



April 23, 2016

Mr. Glenn Gallagher
Air Pollution Specialist
Research Division
California Air Resources Board
1001 "I" Street
P.O. Box 2815
Sacramento, California 95812

Dear Glenn:

Thank you for taking my call and allowing me the opportunity to present our comments to the Air Resource Board on issues that we feel will strengthen the efforts to protect the environment and not add additional burden on the residence of State of California.

There are some assumptions that we hope you will reconsider:

- GHG Data is flawed
- Reclaim Refrigerant issues
- Equipment replaced (HCFC-22) by 2020 (page 81 Proposed SLCPS April 2016)
- The locking in of units by early action
- Prohibition of the Sale of New High GWP (100 year GWP of 2500) Refrigerants by 2010 (page 87 Proposed SLCPS April 2016)

As the result of a petition filed in 2015, on the matter of HFC Blend Refrigerants from the Peoples Republic of China (PRC) being sold in the United States at less than fair market value (LTFMV), many facts have come to light that had not been previously considered.

As interested parties, we engaged the process for one of our members, Choice[™] R-421a and R-421b. In the preliminary phase of this case we obtained an exclusion from the tariff matter for our client. In order that the case and action were administered fairly we obtained new Harmonized Tariff Numbers for the subject blends and components.

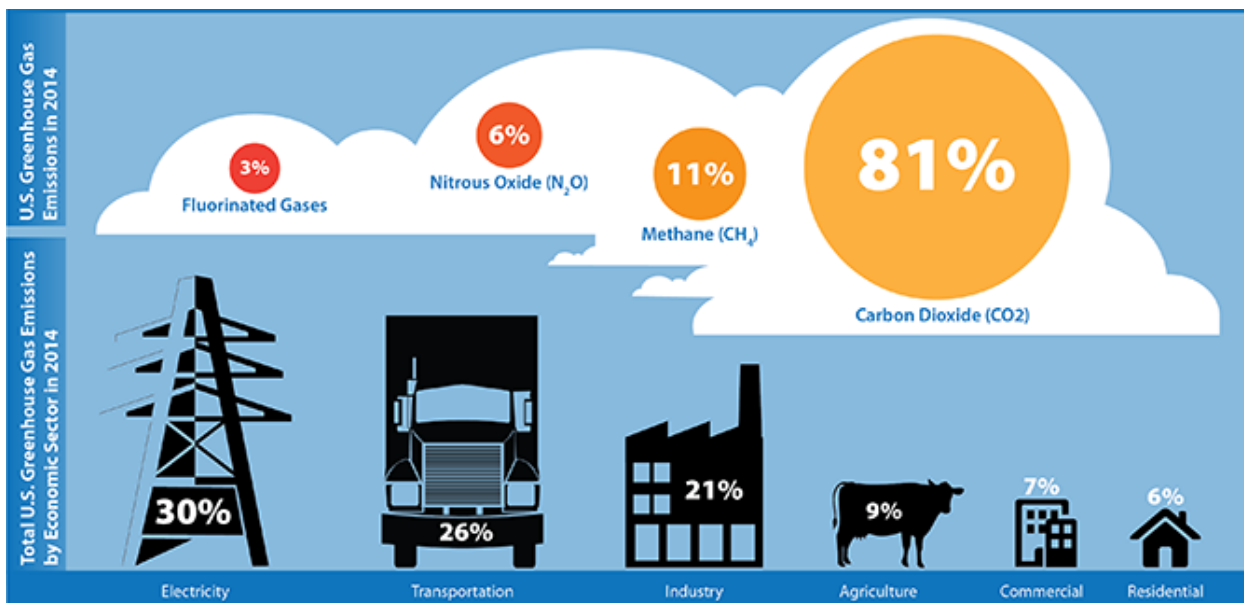
In order to accomplish these tasks we presented to the Department of Commerce (DOC) and to the Environmental Protection Agency (EPA) data about Green House Gas Emissions.



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What became clear is according to the reports published by EPA the prior three years is there had been a steady decline in F-Gas GHG Emissions. As a result of these facts, EPA is now seeking to capture imports that will give a base line for emission and insure that when an HFC Phase-down takes place, the base line will be more accurate than the one that was used in the HCFC Phase-out.

On the matter of F-Gas



The proceeding shows the impact of F-Gas on the United States environment. We suggest that efforts such as the ARB Programs to contain F-Gas are a major factor to such a low impact on our lives.

In a letter to Cynthia Giles in January, 2016, we point out that under the GHG Reporting sections Subpart OO and Subpart QQ compliance is needed to insure accurate data for all States to formulate sound public policy.

The following chart is compiled from the GHG Report released in 2015. This is a list of companies that are reporting under Subpart OO. We cannot ascertain which F-Gas is being reported as that data is considered Confidential Business Information (CBI). We



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would note that there are many importers and manufacturers in the United States who are not in compliance with this section of Federal Regulations.

In addition to this section there is Section QQ, which represents equipment imported into the United States which contains F-Gas. Again, while the second chart gives some of the imports it does not reflect all imports.

