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Additional submitted attachment is included below.

CPSA
California Pool & Spa Association

POOL & HOT TUB ALLIANCE

September 23, 2020

California Energy Commission
Docket Unit, MS-4
Docket No. 19-DECARB-01
1516 Ninth Street
Sacramento, California 95814-5512

RE: AB 3232 Assessment on Building Decarbonization

The following comments are jointly submitted by the California Pool & Spa Association (CPSA) and its national affiliate, Pool & Hot Tub Alliance (PHTA). Both organizations are nonprofit trade associations representing all segments of the swimming pool, spa, and hot tub industry, including manufacturers, residential and commercial builders, distributors, and the pool maintenance and service industry.

The California pool, spa, and hot tub market is the largest in the world. According to 2017 data, obtained by PK Data, California has the largest number of in-ground installed pools in the country at 1.2 million. In addition, there were 13,689 new in-ground construction projects underway in California in 2017. According to the same 2017 data, California also leads the nation in:

- Number of aboveground pools installed (331,939)
- New aboveground pool sales (20,236)
- Hot tubs installed (1.2 million)
- New hot tub sales (87,890)
- Commercial pools installed (41,438)
- New commercial pool sales (662)

Nationally, the pool and hot tub industry contributes $36.5 billion and accounts for 382,000 job equivalents to the U.S. economy, with a large portion attributed to the market size in California. The industry accounts for approximately 55,000 jobs in California. In addition, our California members bolster local economies by purchasing building materials, equipment, and supplies from local sources within their communities.

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COMMENTS

Mandates Relative to AB 3232

By January 1, 2021, the California Energy Commission, in consultation with the Public Utilities Commission, State Air Resources Board, and Independent System Operator, shall assess the potential for the state to reduce the emissions of greenhouse gases in the state's residential and commercial building stock by at least 40% below 1990 levels by January 1, 2030. The assessment shall include consideration of all of the following:

(1) An evaluation, based on the best available data and existing analyses, of the cost per metric ton of carbon dioxide equivalent of the potential reduction from residential and commercial building stock relative to other statewide greenhouse gas emissions reduction strategies.

(2) The cost-effectiveness of strategies to reduce emissions of greenhouse gases from space heating and water heating in both new and existing residential and commercial buildings.

(3) The challenges associated with reducing emissions of greenhouse gases from low-income housing, multifamily housing, and high-rise buildings.

(4) Load management strategies to optimize building energy use in a manner that reduces the emissions of greenhouse gases.

(5) The potential impacts of emission reduction strategies on ratepayers, construction costs, and grid reliability. In assessing the impact on grid reliability, the commission shall account for both of the following:

(A) The commission's 2019 Building Energy Efficiency Standards, effective January 1, 2020, that propose to require solar energy systems on all new single-family and low-rise residential dwellings.

(B) The increased load and impact on electrical infrastructure due to transportation electrification.

Our comments are intended to address the Section 5 requirement to assess the potential impacts of emission reduction strategies on ratepayers, construction costs, and grid reliability.

IMPACT ON CUSTOMER RATES

The potential cost impact of going to 100% renewable, carbon-free electrical future on ratepayers in California is dire. California's existing energy costs are among the highest in the nation according to a report written for the Foundation for Research on Equal Opportunity. According to that report, the average cost of residential electricity in the state last year was 19.2 cents per kilowatt-hour, which is 47% higher than the national average.

According to United Way's 2018 report, The Real Cost of Living, nearly 40% of California households are rent-burdened spending more than 30% of their income on housing. This is particularly relevant for low-income families who often spend 20% or more on energy costs. These statistics are significant for California which is the home of the highest poverty and homeless rates in the country. Can California afford to exacerbate the cost burden of moving to an all renewable energy platform on the poor and working-class in order to meet its "ideal" for electrical energy resources?

The state's largest electrical utility, PG&E, just came out of bankruptcy due to its inability to pay losses sustained as a result of causing some of California's worst wildfires. The repayment of losses to wildfire victims, to local governments for costs incurred by wildfires, and paying subrogation costs to homeowners and commercial insurance companies have cost the company close to $40 billion. Moreover, California lawmakers and regulators have imposed billions of dollars of additional mandates on California's electrical utilities for the costs of future fire mitigation, system hardening, and back up liability insurance. Not all these costs will be passed through to ratepayers, but a substantial portion will be, including additional ongoing costs to pay for long-overdue maintenance issues.

A recent letter from the Chair of the Assembly Utilities and Energy Committee pleaded with colleagues not to extend a bond surcharge on consumers of less than a dollar, in response to a legislative proposal to extend the expiration of existing bonds to fund new wildfire resiliency costs. In that letter, Assemblymember Chris Holden said, "…the demands being put upon ratepayers in these times are *extraordinary*. Electric bills are *only beginning* to reflect the tremendous cost of hardening the grid to prevent wildfire ignition. We also expect a *tremendous wave of new costs* on these ratepayers going forward to electrify buildings and transportation."

