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Getting to Zero: can America transition to a net-zero emissions energy system?

To avoid the worst impacts of climate change, global emissions of CO₂ must fall to zero by roughly mid-century and go net negative soon thereafter. Rich, developed nations like the United States have the means, and arguably the obligation, to lead the pace of transition. What will it take for the United States to build a net-zero emissions energy system? Why is a 100% carbon-free electricity system pivotal to this challenge? What role do technologies like wind, solar, batteries, nuclear, and carbon capture play in this future? Prof. Jenkins will summarize the decarbonization challenge in the American context, drawing on recent publications and preliminary findings of Princeton's Net-Zero America Project, which is mapping pathways for the United States to reach net-zero greenhouse gas emissions by 2050.

Bio: Jesse Jenkins is an assistant professor at Princeton University with a joint appointment in the Department of Mechanical and Aerospace Engineering and the Andlinger Center for Energy and Environment. He is also an affiliated faculty with the Center for Policy Research in Energy and Environment at the Woodrow Wilson School of Public and International Affairs and an associated faculty at the Princeton Environmental Institute. He is an energy systems engineer with a focus on the rapidly evolving electricity sector, including the transition to zero-carbon resources, the proliferation of distributed energy resources, and the role of electricity in economy-wide decarbonization. Jesse's research focuses on improving and applying optimization-based energy systems models to evaluate low-carbon energy technologies, policy options, and robust decisions under deep uncertainty.