Incorporating Climate Change in Long-term Planning Models: Takeaways from Current Industry and Academic Practices

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In this talk, we share insights on how long-term planning models in the electric power sector can evolve to better incorporate the effects of climate change. We synthesize our review of electric power sector industry reports and academic literature to describe the state of the art. Our review focuses on long-term planning of generation, load, and grid infrastructure, and discusses key issues including handling uncertainty and capturing chronic versus acute climate stressors. Specifically, we seek to understand how existing long-term planning models need to evolve - both from a perspective of additional input data and changes to the model itself - to capture the impacts of future climate change.

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Ana Dyerson is an Assistant Professor in Mechanical Engineering - Engineering Mechanics at Michigan Technological University. She received her Ph.D. (2018) from the University of Wisconsin - Madison and was a postdoctoral researcher at the National Renewable Energy Laboratory. Her research addresses the effects of extreme weather and climate change on electricity generation and load with a focus on electricity resilience for northern regions and cold climates.

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