Commentators in these present proceedings have indicated the cost of expanding the electrical grid in California alone would be in excess of $75 billion. Add to that, the costs associated with retiring older energy facilities, the unneeded cost of taking natural gas power plants off the grid, and the high cost of renewable energy mandates imposed on electrical utilities in California. Ratepayers are looking at "*a tremendous wave of new costs*" that will greatly exacerbate what are already the highest costs in the nation for electrical power. These facts paint a bleak future for ratepayers in a state that has the highest poverty rate in the nation, and where 40% of its population earns $40k annually or less. Where 43% of voters feel they cannot afford to live, according to a poll done for Quinnipiac University, which also indicated that the worst financial fears and stress among Californians is the general cost of living.

SAFETY & RELIABILITY OF ELECTRICAL SYSTEM

California has one of the most expensive and least reliable electric grids in North America. Recent blackouts, coupled with the state's history of similar blackouts, demonstrates the California electrical grid is hard-pressed to handle its current electrical load, much less the enormous amount of a new demand that would have to be met to achieve 100% renewable, carbon-free, electrical portfolio and to electrify all residential and commercial buildings.

For California to reach its renewable goal, the electrical grid would have to be increased substantially in its ability to handle the additional strain that would be placed on the system. It is estimated electrical energy generators will have to produce double the amount of energy currently being produced. This would require hundreds of miles of high voltage electrical lines to be strung through California's wildland-urban interface. High voltage lines cause one in ten of California's wildfires and have been the source of several of the largest fires in California's history, each causing losses that well exceed $10 billion each. This is not a minor issue. The State of California suffers an average of 7,500 wildfires annually. These wildfires not only undermine the reliability of the electrical grid, but the greenhouse gas emissions resulting from these fires have all but wiped out any gains California has made in reducing greenhouse gases.

In addition to increasing the size of the grid by running new high voltage lines, in order to have energy reserves necessary to back up the electrical system on days when the sun does not shine, there is no wind, or there are smoky days, the system would require up to one million huge

lithium-ion batteries placed throughout the system. Furthermore, new laws and regulations affecting the internet, cable, telephone, and emergency response communication systems will require the placement of additional battery systems to meet the requirement of providing 72 hours of emergency backup power. These batteries are themselves fire hazards and will only add to the risk of a wildfire which will undermine the safety and reliability of California's electrical grid.

As has been demonstrated from 2017 through the current wildfire season, California's wildland-urban interface is a tinderbox. Already this year, more than three million acres have been chard by wildfires in California, and the state is only at the beginning of its fire season. Testimony from legislative and regulatory hearings on the topic is clear, it will take decades of committed resources and state financial support to make even a small dent in clearing forest lands, bush, and canyons adjacent to some of California's most populous cities and urban areas. Currently, California is only doing prescribed burning of less than 20,000 acres of land annually. It will take the burning of at least two million acres annually for over a decade to get control of the forest lands in this state. COVID-19 has had a massive effect on the California economy and the state's financial situation. This economic downturn could divert or restrict state and federal plans to spend the tens of millions of dollars necessary to meet even the long-term goals relating to managing the sources of wildfires in California.

Land-use management and the build-out of commercial-scale renewable energy resources are other issues that could well undermine the safety and reliability of the state's electrical system. The issues associated with this topic are many.

Reimagining Buildings for a Carbon Neutral Future, the EPIC Forum held by the CEC on September 2-3, 2020, indicated the major components necessary to achieve an all renewable energy future are offshore wind and expanded commercial-scale solar power. Offshore wind is not currently an available option in California, let alone at a commercial scale in order to be useful as a significant contributor to an all-electric future.

For California to depend on energy from solar resources as an even larger component of its energy future, presenters indicated it would take an additional 660,000 acres of land in the state dedicated to commercial solar facilities. To even build these facilities, it was indicated it would

take coordinated planning to approve these locations between state and local governments. This type of coordinated land-use planning does not exist today. Moreover, even if coordinated land-use planning was a reality, the projects will have to overcome local opposition, NIMBYism, and environmental challenges that could tie such projects up in litigation for decades. The same is true as it relates to projects to expand the grid so that it is capable of transmitting and distributing the energy needed from these resources.

Bottom line, the combination of wildfire risks and the challenges associated with doubling energy production and expanding the state's electrical grid are such that the electrical system in California will become less, not more reliable than today.

IMPACT ON CONSTRUCTION COSTS

Social justice issues have been at the forefront of public policy discussions in 2020. Many of the issues are relative to this topic. As indicated previously, California has the highest poverty rate in the nation and the highest number of homeless individuals, whereby affordable housing is one of the state's most vexing problems. As such, California has the highest number of underserved communities, and very often, these are underserved communities of color.

