”) at p. 55.

² SB 1477 at Section (1)(c).

³ Pub. Util. Code, § 921.1, subd. (1)(d)(3) (“In supervising the administration of the program, the commission shall do all of the following . . . Ensure that projects funded with moneys reserved pursuant to subdivision (c) do not result in higher utility bills for building occupants.”)

⁴ Pub. Util. Code, § 921.1, subd. (d)(4)(B); 922, Pub. Util. Code, § subd. (c)(2)(B).

costs and benefits to the customer (e.g., non-energy impacts and improvements in energy services) is evaluated.”⁵ But the PD doesn’t provide any structure as to how exactly bills will not increase and how a full range of costs and benefits will be provided to customers.

To meet SB 1477 requirement and the lofty goal set out in the PD, the programs must (1) require the use of only the highest efficiency technology (i.e. highest efficiency heat pumps, not just heat pumps in general), (2) provide household participants efficiency measures that complement other electrification efforts, (3) incentivize rooftop solar. There must be a decrease in overall household energy consumption for fund recipients to meet the mandated requirement that they do not experience increased utility bills. This will be especially important for low-income housing. In order to meet the statutory requirement for bill savings, it is necessary to address the fundamental problem with any strategy that narrowly focuses on “electrifying everything”, which is the fact that on an equal energy basis electricity is much more expensive than natural gas, especially for customers of investor-owned utilities in California.

The Staff Report focuses narrowly on clean heating technologies which is problematic but, even worse, the PD fails to address technologies at all, putting this off until some later unspecified time, outside the bounds of this proceeding. The PD states, “We decline to adopt an approach that could single out any particular product, which could stymie innovation in this emerging market. Therefore, rather than having a list of eligible equipment and products, we adopt a performance-based approach on GHG emission reduction baselines.”⁶ But the Code requires the Commission to develop such a list and even provides guidance itself in its own language. The definition of near zero emission building provided in SB 1477 is: “Near-zero-emission building technology includes a single technology, such as heat pumps, solar thermal

⁵ PD at p. 38.

⁶ PD at p. 86.

systems, or advanced energy efficiency systems, and a combination of technologies, such as a solar photovoltaic system with an energy storage system.”⁷ Solar, advanced energy efficiency systems, and solar photovoltaic system with an energy storage systems must be part of the BUILD and TECH programs because they are called out in the Code and because they are required to accomplish the required goal of utility bill savings and GHG emission reductions.

Wild Tree Foundation Comments On Staff Proposal (“Wild Tree Comments”) provides data regarding cost of gas vs. cost of electricity that demonstrate why, with the potential for electrification to result in such drastic utility bill increases, first and foremost, the Commissions must set a standard for the use of only the highest efficiency technology.⁸ Furthermore, Wild Tree’s Comments demonstrate why buildings that are provided technology funded by BUILD or TECH must also be provided necessary efficiency upgrades to prevent the electrification of waste.⁹ And finally, Wild Tree’s Comments demonstrate why the installation of 6kW and larger PV systems should be also incentivized on both new builds and existing buildings to offset the final slice of the pie of increased electricity load that results from electrification.¹⁰ This is necessary to address both increases in utility bills and increases in GHG emissions. So long as our electric grid is not fully decarbonized, by itself building electrification accomplishes little to no GHG emissions reductions and even the use of the highest efficiency electric technology and other building efficiency measures will not entirely offset increased electric load.

Wild Tree will not repeat here in entirety the data and analysis presented previously on these points but implores the Commission to consider the facts laid out in Wild Tree’s Comments and consider amending the PD so that is includes a plan to increase efficiency of

⁷ Pub. Util. Code, § 921, subd. (e)(2).

⁸ R.19-01-011, *Wild Tree Foundation Comments on Staff Proposal* (August 13, 2019) at pp. 6-13.

⁹ *Ibid.*

¹⁰ *Ibid.*

technologies and building and provides for offsets for increased electric load that cannot be addressed through efficiency measures. As presently drafted without such a plan, the PD will serve only to shift costs onto customers who are likely unable to afford increased utility bills and shift GHG emissions from buildings back to gas fire powered plants, which accomplishes nothing in regards to addressing climate change.

B. The PD Provides an Appropriate Focus On Refrigerants But Requires Some Amendment In Regards to Implementation

Perhaps the most outstanding aspect of the PD is the stance taken regarding refrigerants. The PD correctly concludes that “we find that fulfilling SB 1477’s mandate to move beyond existing industry practices requires a transition away from the refrigerants in common use today and toward lower GWP alternatives.”¹¹ Wild Tree agrees with the PD’s approach to addressing the problem of high global warming potential (“GWP”) refrigerants with both a regulatory limitation and an incentive. Refrigerants provides perhaps the single greatest opportunity to decarbonize building but also provide a great risk that efforts to decarbonize buildings through the use of heat pumps will result in, not only no net decrease in GHG emission, but an increase given the shocking high GWP of many commonly used refrigerants in heat pumps and other appliances.

Although Wild Tree strongly agrees with the PD conclusions regarding refrigerants, the PD requires clarifying amendments in regards to how refrigerants will be addressed in both the BUILD and TECH programs. First, the PD is inconsistent in statements regarding kicker incentives and refrigerants. The text of the PD states that refrigerants below 150 GWP will be eligible for kicker incentive eligibility: “we rely on guidance from the CEC24 CCR Section

¹¹ PD at p. 45.

