

NEW YORK, THURSDAY, SEPTEMBER 13, 2018

Energy Market Intelligence Workshop

A deep dive into the Fall 2018 North American energy market

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Location	DOUBLETREE BY HILTON METROPOL 569 Lexington Avenue, New York, Nev	
8:30-9:00 AM	Breakfast/ Registration	
9:00-9:30 AM	Current North American power market drivers and their impact on electricity prices	
	ABB will discuss the current state of the North American power, fuel and environmental markets and how this affected energy price results included in the latest release of our forecast, the Spring 2018 North American Power Reference Case. This discussion will provide ABBs market assessment from Spring and provide a basis for the subsequent presentations where we will be discussing market changes for the Fall 2018 North American Power Reference Case.	
9:30-10:30 AM	Natural gas market drivers and their impact on natural gas prices	
	Natural Gas Hotspots: ABB Advisors will discuss key developments in	
	regional natural gas market drivers a	
	deliverability, and basis risk in the nea	ar- to medium term.
10:30-10:45 AM	Break	
10:45-11:15 AM	Renewable energy drivers and their impact on renewable penetration	
	As federal renewable tax credits ramp	o down, state governments have
	become increasingly active in the ren	_
	session, ABB will provide an overview	of recent legislative activity as well as
	technology cost trends for wind, sola	

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11:15-12:00 PM Environmental policy and supply/demand drivers and their impact on future supply Evolving trends pertaining to electric demand and supply capacity continue to transform the power sector. We will explore these developments and related drivers across North American power markets. Carbon policy throughout North America continues to evolve, some jurisdictions moving forward and exploring additional membership, while others abandoning carbon pricing altogether, all of which will impact regional power markets. We will explore these developments and the programs driving our key environmental policy assumptions. Noon-1:00 PM Lunch 1:00-1:45 PM Historical Transmission Analysis - Examining the influence of renewables on regional flow patterns A review of insights gained through the analysis of hourly generation and flow patterns between neighboring balancing authorities. By joining all available data including LMP, load, generation by fuel type and transmission flow we can evaluate system conditions at various times to understand the effects of variable resources on the grid. 1:45-2:45 PM Variable Energy Resources - From concept to operation and risks along the way This session will cover the cycle of new variable resources participating in ISO markets from interconnection process to operation. It will provide an overview of the prevalence of various curtailment risk by ISO market for wind versus solar resources - when is curtailment more likely and what are key drivers (i.e. market rules, out-of-market incentives, transmission development, load growth). Lastly the session will explore the nodal analytic methods available through the PROMOD model to assess various types of curtailment risk in the evaluation of variable energy resource assets. 2:45-3:00 PM **Break** 3:00-4:00 PM High variable renewable energy penetration scenario - An analysis of the impacts various combinations of a large amounts of wind, photovoltaics and battery storage on the ERCOT market. As the costs for wind, solar, and battery storage technologies continue to decline, futures in which variable renewable energy (VRE) resources reach percentages as high as 50-75% of demand are increasingly plausible. As part of the Energy Market Intelligence Workshop, ABB Advisors will present an analysis of bounds-stretching, what-if scenarios involving high-VRE penetrations of wind and solar capacity in the ERCOT market. Among other things, this investigation will examine how changes to marginal clearing prices will affect existing wind and solar unit profitability and the deployment of pure-arbitrage battery storage systems. 4:00-5:00 PM Concluding remarks/ Reception

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