Advocates for a 100% renewable energy future argue that implementing such as policy is in their best interest of underserved communities because it will address air quality and other issues of environmental pollution as these communities are often adjacent to current forms of carbon-emitting energy production. While some aspects of this argument may be true, there is little doubt the implementation of an all-electric policy will exacerbate social justice issues relative to housing and homelessness.

The previous section of this document regarding "the impact on consumer rates" outlines the potentially massive increase in consumer electrical rates that are likely to result from the implementation of an all-electric policy in California. This will certainly widen the income gap for those wage earners who earn $40,000 or less annually and even many of those in the $60,000 annual wage bracket living in higher-cost geographic regions of the state. Also, the increased cost of building and maintaining homes will result in substantial increases in housing costs which Californians can ill afford.

The California Association of Realtors' report indicates for every $1,000 added to the cost of a new home, over 10,000 Californians will never be able to afford to purchase a new home. The "tremendous wave of new costs" that will impact consumer electrical bills related to wildfire resiliency, electrical grid upgrade, and expansion as predicted just recently by the Chair of the Assembly Utilities and Energy Committee, will have the effect of driving homeowners who can afford it to opt for the installation of residential solar systems. As these individuals abandon the utilities, there will be fewer consumers left to shoulder the increased cost of the utilities to produce and distribute electrical power and pay for the maintenance and expansion of the electrical grid. The result will be further financial burdens on underserved communities.

Homebuilders who must comply with mandates to add residential solar systems, heat pump water heaters, electric HVAC systems, and electrical appliances such as convection ovens and stovetops will increase the costs of new homes in order to recoup these expenses. It is estimated this will add thousands of dollars to the cost of a new home. These new costs, in concert with higher electrical bills, increases in local development fees, and higher rates for water, garbage, and sewer costs will substantially reduce the number of Californians who can qualify for a loan to purchase a new house, only to further the affordable housing issue in this state.

Costs associated with remodeling homes, condominiums, and apartment complexes to comply with new REACH codes and to make them attractive to new homeowners and renters will add to the increased cost of housing in California as well. Many, if not most of the existing housing stock in California, will require replacement of its existing electrical service and wiring to expand the ability to handle the addition of all-electric appliances. A study by Guidehouse and the California Building Industry Association (CBIA) indicated that switching to an all-electric house would cost the average Southern California household more than $7,200. Moreover, electrical appliances such as heat pump water and space heaters, convection cooktops and ovens cost more to purchase and maintain and have a shorter lifespan than gas appliances.

SUMMARY

There is little reason to subject consumers to much higher electrical bills, deny consumer choice, cause additional issues that will exacerbate affordable housing and social justice issues, and undermine the safety and reliability of the state's electrical grid by mandating all-electric

commercial and residential building. There are other options, and those options will contribute to a substantial reduction in greenhouse gases. California citizens have been told by state agencies with a focus on environmental issues for decades that natural gas was the clean alternative to other carbon-producing energy sources. Virtually every city's bus transit system, airport shuttles, and fleet vehicles have seen some conversation to natural gas and have the slogan "Runs on Clean Natural Gas" stamped on the side of the vehicles. Californians have been urged to convert their fireplaces to clean natural gas rather than wood-burning and to use natural gas appliances. Moving California to an all electrical and all renewable energy portfolio will subject the state to a future based on a single energy source that will be subject to disruptions from both voluntary safety shutdowns and those caused by the state's growing wildfire problems which will not be resolved for decades.

California's residential buildings contribute only 7%-10% of all greenhouse gases according to the California Air Resources Board. Greenhouse gases associated with the swimming pool, spa, and hot tub industry represent only 4% of greenhouse gases. Adding less than 20% of renewal gas to California's gas supply by 2013 can achieve the same outcome as electrification of the building sector, while providing an alternative source of energy and allowing California consumers continued choice in selecting appliances. In addition, many gas appliances are becoming even more energy efficient. In the swimming pool and spa industry, for example, gas swimming pool heaters have efficiencies as high as 96% and take much less time and energy than heat pump systems that simply will not work in many applications.

Another possible option is that hydrogen gas might also be used for natural gas delivery. By blending natural gas with hydrogen, typically 25% to 75%, currently used furnaces, water heaters cooktops, and other appliances could be used lowering greenhouse gases and increasing efficiency. This practice is already being done in European countries such as the United Kingdom, Germany, and Italy.

CPSA/PHTA opposes an all-electric approach. Instead, we would urge the CEC to approach compliance with AB 3232 utilizing alternatives that embrace more safety and reliability, and consumer choice by maintaining a more diverse portfolio of energy options. This type of approach would offer customers and affected industries much-needed choices in their preferred appliances and for varying applications in residential and commercial buildings.

CPSA/PHTA appreciates the opportunity to submit these comments and would be glad to discuss it in more detail at your request.

Thank you.

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