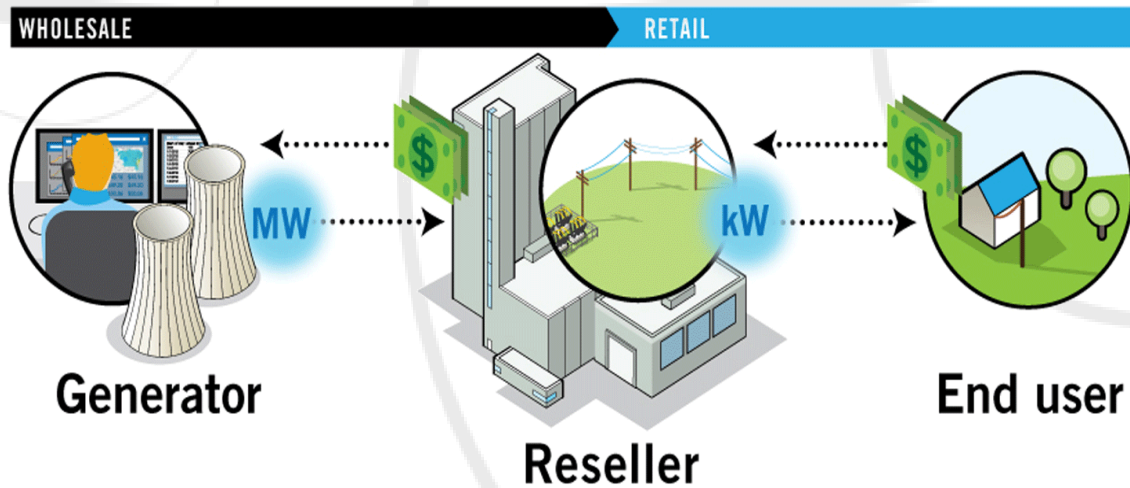


ELECTRICITY MARKET, ENERGY ECONOMICS & STRATEGIC PLANNING

April 07 - 11, 2019
Istanbul, Turkey



Early Bird Discount & Registration

Register and pay 25 days prior to the event date and get 10% discount.
Registrations will close 15 days prior to the start of the Course.

Course Overview:

In economic terms, Electricity (both Power and Energy) is a commodity capable of being bought, sold and traded. An Electricity Market is a system for effecting purchases, through bids to buy; sales, through offers to sell; and short-term trades, generally in the form of financial or obligation swaps. Bids and offers use supply and demand principles to set the price. Long-term trades are contracts similar to power purchase agreements and generally considered private bi-lateral transactions between counterparties.

Wholesale transactions (bids and offers) in Electricity are typically cleared and settled by the market operator or a special-purpose independent entity charged exclusively with that function. Market operators do not clear trades but often require knowledge of the trade in order to maintain generation and load balance. The commodities within an electric market generally consist of two types: power and energy. Power is the metered net electrical transfer rate at any given moment and is measured in megawatts (MW). Energy is electricity that flows through a metered point for a given period and is measured in megawatt hours (MWh).

The market mechanisms introduced a new discipline to be used by power systems professionals. This course explores the market economics and the associated exposure that can be mitigated with financial instruments. The course provides a good understanding of the market structures, the power and energy exchanges and the hedging instruments that become part of the engineering tool box. Special attention is given to the identification of Risk Exposure and Mitigation of Risk.

Course Objectives:

This program is intended to immerse the participants in learning about Electricity Power Markets: How they can be developed, planned and implemented.

The full understanding of Power Markets requires that any Stakeholder (Government, Private Investors, Planners, Regulators, Consumers and Operators), be proficient in three basic areas:

- ◆ Understanding the Planning and Operating Process
- ◆ Understanding the Financial and Economic issues
- ◆ Ability to deal with the risks associated with Market Uncertainties.
- ◆ Also, after the key Lectures on Risk Assessment and Management, the Participants are engaged in the various features of Market Case Studies culminating in a full Knowledge. And Skills related to main subject.

Who Should Attend?

This course is designed for Practitioners Trading Power, Power System Engineers, Managers, Engineers, and Planners related to Energy and Power Market. .

Course Language:

The Presentation, supplied documents, and workshop exercises of the course are in **English**.