The data that I forwarded to you from the International Trade Commission dataweb reflects only some of the HTSUS Codes we selected not only for this issue but other issues within other agencies.

| Table 1 | | | |
|---------------------------------|----|-------------------------------------|----|
| 2014- Industrial Gas Importers | | | |
| 3M Company | MN | Honeywell Inc. | PA |
| 3M Cottage Grove Center | MN | Hudson Technologies Co. | NC |
| Air Prod&Chem Tamaqua PLT | PA | Juno International, LLC | NJ |
| Altair Partners LP | NJ | Kivlan & Co. Inc. | IL |
| Air Liquide Electronics U.S. LP | PA | Linde Electronics & Specialty Gases | NJ |
| Airgas Refrigerants, Inc. | GA | Lenz Sales & Dist., Inc. | PA |
| Airgas Specialty Gases, Inc. | GA | Mexichem Fluor Inc. | NJ |
| Arkema Inc. | PA | Matheson Tri-Gas | IL |
| AutoZone Parts, Inc. | TN | National Refrigerants Inc. | LA |
| Automart Distributors Inc. | FL | Nitrous Oxide Corp | NJ |
| Coolgas, Inc. | TX | Praxair Inc. | PA |
| Certified Specialty Gases, Inc. | NV | Solvay Specialty Polymers USA | GA |
| Combs Gas, Inc. | TX | Solvay Fluorides LLC | CT |
| Concorde Specialty Gases | NJ | Specialty Gases of America | NJ |
| Daikin America Inc. | AL | Tulstar Products Inc. | OK |
| E.I. Dupont De Nemours & Co. | DE | Tier 5 Labs, LLC | IL |
| Electronicfluorocarbons, LLC | PA | USA Refrigerants | NJ |
| GSK, Inc. | NC | Wal-Mart Stores | AR |
| Honeywell Inc. | NJ | Weltron Inc. | MD |



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| Table 2 | | | |
|--|----|------------------------------------|----|
| 2014- Importers of Equipment Containing Fluorinated GHGs | | | |
| Alstom Grid Inc. | PA | Mitsubishi Electric Power Products | PA |
| American Honda Motor Co., Inc. | CA | Mitsubishi Motors North America | CA |
| BMW of North America, LLC | NJ | Nissan North America, Inc. | TN |
| Carrier Corporation | CT | Owens Corning Foam Insulation | OH |
| Daikin Applied Americas Inc. | MN | Panasonic Appliances Refrigeration | CA |
| De Longhi America Inc. | NJ | Rheem Manufacturing Co. | GA |
| Electrolux Home Products, Inc. | NC | S&C Electric Co. | IL |
| FCA Chrysler Technology Center | MI | Samsung Electronics Co. | NJ |
| Friedrich Air Conditioning Co. | TX | Siemens Industry, Inc. | NC |
| General Electric, Appliances | KY | Subaru of America, Inc. | NJ |
| General Motors LLC | MI | Target Corporation | MN |
| Hyundai Motors | AL | The Dow Chemical Co. | MI |
| Hyundai-Kia America Tech Center | MI | Toyota Motor Sales, USA Inc. | CA |
| Johnson Controls, Inc. | WI | Trane | NC |
| LG Electronics USA, Inc. | NJ | Volvo Cars of North America | NJ |
| Lennox International Inc. | TX | Wal-Mart Stores, Inc. | AR |
| Mazda North American | CA | Whirlpool Corporation | MI |



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The following chart again shows that data would suggest we need to do nothing as the issue of F-Gas emissions is taking care of itself.

Chemicals Sector — Greenhouse Gas Emissions Reported to the GHGRP
(all emissions values presented in million metric tons CO₂e)

| | 2011 | 2012 | 2013 | 2014 |
|--|-------|-------|-------|-------|
| Number of facilities: | 458 | 468 | 473 | 460 |
| Total emissions (CO₂e): | 180.7 | 172.4 | 174.4 | 176.5 |
| Emissions by greenhouse gas (CO₂e) | | | | |
| • Carbon dioxide (CO ₂): | 142.7 | 142.9 | 147.1 | 149.1 |
| • Methane (CH ₄): | 0.2 | 0.2 | 0.2 | 0.3 |
| • Nitrous oxide (N ₂ O): | 21.3 | 16.0 | 14.8 | 16.6 |
| • Fluorinated GHGs: | 16.6 | 13.3 | 12.3 | 10.5 |
| Emissions by subsector | | | | |
| • Non-fluorinated chemicals | 163.3 | 158.3 | 161.3 | 165.2 |
| • Fluorinated chemicals | 17.4 | 14.1 | 13.1 | 11.4 |

Totals may not equal sum of individual GHGs due to independent rounding.

Reclaim

For quite sometime the industry and EPA has stated the need for a strong reclaim industry. EPA based assumption on the ability for the reclamation industry to contribute a great deal of F-Gas to the market to sustain equipment until end of life and to avoid the demand for additional new chemicals to be produced in the face of Phase-outs.

| 2012 | 2013 | 2014 |
|------------|------------|-----------|
| 11,315,902 | 10,932,087 | 9,631,160 |



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On the national level, reclaiming is not increasing but is in fact declining. This is only part of the story. We have filed a Freedom of Information Request (FOIA) with EPA asking them to disclose the entire amount of refrigerants that have been turned by all EPA Certified Reclaimers.

