



FORECAST 2019

WHAT'S ON THE HORIZON FOR THE HVACR INDUSTRY

COMPILED BY ERIKA HOBBS

RSES Journal interviews a cross section of the industry to check the pulse of the market in 2019. These leaders weigh in on what they're watching, developing and hoping for next year. The interviews were edited for style and length.

NICK REGGI, CMS, RCT

INTERNATIONAL PRESIDENT ◉ RSES



WHAT INDUSTRY-WIDE TRENDS ARE YOU SEEING FOR 2019?

I see continued development, growth and expansion of equipment using refrigerants with low-GWP values. This will include natural refrigerants, HFOs and even some HFCs. Many of these refrigerants are destined mainly for OEM equipment, but others will be headed for the replacement market. It sounds like 1990 all over again. However, this time, it's not just about ozone depletion. It's about the environment in a grander scale, as well as energy efficiency in order to reduce electrical demand and operating costs of all electrically driven RAC equipment.

WHICH TECHNOLOGIES TO BE WATCHING FOR 2019 AND WHY?

Variable speed everything and electronic controls everything. To optimize the operation of RAC equipment, equipment operation must match the load more precisely, and this can be best done by controlling the equipment capacities more accurately. Why the need for efficient equipment? A lot of this is driven by the innovations never before possible as manufacturers need to comply to regulations and standards—whether it be the DOE or Energy Star labeling distinctions, or market share and corporate concerns.

So, while a system is being redesigned for a new and more efficient refrigerant, why stop at just improving the thermodynamics of a system? Why not go further and use variable speed motors and better controls to make the equipment more efficient, more reliable by better matching the load? In this case, the OEMs, the end user and even the environment win.

WHICH TRADE, TAX AND REGULATORY POLICIES SHOULD THE INDUSTRY BE PAYING ATTENTION TO AND WHY?

For now, I'll limit it to carbon taxes and/or cap and trade adoption regulations. The end result of such regulations will drive the cost of higher GWP refrigerants up as well as

slowly limit their availability. In the aftermarket, this will lead to the demand and use of lower GWP replacement refrigerants, especially for several HFC refrigerants—which, by the way, is already happening in many areas around the world.

Also, we are waiting on the latest ruling regarding HFC refrigerants with regards to the EPA 608 regulations. If drastic changes occur, this will create further confusion and long-term impact on the entire HFC chain—from manufacturing to distribution, to purchasing, to applications, to uses and even training. In reality, any drastic changes will put these regulations out of step with what global regulations (and several states) are doing with numerous high GWP HFC refrigerants.

HOW DO YOU SEE TRAINING CHANGING OR EXPANDING NEXT YEAR?

The areas of continued training growth will be in dealing with the numerous new refrigerants on the market, the technologies they utilize to maximize efficiencies and the related safety concerns when it comes to flammable, higher pressure or possible even more toxic refrigerants in comparison to what is most commonly being used today.

Personally, I believe that more online training and testing will be the main focus and priorities for 2019. Online training is excellent if the training is short, topic-focused and especially if it is mandatory and it provides instant availability from anywhere.

However, saying this, I also see a renewed demand for face-to-face training. Participants have more questions now than ever before. Technicians are exposed to technology changes on a constant basis with a variety of generations in use.

Being in a classroom full of technicians to discuss, work out the details, and explore the answers sure goes a long way in making a technician more competent and comfortable working on equipment.

WHAT ARE YOU LOOKING FORWARD TO MOST IN 2019?

Some down time—but then so is everyone

else! I am planning on working with the board of directors to help improve regional directors' communication with the members in their areas. This could be anything from email blasts, *RSES Journal* articles, increased attendance at regional functions and possibly realignment of regions. Being a Regional Director can sometimes be difficult, and in some cases, more guidance to their function and expansion on how to best improve and increase our relations within the regions may be required.

I will be open to any ideas from directors, Members and staff on how to become better at what we all do.



**Personally,
I believe that
more online
training and
testing will be
the main focus
and priorities
for 2019.**



Also, as the hydrocarbon training continues to grow and hopefully soon to be offered in Canada (with some CSA additions), talks have been started about having a Hydrocarbon Train-the-Trainer session in order to certify more instructors in the delivery of this material. This would give individuals the opportunity to learn about the uses, concerns and handling practices of hydrocarbon and other flammable refrigerants, which may lead to incorporating this material into their repertoire, used as CM or CMS CEHs and hopefully used as part of their curricula. Training technicians about A2L and A3 refrigerants is well over due.

