

TRAINING COURSE

Power, Grid and Electrification Market Fundamentals

The power sector is at the forefront of global electrification and energy transition, with rapidly increasing power demand, and matured wind and solar technologies now deploying at scale. The recent emergence of power-thirsty data centres, artificial intelligence systems, cryptocurrencies, and EVs, point to substantial demand growth for the sector, which can pose challenges for what have been seen as set targets for the future generation mix. New technologies, partnerships and policies are emerging to help the sector meet the world's need for reliable, affordable and low emissions electricity. But standing in the way are roadblocks in the form of permitting, capital deployment, and sourcing and supply chains, all slowing grid transformation and deployment of new generation capacity...



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Analysis

1. Industry Structure & Regulation

- Current structure of the US electricity industry
- Hybrid regulatory structure

2. Drivers of Electricity Demand

- Evolution of the drivers of electricity demand
- Relative stagnation over the past decades
- Latest trends: Data centers, AI, Cryptocurrencies, EVs, etc.

3. Electricity Supply Trends

- Historical trends and current state
- Drivers shaping the US supply portfolio
- Transformation of the power supply mix: Gas, Renewables, Nuclear, etc.

4. Prices and Revenue

- Drivers and variations of wholesale and retail electricity prices in the US
- Captured revenue by technology type
- Missing Money dilemma - concept and implications

5. Key Trends and Issues for Coming Decades

- Challenges of grid integration
- How power markets may evolve
- Scenarios and a range of potential market outcomes