

ASPE TechSymposium2021



Andrew Macaluso

Andrew Macaluso is the Product Manager, Systems Solutions at Watts Water Technologies, Heat and Hot Water Solutions Division. Andrew has led the introduction of many cutting-edge technologies, including the newest commercial heat pump water heating technologies. He is an ardent advocate for highly efficient, environmentally friendly technologies and is passionate about applying those technologies where they can have the greatest impact. Andrew holds a Bachelor of Science in Mechanical Engineering from Columbia University and is an active ASPE member.

What's Old Is New Again: The Environmental & Operational Benefits of R744 Heat Pump Water Heaters

As electrification and decarbonization initiatives continue to grow throughout North America, there is increased scrutiny on the refrigerants being used. Heat pump water heaters powered by R744, better known as CO₂, provide a way to address ever-evolving energy savings and low-GWP requirements. This session will explore low-GWP CO₂ refrigerants that can provide high performance under a wide range of operating conditions. This rapidly growing product category offers many unique benefits. This session will examine the factors driving the adoption of R744-powered heat pumps, the keys to a transcritical refrigeration cycle, options for maximizing performance, strategies for applying this technology, and opportunities to integrate them with other ecofriendly water heating systems.