100.1 defines a “low-GWP” refrigerant as a refrigerant with a GWP less than 150, which this decision adopts for the purpose of providing “kicker incentive” eligibility.”¹² But the conclusions of law do not address this kicker incentive and other statements in the PD appear to contradict stated plan to offer this kicker incentive.

Conclusion of Law 26 addresses upper limitation for high GWP refrigerants but does not address kicker incentive. It states, “It is reasonable to reduce refrigerant-based GHG emissions and thus, adopt: (1) a low-Global Warming Potential refrigerant threshold of less than 150; and (2) a high-Global Warming Potential refrigerant threshold above 750. Refrigerants used in the space and water heating appliances of building projects funded by the BUILD Program or incentivized by the TECH Initiative shall not exceed the 750 GWP threshold.”¹³

Elsewhere, kicker incentives for low GWP refrigerants are deliberately left off the table for the BUILD program. The PD refers to Staff’s proposal for kicker incentives for heat pump water heaters that use low-GWP refrigerants and Wild Tree’s argument that “that only the highest efficiency technologies should be permitted, such as: (1) highly efficient space and water heat pumps utilizing neutral, non-GHG emitting refrigerants . . .”¹⁴ but does not ultimately make any conclusions regarding kicker incentive for BUILD. The PD states, “We leave it up to the California Energy Commission to determine the minimum greenhouse gas performance threshold above the prescriptive compliance baseline that a project must meet to qualify for incentives [for the BUILD program].”¹⁵

All opportunities to address the problem of and opportunities with refrigerants should be taken. This is supported by the well-reasoned argument presented in the PD regarding

¹² PD at p. 45.

¹³ PD at p. 95.

¹⁴ PD at p. 61.

¹⁵ PD at pp. 62-63.

refrigerants and the critical statement (unfortunately consigned to a footnote) that, “We note that low-GWP use refrigerants have the highest potential to reduce GHG emissions.”¹⁶ Kicker incentives for low GWP refrigerant should be part of both BUILD and TECH implementation.

The PD is also inconsistent in regards to refrigerants and avoided GHG metric methodology. The PD states, “Energy Division shall work with the program evaluator to determine the best method for quantifying and valuing all GHG emissions, including those associated with methane and refrigerants, as they relate to the BUILD Program and TECH Initiative.”¹⁷ Despite this statement and although the PD is clear that high GWP refrigerants are not eligible for BUILD or TECH incentive and that refrigerants have the highest potential to reduce GHG emissions, the GHG associated with refrigerants is only a *proposed* metric for consideration. Appendix A states, “In calculating the cost per metric ton of avoided GHG emissions, the Program Evaluator shall work with the CPUC to determine whether – and to what extent – to apply the following sub-metrics . . . GHGs associated with refrigerants used in electric appliances.”¹⁸ The program evaluator should be directed to include consideration of refrigerants in avoided GHG methodology. If this is not taken into consideration, avoided GHG accounting could be wrong by orders of magnitude given the GWP of many refrigerants used today.

¹⁶ PD at p. 86fn273.

¹⁷ PD at p. 37.

¹⁸ PD at Appendix A.

C. The PD Leaves Too Much To Be Determined

The PD leaves many critical points as TBD – to be determined in the future outside the bounds of this proceeding. The PD acknowledges that “Section 922(a)(2)(a) requires the Commission, under its supervision of the TECH Initiative, to develop guidelines that include a list of eligible technologies, a process for evaluating new technologies, and a process and set of metrics by which to evaluate and track the TECH Initiative results.”¹⁹ But, none of these requirements are fulfilled in the PD. The Commission should not leave GHG benefit metric methodology to be determined and the Commission should be more definitive in required tactics by TECH implementer. On both accounts, the PD has presented an appropriate lists of metrics. These should not be provided as a pick and choose lists but instead as requirements.

For example, in regards to the avoided GHG methodology, impact of refrigerants is a potential sub-metric for which “the Program Evaluator shall work with the CPUC to determine whether – and to what extent – to apply the following sub-metrics.”²⁰ As discussed above, refrigerants are a critical component of any program purported to address building decarbonization. Should the evaluator elect to not include GWP of refrigerants as part of avoided GHG emissions measurements, the results of such calculation could be drastically in error.

The PD has also provided a good list of tactics that can be used by the TECH implementer but has again left too much to be addressed in the future, outside of this proceeding without participation by parties. For example, while the PD states that it finds “the metrics and evaluation recommendations Cal Advocates, Wild Tree Foundation, VEIC, and SBUA

¹⁹ PD at p. 82.

²⁰ PD at Appendix A.

reasonable” it leaves consideration of the recommendations, such as Wild Tree’s recommendation regarding full life cycle of replaced and replacement appliances, to be determined by the program evaluator.²¹ The PD states, “the program evaluator shall work with Energy Division staff to determine which of the following metrics should be required, as part of the pilot program evaluation.” The proposed list has only six metrics and it is not clear why these metrics would not be required parts of the program. The proposed pick and choose lists of tactics should be converted to a list of requirements to be met by the third party implementer.

Respectfully submitted,

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²¹ PD at p. 38.