



PSERC WEBINAR

Blockchain and Energy: A Case Study of Flexible Computing Loads in Texas

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Computing loads such as Artificial Intelligence (AI) data centers and cryptocurrency mining centers have been growing at a significant rate over the years. Regions such as Texas has attracted more than 3GW of blockchain and crypto mining demand over the past 2 years. This, together with the fast growth of renewable variable energy, provides tremendous challenges on grid reliability, carbon-footprint, and price of electricity. We presented a first-of-its-kind data analysis that combines all three factors together (carbon footprint, grid reliability, and electricity prices), and examined the locational variation of blockchain mining demand on these three metrics. This modeling framework reveals the impact of large flexible computing loads such as blockchain mining on the design and operation of a large regional grid.

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[LINK TO WEBINAR](#)

1:00-2:00 P.M. ET

(10:00-11:00 A.M. PT)

Dr. Le Xie is the Segers Family Dean's Excellence Professor in the Department of Electrical and Computer Engineering at Texas A&M University, and the Associate Director-Energy Digitization at Texas A&M Energy Institute. He received B.E. in Electrical Engineering from Tsinghua University in 2004, S.M. in Engineering Sciences from Harvard in 2005, and Ph.D. in Electrical and Computer Engineering from Carnegie Mellon in 2009. His research interest includes modeling and control in data-rich large-scale systems, grid integration of clean energy resources, and electricity markets.

Dr. Xie is a Fellow of IEEE and a Power and Energy Society (PES) Distinguished Lecturer. He was awarded the 2021 IEEE Technical Committee on Cyber-Physical Systems Mid-Career Award, and 2017 IEEE PES Outstanding Young Engineer Award. He is currently a Senior Editor of IEEE Transactions on Power Systems. He is the founding chair of IEEE PES Subcommittee on Big Data & Analytics for Grid Operations. His team received 8 Best Paper Awards, including the 2023 IEEE PES Technical Committee Prize Paper Award.