Course Contents:

Module (01) Risk Management

- 1.1 Risk Framework/Metrics
- 1.2 Examples of Regulatory Risks
- 1.3 Types of Instruments
 - 1.3.1 Futures (NYMEX, Amsterdam Exchange)
 - 1.3.2 Strategies: Vanilla and Exotic Options
- 1.4 Design of Contracts (ISDA, EEI, OTC, NYMEX)
- 1.5 Typical Trades - Futures, SWAPS, OPTIONS
 - 1.5.1 Choice of Hedges
 - 1.5.2 Real Life Examples
 - 1.5.3 Types of Trades - Useful to the Producer
 - 1.5.4 Types of Trades - Useful to the Load
- 1.6 Advantage/Disadvantage of different Tools

Module (02) Lessons Learned from other Jurisdictions

- 2.1 North America Market (FERC)
- 2.2 FERC white paper on Transmission Policy
- 2.3 Challenges of Scale, Scope and Timing

Module (03) Elements of Risks (Strategic Issues)

- 3.1 Basel Committee for Banking Supervision
- 3.2 Market Locational Risk
- 3.3 Operational Risk
- 3.4 Credit Risk/ Liquidity Risk
- 3.5 Physical Risk of Generating Assets
- 3.6 Legal and Regulatory Risks
- 3.7 Trading Controls and Best Practices
- 3.8 Independent Risk Management
- 3.9 Front to Back Office Case Studies:
- 3.10 Enron's Price Maximization
- 3.11 Quantitative / Qualitative Risks

Module (04) Concepts of Derivatives Part I

- 4.1 Forward Contracts: Contango, Backwardation
- 4.2 Futures Contracts
- 4.3 Contract Standardization
- 4.4 Energy Futures contracts
- 4.5 Arbitrage Pricing Theory
- 4.6 Convenience Yield
- 4.7 Swaps

Module (05) Concepts of Derivatives Part II

- 5.1 Option Contracts
- 5.2 Strategies Involving Options
- 5.3 Basic Options Strategies
- 5.4 Call-Put Parity
- 5.5 Daily Options, Monthly, Spreads

- 5.6 Spark Options on 2 Commodities
- 5.7 Spark Options on 3 Commodities
- 5.8 Volumetric or Swing Options
- 5.9 Real Options: Power and Physical Constraints

Module (06) Option Valuation

- 6.1 Valuation of Option Strategies
- 6.2 Closed Form Solutions (Black Scholes)
- 6.3 The Binomial Tree Approach
- 6.4 Monte Carlo Valuation of Options
- 6.5 Examples of Hedging

Module (07) Quantitative Financial Models

- 7.1 Quantitative Financial Models
- 7.2 Stochastic Factors: Production and Demand
- 7.3 Mean Reversion Model, Jumps

Module (08) Market Economics

- 8.1 Day Ahead Market
- 8.2 Unconstrained Price
- 8.3 Constrained Price
- 8.4 Bidding Strategy
- 8.5 Locational Marginal Price
- 8.6 Energy Price Cap

Module (09) Portfolio Analysis

- 9.1 Demand & Supply
- 9.2 Demand & Supply Equilibrium Price
- 9.3 Value AT Risk
- 9.4 Strategic Planning
 - 9.4.1 Multiyear Plan
 - 9.4.2 Multi Area Forecasting
 - 9.4.3 Budget
 - 9.4.4 Forward Prices

Module (10) Financial Transmission Rights

- 10.1 Transmission Pricing
- 10.2 Congestion Management
- 10.3 Auction

CASE STUDY: Weather Derivatives

- ◆ Weather Risk
- ◆ Description of Weather Contracts
- ◆ Weather Risk Management Instruments

Market Economics (Best Practices)

- ◆ Canada , USA & Europe

Course Summary & Conclusion

Registration Form:

Please fill the information below:

Name:			
Company:			
Position		Department:	
Phone:		Mobile:	
Email:			
Organization:			
Address:			
Do you want to request this to be conducted as an In-House Course?		NO <input type="checkbox"/>	YES <input type="checkbox"/>
<i>Please fill the required additional information below</i>			
Date Required:		No. of Participants:	
Preferred Venue:		Other Requirements:	

Course Fees:

The amount of **4500 USD** will be charged for the course fee and Full Payment is required prior to commencement of the course.

Payment Methods:

A confirmation will be sent upon your registration. Note that full payment must be made prior to the event. Only those delegates who have paid in full will be admitted to the event. All payments should be to APEX Account:

Bank Name : Abu Dhabi Islamic Bank
 Branch : Jebel Ali Branch, Dubai, UAE
 IBAN No : **AE960500000000017013404**

Cancellation:

If you are unable to attend the course you may send a substitute delegate.

Cancellation should be made 15 days prior to the course conduction. Failure to cancel within 10 days will be to pay the course fee in full amount.

Registration Methods:

Email : info@apex-dubai.com

Fax : +971 4 454 2910

Website : www.apex-dubai.com

General Information:

- ◆ Closing of Registration will be two (2) weeks prior to the course date.
- ◆ APEX can assist and provide corporate rates for the hotel accommodation.
- ◆ Course fees will cover Course Materials, Certificate of Participation, Coffee Breaks and Lunch.
- ◆ In-House course is also available upon request and can be customized as per client's needs.

Contact us:

Tel : +971 4 445 8567

Fax : +971 4 454 2910

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