PSERC Power Systems Engineering Research Center

PSERC WEBINAR

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

Ana Dyerson (Michigan Tech)
Line Roald (University of Wisconsin-Madison)

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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LINK TO WEBINAR

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

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.

Line Roald is an Associate Professor in Electrical and Computer Engineering at University of Wisconsin—Madison. She received her Ph.D. degree (2016) from ETH Zurich, Switzerland, and was a postdoctoral research fellow with the Center of Non-Linear Studies at Los Alamos National Laboratory. She is the recipient of an NSF CAREER award and several best paper awards. Her research interests center around modeling and optimization of energy systems, with a particular focus on managing uncertainty and risk from extreme weather and renewable energy variability.