



THE NEXT-GENERATION RETAIL ELECTRICITY MARKETS IN THE CONTEXT OF DISTRIBUTED ENERGY RESOURCES

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OVERVIEW

The increasing adoption of distributed energy resources (DERs) and smart grid technologies by end-user retail customers is changing significantly both technical and economic operations in the distribution grid. The next-generation retail electricity market will promote decentralization, efficiency, and competitiveness by accommodating existing and new agents through new business models and transactive approaches in an advanced metering infrastructure. This talk aims to present a comprehensive vision and framework of the next-generation retail electricity market in the context of DERs by describing its expected characteristics, challenges, needs, and future research topics to be addressed. The talk will also briefly present a recent study on the integration of a liberalized distributed renewable energy market into the short-term decision-making model of an electricity retailer.

BIO

Josue Prado received his bachelor's degree in electrical engineering from Santa Catarina State University in Brazil in 2012 and his PhD in electrical engineering from the University of Nebraska-Lincoln in 2020. From 2018 to 2020, he conducted research on power system flexibility and resilience at the National Renewable Energy Laboratory (NREL).



Since August 2020, he has been with Washington State University Vancouver where he is currently an Assistant Professor with the School of Engineering and Computer Science. His research areas include power systems planning and optimization, electricity markets, grid and market integration of distributed energy resources, renewable energy systems, smart grids, energy policy, and cybersecurity.