August 27, 2015

Comments on Cap-and-Trade Auction Proceeds Second Investment Plan: DRAFT CONCEPTS FOR PUBLIC DISCUSSION

**The Issue**

The North American Sustainable Refrigeration Council (NASRC) is pleased to offer comments in support of the ideas contained in the *Cap and Trade Auction Proceeds Second Investment Plan: Draft Concepts for Public Discussion* (July 2015). Specifically, NASRC supports the Air Resources Board’s (ARB or the Board) suggestion **to provide incentives to assist California businesses with installing low-GWP refrigeration equipment**.

*While low-GWP refrigerant systems are available, financial barriers inhibit widespread adoption. Currently, there are no incentives to support low-GWP refrigerants. Offering support to California businesses to install or upgrade to a low-GWP refrigerant system can provide significant reductions of F-gas emissions at a very low cost.*

The current standard in North American supermarkets is still equipment that relies on (and emits) large volumes of potent, fluorinated greenhouse gases; however, natural refrigeration technology[[1]](#footnote--1) is well proven and well utilized in Europe and parts of Asia. As the Board notes in its Concept Paper, fluorinated gases (HFCs) are the fastest growing source of greenhouse gas (GHG) emissions – and this trend must change if we are to meet California’s aggressive climate goals. The Board also recognizes that there are financial barriers preventing widespread adoption of sustainable refrigeration technology, though as we discus throughout our comments, this is not the only hurdle preventing widespread use of natural refrigerants.

**Who We Are**

The North American Sustainable Refrigeration Council (NASRC) is a 501(c)3 non-profit, incorporated here in California. Our mission is to galvanize refrigeration industry stakeholders to lead a market transformation toward more sustainable refrigeration technology. Our members represent all aspects of the supermarket refrigeration industry: the end-users (i.e. supermarkets), service technicians and equipment manufacturers. The technology, best practices, and manpower exist to greatly reduce the impact that supermarket refrigeration has on the environment, but many hurdles still stand in the way. NASRC brings together a diverse set of industry stakeholders to support the changes necessary to drive a shift in retail food refrigeration toward innovative, more climate-friendly technology.

**What a Successful Low-GWP Incentive Program Looks Like**

NASRC is pleased that ARB has proposed to offer incentives to small business to help install natural refrigeration equipment in order to lower their GHG emissions; however, this proposal is far too limited. We need a robust incentive program targeted at *new* stores in addition to retrofits, regardless of business size. We need a program with enough breadth and financial backing that success will noticeably help shift the market towards better technology. We need a program that allows the supermarket industry to position itself for environmental and economic success in the face of current and future restrictions on HFC refrigerants. NASRC hopes to help ARB implement an incentive program with the following characteristics, each of which further supports the legislature’s goal for how auction proceeds should be spent:

**Any business with retail food refrigeration needs to be able to qualify** - Big chains can have more impact (larger stores, serving larger populations); additionally, small businesses often are a single store, and the logistics of retrofitting an existing store are far more complicated than installing a system in a brand new store.

*Provide opportunities for businesses, public agencies, nonprofits, and other community institutions to participate in and benefit from statewide efforts to reduce greenhouse gas emissions*

**Prioritize incentives for stores opening in disadvantaged communities**  – New stores using natural refrigerants will bring fresh produce to disadvantaged communities, many of which are also food deserts[[2]](#footnote-0). The primary issue in food desserts is availability of nutritious, fresh food. Affordability is also an issue, but one that can be at least partially addressed via food stamps. But affordability is a moot point if fresh food is nowhere to be found. A successful incentive program will help encourage store installation in these underserved food deserts. A new store means new jobs, with direct economic (and health) benefits to these disadvantaged communities.

*Foster job creation by promoting in-State greenhouse gas emission reduction projects carried out by California workers and businesses*

*Direct investment toward the most disadvantaged communities and households in the State, including allocation of at least 10 percent of the investments to projects located within disadvantaged communities, and 25 percent to projects benefitting those communities;*

*Maximize economic, environmental, and public health benefits to the State*

**Funding for new Low-GWP equipment should also support technician training** - One of the major hurdles preventing faster uptake of natural refrigerant technology in the supermarket sector is the lack of qualified technicians to service these systems. Our incentive program should help fund technician training, to ensure that the pool of skilled workers grows along with the installed base of natural refrigerant equipment. By focusing again on underserved communities, we not only create skilled jobs, but also help ensure that new systems are maximizing their GHG emissions reduction potential through leak prevention and energy efficiency.

