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**AHRI Comments California Energy Commission's Building  
Decarbonization Assessment Project Scope**

*Additional submitted attachment is included below.*

January 10, 2020

Mr. Heriberto Rosales  
Mr. Nicholas Janusch  
California Energy Commission  
Docket Unit, MS-4  
Re: Docket No. 19-DECARB-01  
1516 Ninth Street  
Sacramento, CA 95814-5512  
(submitted electronically to Docket 19-DECARB-01)

Re: AHRI Comments to California Energy Commission's Building Decarbonization Assessment Project Scope [*Docket Number 19-DECARB-01*]

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Dear Messrs. Rosales and Janusch:

These comments are submitted in response to the California Energy Commission (CEC) December 4, 2019 stakeholder meeting on the Building Decarbonization Assessment Project Scoping and the CEC Staff Memorandum on a recommended baseline for Building Decarbonization Assessment Project Scope.

AHRI represents over 315 air-conditioning, heating, and refrigeration equipment manufacturers. In North America, the annual output of the HVACR and water heating industry is worth more than \$44 billion. In the United States, the industry supports 1.3 million jobs and \$256 billion in economic activity annually. AHRI member's products are installed in every residential and nonresidential building in California. AHRI's members are continuously working to review and design new higher efficiency equipment that improves consumer comfort, without compromising consumer choice, product quality, or safety. In fact, AHRI members offer the most technologically advanced and efficient HVACR and water heating equipment available anywhere in the world. AHRI and its members support the reduction of greenhouse gas (GHG) emissions and will continue to collaborate with stakeholders to work toward that goal.

AHRI appreciates the work done in the staff analysis to date. The draft report presents an overview of the Assembly Bill (AB) 3232 Building Decarbonization Assessment (Assessment)<sup>1</sup> baseline; the background, decision framework, and methodology of how to account for each emission category in the baseline; however, we

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<sup>1</sup> AB 3232, Friedman. Zero-emissions buildings and sources of heat energy., Chapter 373, Statutes of 2018

have several important comments for consideration to improve the Assessment and resulting measures.

*Ozone-depleting substances should be included in the 1990 baseline*

According to the CEC staff report, the CARB building inventory does not include refrigerants and other high-GWP gases in the 1990 stock. CARB has already adopted Environmental Protection Agency (EPA) SNAP Rules 20 and 21 and it plans to enact further restrictions on HFCs via its Short-Lived Climate Pollutant (SLCP) strategy, which was approved in March 2017. These actions are all intended to help California reduce HFC emissions 40 percent below the levels recorded in 2013 by 2030, as stated in Senate Bill (SB) 1383. CARB's SLCP strategy is based on a multi-pronged approach which includes proposed rulemakings for stationary air-conditioners and commercial refrigeration products. We anticipate CARB to announce draft language on these SLCP initiatives on January 30, 2020, for AC and March 2020 for commercial refrigeration. While CARB's charge from Senate Bill (SB) 1383<sup>2</sup> is different in the baseline year (2013), CARB has included refrigerants and other high-GWP gases, including ozone depleting substance (ODS), in the CARB baseline calculation and model for ongoing rulemakings to reduce the GWP of HFCs for both AC and commercial refrigeration products. If CARB has been able to capture the contribution of refrigerants and other high-GWP gases, including ODS, in the 2013 baseline for short-lived climate pollutants rulemakings, CEC should include this in its baseline as well.

Ozone-depleting substances, including chlorofluorocarbons (CFCs) and hydrochlorocarbons (HCFCs) were phased out of production under the Montreal Protocol.<sup>3</sup> In the United States, production and importation of CFCs were completely banned in 1996. HCFCs are being phased down, with a complete phase out by 2030. In 2010, to meet the Montreal Protocol phasedown schedules, U.S. regulations banned production and importation of HCFC-142b and HCFC-22 for use in new equipment. Reclaimed CFC and HCFC refrigerants that meet the requirements of AHRI Standard 700 can continue to be used to servicing existing systems. Refrigerants used in HVACR equipment, including ODS, did contribute to building emissions in the 1990 building stock. Ignoring the contribution of refrigerants and other high-GWP gases in the 1990 building stock and baseline is misleading and incorrect. It also does not attribute appropriate credit for early reductions in the HVACR sector – a core tenant of AB 32.<sup>4</sup>