This would give everyone a chance to evaluate the effectiveness of any program that is guided by 40 CFR Section 608.

These factors should be considered as to the sustainability of this thought process to operate air-conditioning solely from reclaimed material.

Another element that should be considered is that monitoring of what is reclaimed and what is not will be a challenge. Our point here is that this would be another regulatory nightmare. Example 100 pounds of HCFC-22 at 99% blended with 5,000 pounds of 100% virgin HCFC-22 would yield 5,100 pounds of legally salable HCFC-22. Would you call all of it reclaimed or part?

This would certainly open the door for gaming of the system and at best would require another set of eyes.

Equipment

The assumption that HCFC equipment will go away doesn't hold water. When EPA began the CFC Phase-out they determined that there were 80,000 CFC Chillers in the United States. By all account there are more than 40,000 machines still in service.

It is unreasonable to assert that homeowners are going to simply change a unit to save the environment. This has never happened and there is more than ample proof that it will not go that way. In addition, the proposed \$20,000,000.00 would not go very far in this effort.

We note that there has been nothing in the body of work that acknowledges apartments, hotels and mid-rise units that have line sets running through the walls of a building. Line-sets that were designed for the pressure of HCFC-22 not the higher pressure of HFC-410A.

This is not an issue of the naturals vs. the HFCs. What is not being presented is the fact that some of the low GWP refrigerants present challenges due to chemical characteristics. Let's look at ChoiceTM R-421a. This SNAP approved alternative has a pressure temp relationship most closely to HCFC-22 while R-32 is much higher.



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When the conversation comes to interchangeability the issue is one that should recognize that substitutes were developed to extend the life of equipment. The newer low GWP refrigerants are totally different systems designed to accommodate the specific characteristics of the new refrigerants.

Again none of the work we have reviewed looks at the vast difference in the United States air-conditioning market vs. Europe.

The United States has by far more uses of air-conditioning than Europe. In the meetings in Paris in 2016 there was serious talk about exemptions of countries with high ambient climates.

Again, the more we study and examine the use of refrigerants, the more we can learn of how we should contain and limit where possible the releases while we gain better knowledge as to how these issues interact with each other.

Early Action

What has been put together let no man break apart.... well not exactly the quote, but the fact is that we have had a rapid change in the refrigerant chemical industry. CFCs, HCFCs and now HFCs. The year 2013 was a tremendous year for alternative sales until the HCFC-22 debacle of April 3, 2014.

Sales Restriction:

Consider our marriage analogy. For years contractors have been attempting to stabilize their business expenses by shifting away from the pricey phase out refrigerants and adopting the EPA SNAP approved Class II replacements such as ChoiceTM R-421a and R-421b. The economics make sense. Eliminating ozone-depleting refrigerants for non-ozone depleting products protected the environment.

Many Americans have been well served by the use of alternatives and now we want to tell them to junk their units and by something new and jump in with HFOs?

If a sales restriction is imposed that is exactly what will happen.

What is left out of this whole conversation is the fact that the price of HCFC-22 this year is over \$400.00 per/30 lbs./cylinder. That is bad enough now consider the cost to install 1 pound of HCFC-22 will be anywhere from \$120.00 per pound to \$180.00 a pound.



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Choice™ R-421a is significantly less in acquisition cost and surly does not have the same price tag to install.

The stark fact here is that while a cylinder of HCFC-22 can provide more than a 1,200% gross margin ARB must consider that alternatives will keep protecting the uninformed from facing price gouging.

When profit margins are as high as these what is the reason to recover and reuse the Class II ODS. Just vent it and move on. Or simply put something in the unit, call it good and let the next guy deal with it. Topping off systems is a regular way that a contractor saves money.

High GWP

We would ask that you reconsider the position on High GWP Refrigerants of 2,500. While other nations may have adopted this as a benchmark, the small 3% contribution to Greenhouse Gas emissions in the United States does not warrant such a distinction. After all, why choose 2,500, why not any number greater than zero. We would suggest that the points we present about the United States should be the determining factor as to this issue.

We are in no way willing to push back on the naturals or Low GWP Refrigerants. What we are saying is that the proposal must consider how they can interact with the large installed base of systems in California.

It is clear that California is a leader in sound environmental policy but this time we think that the Federal Policy to restrict use of High GWP Refrigerants in New Equipment is the best way to begin to discourage the future use of HFCs.

The forgoing is offered to extend the vast knowledge in this body of work and to incorporate industry operations, which will make this rule making a strong environmental tool and framework for a smooth transition.

It would be a pleasure to work with you further on this important issue. Should there be anything that is unclear or that needs more development feel free to contact us



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Thank you in advance.

A handwritten signature in black ink, consisting of a large, stylized 'P' followed by a series of loops and a long horizontal stroke extending to the right.

Peter Williams