

Richard Young, Frontier Energy, The Food Service Technology Center (fishnick), PG&E

Poster Title: Demystifying the All Electric Kitchen: Practical Challenges and Real World Solutions

Abstract: Commercial kitchens are the most energy intensive spaces in commercial buildings. They are also the most overlooked and misunderstood spaces when it comes to energy efficiency, energy modeling, and appropriate fuel mix. The poster will start with the EUI challenge facing commercial kitchen spaces, explain the demands and solutions necessary to create an all-electric kitchen, and provide real-world case studies showcasing some of the equipment that will help make the zero-carbon/ZNE kitchen possible. Technologies discussed will include induction ranges and high-efficiency plug load appliances, demand-controlled kitchen ventilation, combination ovens, and heat-recovery dishmachines as well as the design considerations and operational practices that may be needed for a true ZNE facility. The poster will focus on the significant behavioral challenges facing operators who wish to reduce the carbon footprint of their commercial kitchen operations and the basic techniques and approaches that can overcome those challenges including hands-on equipment demonstration-and-training and shifting the end-user focus from saving energy to increasing performance and productivity.

Attendees will understand how traditional commercial kitchen design is not suited to ZNE/zero-carbon building and will learn the technologies, design choices and operational practices that are necessary to create the zero-carbon commercial kitchen. Attendees will learn how induction technology is being applied in the commercial kitchen, including range tops and hot food holding, how induction appliances perform compared to traditional cooking and holding equipment, and how induction may be the technology that opens the doors for behavior change in the design and specification practices of commercial kitchens.