MICHEL MOREIRA

SENIOR SALES MANAGER ◉ EMBRACO, NORTH AMERICA



WHAT INDUSTRY-WIDE TRENDS ARE YOU SEEING FOR 2019?

Variable Speed: Exponentially growing demand on Fullmotion compressors, aiming to better balance performance and power consumption, especially for low temperature applications.

Food Retail: The continuous adoption of "future proof" solutions, with low-GWP refrigerants and pre-charged systems.

Overall Industry Trends: The consolidation of natural refrigeration usage—R290 is becoming more mainstream because it gives OEMs long-term peace of mind.

WHICH TECHNOLOGIES TO BE WATCHING FOR 2019 AND WHY?

New variable speed compressors and pre-charged units, to be used with natural refrigerants, are the main solutions offered for 2019.

WHICH TRADE, TAX AND REGULATORY POLICIES SHOULD THE INDUSTRY BE PAYING ATTENTION TO AND WHY?

We believe our global footprint, with high-end solutions in all production sites, will play an important role to protect our customers'

business in the current global trade scenario.

We expect that the new international regulation standard (IEC), focused on hydrocarbon refrigerant charge increase, will be key to "unleash" several commercial applications and streamline the use of such refrigerants, causing natural refrigerants to be "mainstream" in commercial refrigeration. It will also be a solid foundation to support the approval process of it in the U.S.

Understand that U.S. environmental regulations at a state level will keep moving on and will align to international standards, targeting the Kigali agreement as well as specific needs, and will keep states ahead of the international environmental standards.

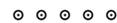
It will represent a massive adoption of natural refrigerants, and we are ready to support it with our competitive products and production footprint.

WHAT ARE YOU LOOKING FORWARD TO MOST IN 2019?

We are looking forward to seeing the approval of refrigerant charge increase at international standard levels (IEC).



We expect the new IEC...will be key to "unleash" several commercial applications and streamline the use of such refrigerants, causing natural refrigerants to be "mainstream" in commercial refrigeration. It will also be a solid foundation to support the approval process of it in the U.S.



TODD WASHAM

DIRECTOR OF INDUSTRY AND EXTERNAL RELATIONS • ACCA



WHAT INDUSTRY-WIDE TRENDS ARE YOU SEEING FOR 2019?

ACCA sees the need for contractors to get involved with home automation. We're seeing companies such as Honeywell pushing into this market. The reason why we think contractors should be doing this is because they're in homes two times a year, servicing air conditioners in the spring, and furnaces or heat pumps in the fall. They know the customers on a first-name basis, and over time, it has become natural for them to embrace services like that. For example, some already do pest control and install security systems. Contractors need to take advantage of this opportunity. If they don't, then Comcast Verizon, AT&T and others will get in there—companies that don't know about the air conditioning and heating industry.

WHICH TECHNOLOGIES TO BE WATCHING FOR 2019 AND WHY?

I think you may see some of the OEMs getting into their own smart thermometers. Goodman is an ACCA partner, and they just announced Comfort Ridge Technology that monitors the performance of HVAC systems and monitors heating and cooling needs over

time. We might start to see OEMs getting into smart off-the-wall communication technology and start to compete with Nest and Google.

WHICH TRADE, TAX AND REGULATORY POLICIES SHOULD THE INDUSTRY BE PAYING ATTENTION TO AND WHY?

ACCA is going to pay close attention to the tax reform package, which the Democrats who have taken control of the House of Representatives will try to roll back. ACCA sees that as a nonstarter. The HEAT Act that was included as a standalone bill in the Tax Cuts and Jobs Act of 2017 offered the immediate expensing of commercial HVAC equipment, instead of 39.5 years.

Members have seen four times the sales of commercial equipment from this year, compared with last year at this time.

Education policy—ACCA worked to get the Perkins reauthorized and funded in 2018, and we'd like to work with the new majority in Congress to increase that. We want to see increased funding for trade schools and to focus on apprentice programs. The Trump Administration has done a great job at this, and we see an opportunity for bipartisan support there.



ACCA sees the need for contractors to get involved with home automation.



Tax reform—We want to see the small business tax cuts made permanent.

WHAT ARE YOU LOOKING FORWARD TO MOST IN 2019?

We're looking forward to our new president and CEO, Bart James, who took the helm on September 5. Since then, we have been in strategic planning. We are expanding our membership engagement and outreach programs. We're doing a big push to highlight our members through social media and eBlasts and there's a lot more touchpoints with our members.



NICK AGOPIAN

VICE PRESIDENT, SALES AND MARKETING ◊ RENEWAIRE



~o~
What we are seeing is the market demanding a single packaging approach... it's critical.

