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A Savvy Proposal for  
Energy Efficiency

## THE ROAD TO CERTIFICATION

Participants in the Certified Cold Carrier pilot  
program share their experiences.



# A SAVVY PROPOSAL FOR ENERGY EFFICIENCY

*A trio of companies collaborates on energy efficiency technology for cold storage construction.*

By Keith Loria

**A**t the 38th CEBA Conference and Expo in November 2018, representatives from Viking Cold Solutions, Coldbox Builders and Evapco delivered an intriguing presentation on using new technologies to build better and more efficient cold storage facilities.

Collin Coker, Vice President of Sales and Marketing for Cold Solutions, a thermal energy management company that makes cold storage systems more efficient, says its portion of the concept highlights Thermal Energy Storage (TES), leveraging the natural laws of convection to capture, store and consolidate heat infiltration to enable the existing refrigeration equipment to more efficiently remove heat from the facility – and ultimately use much less energy to safely operate the facility.

“Energy-related costs are usually the second- or third-highest operating expense for industrial cold storage operators,” he says. “When a construction company can build a more efficient freezer that can significantly reduce energy-related costs for the life of that facility and can maintain a higher quality frozen food product, you have a winning recipe that enables the operator to be more competitive in the market place.”

Coker believes that interest in energy efficiency is high for GCCA members and many

are looking for ideas like those expressed in the presentation.

“We continue to see more innovation, investments in technology and use of intelligence to gain multiple levels of efficiency,” Coker says. “Whether it is automation, investments in renewable energy such as solar and now adding in TES to more effectively leverage these assets, operators see now more than ever before that in order to remain competitive, they must continue to invest in technology.”

Still, he does feel that the industry’s adversity to risk is also high, saying that if one cannot show or prove the efficiency and savings, there is a natural reluctance to put trust into something new.

“The initial adoption of our technology was slow, but now that operators are seeing their competitors reap the financial and risk-reduction benefits, adoption is rapidly gaining momentum,” Coker points out. “One of our key value propositions is our ability to display daily performance via the cloud-based monitoring

and notifications portal, lending further credibility to the technology’s benefits and efficacy.”

The most important thing has not changed is keeping the food safe and stable during its journey through the cold chain. Coker notes if a company is not building a state-of-the-art facility, then they are building in the past.

Marko Dzeletovich, President of Coldbox Builders, a refrigerated warehouse designer/builder, says the companies teamed to show the members of CEBA, as well as the end users present in the audience, that combining these technologies into new projects can have a compound effect for the end user of the building.

And while he notes there is no one-size-fits-all optimized building – a 3PL will be different than a foodservice distributor that will be different than a manufacturer or producer/processor – it’s important to start moving forward with energy-efficiency measures.

“Building operators put a lot of effort into understanding, reviewing and controlling initial capital cost in their facilities. Far fewer put considerable effort into optimizing the operational cost of the facility through design,” Dzeletovich says. “For that, you must bring the right people to the table, the right vendors of the different technologies and go through the offerings during design development in a very methodical, iterative way. It’s the only way to determine the impacts and benefits of the different systems that are out there and available for consideration in a new facility.”

Kurt Liebendorfer, Vice President of Evapco, a manufacturer of industrial refrigeration systems, says the impact of new technologies that we see in our everyday lives has finally reached the cold storage industry. One of his main goals in the presentation was to show that the new packaged low charge ammonia refrigeration technology provides many benefits to cold storage construction projects.

“The benefits are diverse and include the smarter use of space, a faster schedule and inherently safer and lower energy consumption,” he says. “Energy consumption and the associated electric bill is the second largest cost component for a cold storage facility, behind only labor cost. Any and every improvement in energy efficiency a warehouse can attain goes right to the bottom line and increases profits.”

He notes that evaluating this during the proposal phase can lead to increased profits over the life of the equipment. However, evaluating the operating efficiency cost benefits of packaged low charge ammonia and thermal energy storage often requires an energy analysis be performed, so it is important that end users and contractors ask for this information during the proposal development of a project.



