ASSOCIATION OF HOME APPLIANCE MANUFACTURERS

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Clerk of the Board
Air Resources Board
1001 I Street
Sacramento, California 95814

Submitted electronically: www.arb.ca.gov/lispub/comm/bclist.php

Re: Proposed Short-Lived Climate Pollutant Reduction Strategy

Dear Clerk of the Board,

The Association of Home Appliance Manufacturers (AHAM) would like to comment on the California Air Resources Board's (CARB) April 2016 Proposed Short-Lived Climate Pollutant Reduction Strategy (Proposed Strategy). The Proposed Strategy does not align with AHAM's February 9, 2016 statement indicating the U.S. and Canadian household refrigeration industry has voluntarily set a goal to eliminate the use of high Global Warming Potential refrigerants after 2024.

AHAM represents manufacturers of major, portable and floor care home appliances, and suppliers to the industry. AHAM's membership includes over 150 companies throughout the world. In the U.S., AHAM members employ tens of thousands of people and produce more than 95% of the household appliances shipped for sale. The factory shipment value of these products is more than $30 billion annually. The home appliance industry, through its products and innovation, is essential to U.S. consumer lifestyle, health, safety and convenience.

HFC Regulatory Measures in U.S. and Canada

On November 6, 2015, all 197 parties to the Montreal Protocol on Substances that Deplete the Ozone Layer agreed to work together, within the Montreal Protocol, to develop an HFC amendment in 2016. The so-called "Dubai Pathway" would seek to add HFCs to the Protocol and subject this class of chemicals to a use phase down. Every year since 2009, Canada, Mexico and the United States have put forward the North American Proposal to amend the Montreal Protocol to include controls on HFCs. The North American Proposal recognizes that greenhouse gas reduction is an international challenge best solved through one of the most successful international treaty frameworks; a treaty that can take credit for the elimination in large part of the production and use of ozone depleting substances (ODS) around the world. The North American proposal would establish targets to reduce HFC consumption and production in both developing countries and developed countries.

AHAM is an active participant in this effort and, as noted above, released a statement indicating the Canadian and U.S. household refrigeration industry had voluntarily set a goal to eliminate the use of HFC refrigerants after 2024. [1] As part of this commitment, the industry is seeking the support of government and safety authorities. Since the AHAM statement, Environment & Climate Change Canada released its final pre-Canada Gazette proposal to phase-down HFCs. The U.S. Environmental Protection Agency (EPA) also published a proposal that would prohibit the use of HFC refrigerants commonly used in household refrigeration products.[2] Additionally, there is this CARB Proposed Short-Lived Climate Pollutant Reduction Strategy.

As is readily apparent, many proposals and consultations have been introduced, each with their own unique timetables, submission dates and data and information requests. Notably, none of these governmental agencies has authority over the safety standards or building code processes that are a critical part of any solution. These codes and standard, which establish critical parameters that manufacturers must account for when developing new products, can be changed but it takes time and they must be based on concrete evidence supporting any amendments.

The various proposed dates for bans or phasedowns from all these different government entities results only in confusion and wasted resources that should instead be devoted to reducing the barriers to industry transitioning to alternative low GWP refrigerants, such as hydrocarbons (HC). Hydrocarbons are flammable, and related safety concerns must be addressed through the standards process. Limits on charge size in the safety standard, as well as the efficiency levels that will be set by the Department of Energy in its next standards development process, must be known to manufacturers before they can transition to new refrigerants. It is critical to allow the appropriate time to make the changes necessary in the design, testing and production of refrigeration appliances with these new refrigerants.

As we strive to provide comments and feedback to all of these regulatory undertakings, AHAM is gathering information and data from its members on the effects the various regulatory proposals will have on their ability to manufacture refrigeration products. Given the different submissions dates and the diverse proposals, the industry's data collection process is significant and time-consuming. As a result, AHAM is not yet in a position to provide substantial information or data to CARB. AHAM is also working to address safety standards and building codes and will share this information with CARB as soon as it is developed.

Appliance Design and Manufacture

Any transition to alternative refrigerants is complex and must be considered at the product design phase. The use of any new refrigerant has to start with safety, thermodynamic properties, toxicity, flammability, material compatibility, and compressor reliability with the proposed substance. Additionally, the use of these new refrigerants will include changes to other parts of the refrigerator (i.e., switches, printed wiring boards, compressors and defrost heaters). Appliance design, engineering and supporting manufacturing infrastructure represent the most expensive and resource-intensive efforts manufacturers must undertake when complying with regulatory changes and will affect the entire household refrigeration category. The many facets

[1] Home Appliance Industry Sets Goal To Eliminate Use of HFC Refrigerants – February 2016
[2] Rule 21 - New Listings of safer substitutes and prohibition on the use of certain high-GWP alternatives – April 2016

of product design include the coordination of environmental, energy efficiency and safety requirements.

Production processes and design are complex and require additional investment if alternative substances present other risks. Hydrocarbons have been identified as an alternative refrigerant, but they are flammable, which impacts both product and production safety. As identified in the October 2014 UNEP Technology and Economic Assessment Panel (TEAP) report,[3] significant barriers and restrictions for HC use include compliance with safety standards, personnel training from manufacturing to supply chain to field service technicians to handle flammable HCs, and proper building code compliance, among other things.

Additionally, HCs are limited to a maximum charge size of 57g in the U.S. and Canada for safety as per UL 250 standard, the tri-national CANENA 60335-2-24, and CSA standard C22.2 NO. 63-93. The 57g restriction limits the ability to cost effectively design and engineer all sizes and types of household refrigerators and freezers. Work to review the 57g charge size limit has yet to be undertaken. Changes to product safety standards to reflect a possible HC charge size change will not happen overnight. The process to consider and revise product safety standards requires time and effort by both Standards Development Organizations as well as the product safety committee stakeholders as they consider how a change in charge size will impact product safety. The safety of consumers and of workers should be everyone's paramount concern. This is why AHAM in our February 9th statement specifically seeks the support of government and safety authorities. Phasing out the use of HFC refrigerants cannot be done without understanding the effects this will have on product performance and safety. The Proposed Strategy appropriately recognizes these safety standards challenges but then still proposes to ban high Global Warming Potential (GWP) refrigerants in 2021, which is an unrealistic proposal for all refrigerators, freezers, room air conditioners, portable air conditioners, and dehumidifiers.

AHAM appreciates the opportunity to comment on the Proposed Strategy and would be glad to discuss further these important public policy issues. Please contact me or Kevin Messner at (530) 309-5629 or kmessner@politicalogic.net with any questions or to discuss further.

Sincerely,

Robert D. McArver
Vice President, Policy & Government Relations

[3] TEAP Report – October 2014