

Frigotehnica explains life-cycle savings of ammonia system vs. HFC at 70th anniversary event.



shecco's Policy Analyst Marie Battesti presented an update of F-gas policy measures in the European Union and their impact on the European market

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During a one-day conference celebrating its 70th anniversary in Bucharest, Romania, on 6 June, Romanian installer Frigotehnica presented a case study showing a 1.5-year return on investment (ROI) for the purchase of an ammonia system rather than a traditional, HFC-based system.

One case study showcased the installation of ammonia-based equipment in a poultry meat-processing facility. The end user decided to switch from an R404A system to an ammonia installation with a heat recovery system in two steps (desuperheater and oil cooler). The single installation – which operates at maximum 460 kW – powers all cooling needs, including fast-freezing tunnels, water sprayers, chilled depositories, and glycol for cooling production and air conditioning.

Frigotehnica also presented the life-cycle cost calculation method it used to convince a logistics facility to switch to ammonia. The life-cycle cost method analyses all expenses related to the operation of the installation over its lifetime (20 to 30 years for the installer).

Frigotehnica estimated the initial investment for an ammonia installation would cost €385 million (USD 435,5 million) more compared to a Freon R407-based system. However, the installer noted the energy costs would be €3,5 million (USD 4 million) lower for the ammonia installation over the system's lifetime. Frigotehnica also estimated approximately €1,3 million (USD 1,5 million) savings in maintenance costs compared to the HFC-based system, and €152 million (USD 172 million) savings for purchasing the refrigerant.

In total and based on this life-cycle calculation, Frigotehnica estimated the ammonia-based system would represent a €385 million (USD 435,5 million) return on investment after 1.5 years for the end user.

At the event, Adrian Neacsu, Frigotehnica's CEO, reaffirmed the company's commitment to natural refrigerants: "We see low-charge ammonia in industrial refrigeration and CO₂ for large retailer stores as some of the strongest market trends," he said. Razvan Voicu, the installer's COO, highlighted the environmental benefits of using natural refrigerant-based solutions.

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Güntner and Advansor presentations

Representatives of Güntner and Advansor, two manufacturers working closely with Frigotehnica, gave presentations on the latest technology developments related to the use of CO₂ and ammonia in commercial and industrial refrigeration.

Güntner's Area Sales Manager Viorel Buiuc and Sales Director South-Eastern Europe Dariusz Binczyk presented the company's latest developments with adiabatic cooling technology and its HydroPad Dry Cooler system for low-charge ammonia solutions.

CO₂ refrigeration expert Kenneth B Madsen, who is business development manager at Danish OEM Advansor, presented technology trends for the future of CO₂ systems. "There has been a 35% energy efficiency increase over the past 10 years for CO₂ equipment," Madsen said, adding that "the cost has decreased by 40% over the same period."



By [Marie Battesti](#)

Jun 12, 2019, 16:45 GMT+3

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