*Thermal Energy Storage modules installed on top crossmember of the racking structure. (Photo courtesy of Viking Cold.)*

“The new technologies of packaged low charge ammonia and thermal energy storage have been introduced to the cold storage market only in the last couple of years so are relatively new,” Liebendorfer says. “They are both experiencing the typical phases of new product market adoption – starting with a few early adopters, then a period of scrutiny and validation, followed by acceptance and a growing installed base.”

Liebendorfer believes both technologies have successfully passed the validation phase and are now transitioning through the acceptance and growing installed base. Coldbox, for one, has identified the benefits of these technologies and working them into its project development efforts to the benefit of owners and end users.

“The traditional method of designing and building the legacy central ammonia plant systems becomes slightly different to incorporate these new technologies, so having a progressive and open minded design build project team is an important element of bringing these great solutions to the owner,” Liebendorfer says.



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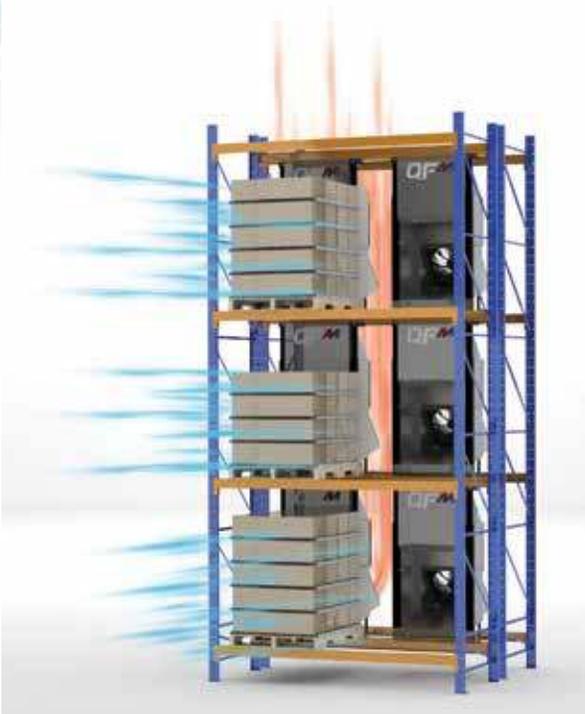
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**TIPPMANN INNOVATION**

## Making a Difference

Visibility is key to creating interest and the GCCA Energy Excellence Program and a new task force at the International Institute of Ammonia Refrigeration (IIAR) are both helping to bring out the message. The programs' high levels of interest and positive responses are clear evidence of a changing landscape that both organizations are recognizing and addressing for their members.

"Prioritizing the importance of energy within GCCA and IIAR confirms that there is still a lot of room for improvement across the industry," Coker says. "By demonstrating pathways for improvement, sharing successes and helping determine KPIs, GCCA and IIAR are increasing the value of new ideas and encouraging members to take bold steps to invest in the resources that can change energy needs for cold storage."

Looking ahead, Dzeletovich feels several companies will come to see that for their operations to be efficient over the long term, they will need to make time to optimize their

facilities from the beginning.

"They will develop partnerships with tech-savvy and innovative design builders who specialize in environmentally controlled facilities and we will see fewer and fewer bid build type projects with these specialized facilities," he says. "To optimize is to collaborate and iterate; these are things at the heart of specialists who compete on knowledge, skill, experience and track record."

The presentation touched on all of these important considerations and all three companies who collaborated are hopeful that things are changing for the better.

"This is the tip of the iceberg in terms of where the true innovation of environmental controlled facilities can go in the future," Dzeletovich says. "Following the presentation, there were a few members who truly digested the idea and approached me to discuss it. These are members who are seeking alternatives and seeking to offer options to their clients."

Liebendorfer says the growing focus and momentum on energy efficiency and energy

cost is spreading throughout the cold storage market, which bodes well for the accelerated adoption of packaged low charge ammonia and thermal energy storage.