◊ ◊ ◊ ◊ ◊

WHAT INDUSTRY-WIDE TRENDS ARE YOU SEEING FOR 2019?

We're seeing more and more people looking at energy reduction...and with regulations pushing for energy recovery ventilation more than ever...that is the lowest hanging fruit.

If you look at Europe and Canada, energy recovery ventilation in homes is compulsory. We don't do that in the U.S. That, too, is starting to change. People want to reduce electricity and connections costs in their homes.

WHICH TECHNOLOGIES TO BE WATCHING FOR 2019 AND WHY?

Gases and molecular filtration. Also, other than filtration, how can we package and install a system as a whole has become more, paramount than how to produce better fans or motors or things like that.

WHICH TRADE, TAX AND REGULATORY POLICIES SHOULD THE INDUSTRY BE PAYING ATTENTION TO AND WHY?

To me, regulations is the critical one, because

people need to be guided on what it is that should be done. How do we design it, what is should be for and how to install and operate it is where it all falls apart, and I think the regulatory environment giving guidance on how to design, install and operate would be where I would focus on more.

WHAT ARE YOU LOOKING FORWARD TO MOST IN 2019?

What we're seeing is a lot more packaging of technology in a single platform, meaning that more and more engineers and contractors are looking at single approaches, meaning that before they went to one for one service and another for energy recovery like ours, maybe another for dehumidification if they were in Florida or in the South. But what we're seeing is the market is demanding a single packaging approach...it's critical, and we're looking forward to it because it is something we are supplying.



ED MCKIERNAN

PRESIDENT, COLD CHAIN, ELECTRONICS & SOLUTIONS • EMERSON



WHAT INDUSTRY-WIDE TRENDS ARE YOU SEEING FOR 2019?

A refrigeration technician shortage. The growing shortage of qualified technicians is one of the greatest challenges facing the HVACR industry today. It's estimated that 115,000 HVACR technicians will be needed by 2022 to fill industry jobs in the U.S. Solving this problem will require a holistic approach that mobilizes all stakeholders—from contractors and wholesalers to technical colleges, trade associations and equipment manufacturers.

While we recognize that turning the tide on the technician shortage will not happen overnight, we are focused on four key aspects of facing the challenge: awareness, recruitment, training and retention.

WHICH TECHNOLOGIES TO BE WATCHING FOR 2019 AND WHY?

Proactive approaches to food quality and facility management. Today's retail industry is rapidly evolving. In addition to offering a variety of merchandise, some retailers are introducing fresh food and produce to appeal to their customer bases and create competitive differentiation.

But adding food to the retail mix also potentially creates a new set of challenges for retailers related to food quality, safety and preservation.

The new fresh food focus calls for a more proactive approach to help retailers ensure predictable quality and safety of perishable offerings. Evolving store footprints add to the challenges of optimizing HVAC, refrigeration and lighting for maximum reliability and energy efficiency. To create ideal shopping environments and keep operational costs to a minimum, retailers need ways to automate the management of these systems and reduce the burden of labor-intensive reporting tasks. We are working with our customers to develop a combination of equipment and facility management controls that helps deliver reliable refrigeration, advanced facility controls, and remote monitoring and resolution services.

When you consider that nearly 50 million Americans become sick from a foodborne illness each year, the concern comes into sharper focus.



WHICH TRADE, TAX AND REGULATORY POLICIES SHOULD THE INDUSTRY BE PAYING ATTENTION TO AND WHY?

Food safety. Food safety is not just about ensuring quality. More than 133 billion pounds of food are wasted each year, according to estimates from the U.S. Department of Agriculture. Maintaining

food safety throughout every step of the cold chain can help reduce food waste and protect the nation's food supply.

Keeping food at the correct temperature is crucial to keeping it safe as it travels from farms to warehouses to grocery stores. Food safety is top of mind for most consumers: an Emerson survey found that nine out of 10 adults are concerned about food safety. When you consider that nearly 50 million Americans become sick from a foodborne illness each year, the concern comes into sharper focus.

WHAT ARE YOU LOOKING FORWARD TO MOST IN 2019?

Clarity in energy and refrigerant regulations, codes and standards. The shifting regulatory landscape over the past few years has led to uncertainty and disruption in business decisions. Energy, environmental and food safety regulations add complexity to every facet of cold chain operations. In fact, the average U.S. company spends the equivalent of 21% of payroll costs on regulatory compliance. Through our E360 stewardship efforts, we've helped provide clarity on the broad implications of these regulations and started industry-wide conversations about how to best tackle their many related challenges.