*Provide opportunities for businesses, public agencies, nonprofits, and other community Institutions to participate in and benefit from statewide efforts to reduce greenhouse gas emissions*

**Incentives must be graduated, with the most financial support early on –** As the Board is aware, the market for natural refrigerants has not taken off here in the United States the way it has in other parts of the world. Until we have the economies of scale to bring the down the cost of natural refrigerant equipment and installation, we won’t see the market penetration that Europe or Asia has. One of the best ways to drive this transition is to provide such appealing incentives to the first-movers, that installing (e.g.) a transcritical CO2 system, or a series of stand-alone hydrocarbon racks, is the economically smart choice. By truly incentivizing stores to transition now, instead of years down the road, we can catalyze the transition out of HFCs sooner, and we can build the market needed to support a strong natural refrigeration industry in the U.S. We must demonstrate to the equipment manufacturers that they should expand their North American markets; we must push the contracting community to seek natural refrigerant training for their technicians; we must set an example in California supermarkets to show the rest of the nation’s stores that natural refrigeration is the logical choice. Over time, the amount of funding can decrease because we expect the market to shift. Equipment costs will come down as manufacturers compete for market share, installation costs will decrease as more companies are qualified to bid on projects, finding capable service technicians won’t be an issue. In short, the more robust the inventive program is initially, the faster we will transition the supermarket industry out of HFCs and into climate-friendly, efficient natural refrigerants.

*Lessen the impacts and effects of climate change on the State’s communities, economy, and environment.*

*Reduce emissions of short-lived climate pollutants across industries*

**Costs & Benefits**

There are more than 35,000 supermarkets across the United States[[3]](#footnote-1). Some are larger than others, but the Environmental Protection Agency’s Profile of an Average U.S. Supermarket’s GHG Impact[[4]](#footnote-2) looks like this: The average store is approximately 46,000 square feet with a refrigerant charge of 3,500 pounds and an annual leak rate of 25%. A store this size, using R-404A (with a GWP of 3,922), leaks, on average, 1,556 metric tons of CO2eq *each year*. By contrast, the same store uses only 1,383 metric tons of CO2eq in electricity each year.

A properly installed transcritical CO2 system could cover the refrigeration needs of that same store, with effectively zero refrigerant emissions. As far as GHG impact goes, switching from R-404A to CO2 is the equivalent (in metric tons of CO2eq) of powering the entire store with some form of zero emissions renewable energy. That’s big.

And while the cost of natural refrigerant equipment varies by store size and technology type – experience of stores like Whole Foods and Hannaford suggests that a transcritical CO2 system is up to 40 to 50 percent more expensive to procure and install than a traditional HFC system.[[5]](#footnote-3) There are clear benefits to hydrocarbon, CO2 and ammonia systems: decreased maintenance costs, cheaper refrigerant, ability to market the store as “environmentally friendly” – all that is missing is a real financial incentive to help businesses with the upfront capital investment of installing low-GWP technology.

**Conclusion**

*Achieving the Governor’s goals [as outlined in B-30-15] will require accelerating current strategies and pursuing innovative strategies across sectors—all while providing the opportunity for California to adapt to the impacts of climate change and bringing a multitude of other tangible benefits to all Californians*

A well-funded incentive program to support California supermarkets in the transition to climate-friendly technology is a sure way to reduce the emissions of short-lived climate pollutants, create jobs, benefit disadvantaged communities and support innovative, sustainable technologies. NASRC looks forward to working with ARB over the coming months to continue to develop a first-of-its-kind low-GWP incentive program for retail food refrigeration.

Most Sincerely,

Liz Whiteley, Executive Director

North American Sustainable Refrigeration Council

1. “Natural refrigerants” include carbon dioxide (CO2), ammonia and hydrocarbons such as propane and isobutene. Hydrocarbon refrigerants have GWPs less than 10, while CO2 has a GWP of 1, and ammonia has a GWP of zero; hence, all “natural refrigerants” are also low-GWP. [↑](#footnote-ref--1)
2. According to the United States Department of Agriculture, “Food deserts are defined as urban neighborhoods and rural towns without ready access to fresh, healthy, and affordable food. Instead of supermarkets and grocery stores, these communities may have no food access or are served only by fast food restaurants and convenience stores that offer few healthy, affordable food options. The lack of access contributes to a poor diet and can lead to higher levels of obesity and other diet-related diseases, such as diabetes and heart disease. <http://apps.ams.usda.gov/fooddeserts/fooddeserts.aspx> accessed August 20, 2015. [↑](#footnote-ref-0)
3. 37,716 supermarkets in 2014, defined as stores with more than $2 million in annual sales. http://www.fmi.org/research-resources/supermarket-facts [↑](#footnote-ref-1)
4. http://www2.epa.gov/sites/production/files/documents/gc\_averagestoreprofile\_final\_june\_2011\_revised\_1.pdf [↑](#footnote-ref-2)
5. <http://energy.gov/sites/prod/files/2015/02/f19/Hannaford%20Study%20Report%201-22-2015_CLEAN.pdf>, accessed August 20, 2015, and conversation with Aaron Daly of Whole Foods on August 19, 2015. [↑](#footnote-ref-3)