"The bottom line is providing, installing and operating these energy efficient and pre-engineered packaged solutions is getting more attention in the cold storage market because they work," he says. "These technologies have been successfully validated and proven to deliver the expected results. Owners and contactors are seeing new technology as a method to being more competitive and profitable. In short, the cold storage market is in the midst of its own technology revolution." ☞

**KEITH LORIA** is an award-winning journalist who has been writing for major newspapers and magazines for close to 20 years, on topics as diverse as sports, business and technology.

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# COLD CHAIN INNOVATIONS

## AUTOMATED CLEANING AND DISINFECTING FOR TRAILER INTERIORS



ISTOBAL USA presented its revolutionary ISTOBAL HW'INTRAWASH at the 2019 Global Cold Chain Expo. The system was designed to meet the growing need to automate cleaning and sanitizing the inside of trailers and box containers.

The ISTOBAL HW'INTRAWASH also allows operators to maximize their efficiency. The system guarantees a professional interior wash and a FSMA-compliant disinfection of refrigerated and dry van trailers, as well as shipping containers. It also reduces water and chemical usage as well as cleaning time as it can clean a 53-foot trailer interior in as little as three minutes and clean and sanitize in six minutes.

The system is an industrial alternative to a manual wash. Constructed of stainless steel, the unit and its components are designed for the harsh conditions of this type of cleaning environment. The footprint is small, and the required support equipment is compact, so installation in an existing dock is possible. Compared to a manual wash process, the machine cleans 75 percent faster and facilitates control over chemical products. ☞



*Cold Chain Innovations, a column brought to you by Tippmann Innovation, features the latest technologies, cutting-edge solutions, and innovative practices that the cold chain industry has to offer. Featured in each issue of COLD FACTS Magazine, the Cold Chain Innovations section gives readers thought-provoking ways to optimize their supply chain and improve operational efficiencies. The information presented in the Cold Chain Innovation section is sourced from GCCA members. To feature your news, press releases or submit your idea for a future Cold Innovation article, contact James Rogers at [jrogers@gcca.org](mailto:jrogers@gcca.org) or call 703.373.4300.*

through the application process helped us tighten that up and also helped ensure that all areas of the company were aligned around the Best Practices Guide.”

Tielens says that after his company gathered all their SOPs and documentation for the Certified Cold Carrier application, new employees started going through training now adapted to the certification process. They also developed their own

test to gauge how well new employees comprehended the training and plan to incorporate the new adapted training into quarterly reviews.

“Since certification, our safety and HR departments hold meetings with shipping and receiving and the drivers to check the integrity of equipment and product temperatures and what information is going into the system - all aspects of certification,”

Tielens says. “It’s allowed us to tie everything together. Each different practice area has a role in the chain and CCC ensures they understand that role.”

“It’s one thing for us in the head office to talk about best practices but on the ground, certification has changed the way our team handles operations. Teams have to be accountable around the certification process and we’ve had less claims and less claims lead to happier customers and more positive feedback,” McCain admits. “If we continue to drive that home around more SOPs, I have no doubt we’ll see improvements in other areas. It’s extremely important to our customers, but also internally, we’ve developed more awareness and it’s had a positive impact on our bottom line.”

“Companies can become echo chambers,” Durm sums up. “You think you’re doing the right thing but the whole Certified Cold Carrier walk-through gives you the ability to see things you didn’t see before and to have compliance.”

#### Industry Impact

“With FSMA and the industry changing as rapidly as it has over the past five years, and the constant checking and updating that requires, it’s great to have a source for good information. Being certified – now that’s something you can hang your hat on,” says Josh Whitener, Co-owner of the Trailiner Corporation.

Koeble believes the Certified Cold Carrier will standardize processes and the expectations of all stakeholders relative to the safe refrigerated transportation of food.

“GCCA has this broad worldwide audience, and we could not align with a better partner,” McCain says. “The Certified Cold Carrier runs parallel with the GCCA’s mandate to keep food safe and protect the population and that’s why we’re participating. We take that mandate as seriously as GCCA does and we take pride in establishing a best in class food safety handling program.”

**ALEXANDRA WALSH** is a Senior Publishing Consultant with Association Vision and Editor-In-Chief of COLD FACTS.

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