AB 32 directs CEC to only consider “Direct emission reduction,” greenhouse gas emissions reduction actions made by a greenhouse gas emission source at that source and define “greenhouse gases” to include all of the following gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The language in AB 32 cites several chemicals to include in the Assessment, but this list

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<sup>2</sup> SB 1383, Lara. Short-lived climate pollutants: methane emissions: dairy and livestock: organic waste: landfills., Chapter 395, Statutes of 2016

<sup>3</sup> UNEP 2009

<sup>4</sup> AB 32, Nunez. Air pollution: greenhouse gases: California Global Warming Solutions Act of 2006., Chapter 388, Statutes of 2006

is not exclusive as it uses “all” and not “only” in the text. To have a reduction goal that is comparable to the baseline, CEC must include refrigerants and other high-GWP gases, including ODS, in the 1990 GHG baseline for the Assessment. Alternatively, CEC could adopt CARB’s recommendation of using 2013 as a baseline for these emissions. Using this recommendation would make the analysis consistent with the baseline for SB 1383.

AHRI reminds CEC that CARB’s short-lived climate pollutant rulemakings impacting stationary air-conditioners and commercial refrigeration equipment is ongoing, and the analysis is not complete. The CARB “business as usual” case, emissions reductions goal, and impact certain measures will make are currently being debated. AHRI urges CEC to wait until that significant rule has been finalized before finalizing this Assessment scope. If the two projects do not align the outcome of this Assessment will suffer from inaccuracies.

Lastly, AHRI has conducted significant analysis regarding the baseline assumptions in CARB’s SLCP model and compliance scenarios for the draft regulation. AHRI would appreciate the opportunity to discuss this analysis with CEC staff.

#### Fuel switching calculation proposal not included in the staff report

The staff report discusses the complexities and considerations of accounting for fuel switching, but it neither proposes a baseline nor a calculation methodology for emissions. This is a critical aspect to building decarbonization and stakeholders need a chance to review and comment on this aspect prior to finalization of scope. AHRI urges CEC to develop a proposal for stakeholder review regarding how it plans to handle fuel switching emissions.

#### All models should be made public

AHRI urges CEC to make the model(s) in the Assessment public and to answer several questions regarding the analysis.

- Where can stakeholders find the assumptions and model for the renewable portfolio standard?
- Does the Assessment consider emissions that cannot be reduced like the projected increase in demand for natural gas?
- What time series analysis will CEC use for forecasting?
  - How will it account for lag between years?
- What sort of optimization parameters will drive policies that target emission reduction opportunities?

Stakeholders should be given the opportunity to review and make comments on the model after key questions are answered and the Assessment has been clarified.

Commercial behind-the-meter leaks study

In the staff report, CEC states that it is waiting on the completion of an Energy Commission research study on the extent of behind-the-meter leaks, expected in Spring 2020, prior to including values for commercial behind-the-meter leaks for years 1990-2017. As both CARB and CEC staff expect the research results will inform the methodology for estimating the extent of these emissions which will also result in the creation of a new commercial behind-the-meter leaks category in forthcoming editions of the CARB GHG inventory, stakeholders should be notified of the report's release and given an opportunity to comment.

Assessment scope is incomplete

The CEC staff report does not fully encompass the scope of the Assessment as stated in AB 3232. In addition to topics currently covered, the bill requires the assessment to include 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; challenges associated with reducing emissions of greenhouse gases from low-income housing, multifamily housing, and high-rise buildings; load management strategies to optimize building energy use in a manner that reduces the emissions of greenhouse gases; and potential impacts of emission reduction strategies on ratepayers, construction costs, and grid reliability. Further, to support provision from AB 32, the state board shall evaluate the total potential costs and total potential economic and noneconomic benefits of the plan for reducing greenhouse gases to California's economy, environment, and public health, using the best available economic models, emission estimation techniques, and other scientific methods. These topics have not been included in the staff report and should be made available to stakeholders for review and comment.

Governing legislative text requires a separate assessment of new and existing buildings. It also requires CEC to investigate and consider the impact of proposals on low income housing. This will almost certainly lead to different outcomes than if these two charges are not considered – outcomes that would negatively impact California's residents and business owners. AHRI urges CEC to include all provisions of the Assessment outlined in AB 3232 and AB 32.

AHRI appreciates the opportunity to provide these comments. If you have any questions regarding this submission, please do not hesitate to contact me.

Sincerely,



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