PANEL 1: Energy Efficiency Panel Description

Per the [Industrial Decarbonization Roadmap](#) released recently by the US Department of Energy, Industry represents 30% of U.S. primary energy-related CO2 emissions, or 1360 million MT CO2 (2020). While transforming the physics of the manufacturing process (including materials) is a significantly effective way to address emissions, it is a long-term approach that requires years of R&D and commercialization efforts to create an impact. Energy efficiency, on the other hand, is a foundational, crosscutting decarbonization strategy and is the most cost-effective option for GHG emission reductions in the near term, states the DOE roadmap.

The Energy Efficiency panel entertains papers and presentations that highlight past, current, and future approaches to improving industrial energy efficiency for existing manufacturing processes. The approaches may include:

- Continuous improvement approaches like Strategic Energy Management, energy management systems (ISO 50001, 50001-Ready) etc. that engage organizations in a structured approach to energy performance improvement
- Improving energy efficiency in manufacturing processes through state-of-the-art Smart Manufacturing technologies such as sensing, control, analytics, and predictive modeling
- System level energy management approaches to optimize performance of industrial processes and their supply chains
- Optimization and management of manufacturing processes in energy intensive industries (such as cement, steel, chemicals, oil & gas, and food)
- Improving energy efficiency through electrification and process heat recovery

We encourage presentations and papers that highlight approaches and technologies with industrial use cases. Participation from industry is highly desirable.