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**Mechanical Engineering
& Mechanics**

Engagement for a Net-Zero Future

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Office of Fossil Energy
U.S. Department of Energy

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Packard Lab 466

ABSTRACT

The US DOE Office of Fossil Energy and Carbon Management (FECM) is fully engaged in supporting the transition to a Carbon Pollution Free Energy Sector by 2035. FECM is immersed on an array of topics that include carbon management during the transition, energy storage, advanced energy and hydrogen systems, system integration, sensors and controls, and technology development tools. Dr. Bhima Sastri is the Director of Energy Asset Transitions at DOE and will provide a presentation that will discuss the following topics:

1. Repurpose Energy Assets - How the declining use of fossil-fired assets has created an opportunity to repurpose infrastructure.
2. FECM's Energy Storage Program – How the technical developments can support the clean energy transition.
3. Examples of Retrofitting & FECM Activities - Explore what is possible when we apply clean energy technologies to existing fossil assets.
4. A Holistic approach to Clean Energy Transition - Requires thinking beyond the technology; how will this transition impact communities?

BIO:



Dr. Bhima Sastri is the Director of Energy Asset Transitions in the Office of Fossil Energy, U.S. Department of Energy. He is currently leading an effort across several government agencies to repurpose and transition fossil assets to meet administration goals to decarbonize the Electric sector. In addition, he overlooks R&D funding for other technology areas including the Supercritical CO₂ programs that manages the 10MW_e Supercritical Transformative Electric Power pilot in San Antonio, TX, the Institute for the Design of Advanced Energy Systems (IDEAS), and several crosscutting programs such as the University Turbine Research (UTR) program and the Historically Black Colleges and Universities (HBCU)

programs. He has over 30 years of experience in research and development of chemical and energy technologies. Before joining the Fossil Energy Office, he was a Technology Manager at the Advanced Manufacturing Office at DOE where he managed the Advanced Chemical Separations, Desalination, and Bio-Manufacturing technology portfolios.

He is currently on the executive board of the RAPID which is the Modular Chemical Process Intensification Institute for Clean Energy Manufacturing. For over 18 years prior to joining DOE, he worked in private industry as a Senior Research Engineer and has held visiting faculty positions at different universities where he taught undergraduate chemical engineering courses.

Dr. Sastri completed his Ph.D. in Chemical Engineering from Rensselaer Polytechnic Institute, Troy, NY and a bachelor's in chemical engineering from IIT Madras. He is a Fellow of the American Institute of Chemical Engineers.