

LOCATION :

**Thunder Bay Grille
N14W24130 Tower
Place
Pewaukee, WI 53072**

TUESDAY, NOVEMBER 12 2024**TIME**

**5:30 - SOCIAL
6:00 - DINNER
7:00 - PROGRAM**

COST

**\$ 30 - MEMBER
\$ 35 - NONMEMBER
\$ 15 - LIFE MEMBER
FREE - STUDENT/MEMBER
BETWEEN JOBS***

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ABSTRACT

Understanding the Carbon Footprint and Costs of Atmosphere vs Vacuum Heat Treating

With a growing awareness of the environmental impact of thermal processing, environmental considerations are becoming more critical in operations and facilities planning. While financial planning information is often readily available, it can be difficult for heat treaters to compare equipment from the standpoint of environmental impact. This presentation will review a case study comparing energy consumption, operating cost, and emissions between a gas-fired atmosphere integral oil quench furnace and an electric batch vacuum oil quenching furnace. We will go over the equipment, workload, and thermal process as well as a brief review of the calculations and methods used for the comparison.

We will then look at the relative differences in energy consumption, operating cost, and carbon emissions for each furnace. Finally, we will use the model to show the sensitivity of several key variables to highlight their impact. The results are surprising and reveal some valuable insights for equipment purchase and operation planning. Whether you are involved in one of these industries, both of them, or simply exploring possibilities, we look forward to you joining us as we share our findings.

PRESENTER: Bryan Stern Product Development Manager



Bryan is a Product Development Manager at Gasbarre Thermal Processing Systems. He has been involved in the development of vacuum furnace systems for the past 8 years and is passionate about technical education and bringing value to the end user. Bryan holds a B.S. in Mechanical Engineering from Georgia Institute of Technology and a B.A. in Natural Science from Covenant College. In addition to being a member of ASM, ASME, and a former committee member for NFPA, Bryan is a graduate of the MTI YES program and is proud to have been included in HTT's 40 Under 40 Class of 2020.

**SPECIAL THANKS TO
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MEETING**

