

CONTEMPORARY CHALLENGES IN ENERGY MANAGEMENT IN INDIA

Introduction

Energy is one of the most critical components of infrastructure and therefore very crucial to economic growth. Indeed, it is blood of the economy and crucial input to nearly all the industries. Among all sources of energy, electricity is most visible and is often identified as an indicator of progress in modern civilization. According to studies in India, the growth rate of demand for electricity is generally higher than the Gross Domestic Product (GDP) growth rate i.e. for achieving an 8 percent growth rate; the electricity supply should grow around 12 percent. As in 2018, in India the energy production through thermal source accounted for 82 percent, through hydro it was 8.5 percent and nuclear 2.5 percent. Despite this the electricity generated by various power stations faces few challenges to meet the surging electricity demand, such as:

- Thermal power plants, which are the mainstay of India's power sector, are facing shortage of raw material and coal supplies.
- Private sector power generators are yet to play their role in a major way; same is the case with foreign investors.
- Poor performance and inefficiency of the distribution companies (DISCOMS).
- Grid mismanagement.
- There is unrest in general public due to high power tariffs and prolonged power cuts in different parts of the country.
- To meet the increasing demand and to fulfil the Government of India mission of electrifying the whole nation an efficient energy management is must. This course provides a theoretical insight and practical experiences to tackle the prominent challenges in energy management.

Objectives of the Program

1. To provide an in-depth understanding of regulatory and liability framework
2. To understand the role of public and private institutions in energy management
3. To learn about Power trading and Grid Management
4. To understand different procurement approaches and contracts, and their substitute to Chinese industries
5. To learn tools and techniques of electricity pricing under tariff regulation
6. To monitor and control electricity theft using satellite images (application of Big Data)
7. To understand negative externalities (environmental issues) of dirty/non-renewable energy
8. To learn about the role and challenges of renewable energy in meeting energy demand

This program is intended for executives of the Electricity Regulatory Commission, DISCOMS, NTPC, NHPC, PGCIL, etc. Also, to energy-intensive manufacturing industries where electricity is used as major input for production like iron and steel, refining, chemicals, pulp and paper, nonferrous metal, etc.

Pedagogy of the Program

The program includes several theoretical tools and methodologies, including interactive lectures, case studies, and big data applications. The program will consist of experience sharing by industry experts to impart and enhance real world understanding of the Energy Sector. For better understanding of the concept the major portion of the course will consist of practical experience sharing of experts from Power Trading, Grid Management and Regulatory Commission.

Indicative Content of the Program

1: Introduction: Overview of Indian Electricity Sector

- Current Status of Electricity Sector in India
- Legal and Regulatory Framework

2: Institutions in Indian Electricity Sector & their Functioning

- Central Electricity Authority
- State Electricity Regulatory Commission
- Appellate Tribunals
- Consumer Grievance Redressal Forum (CGRF)
- Private Institutions

3: Industrial Organization

- Generation – Transmission – Distribution
- Role in Energy Management and Economic Growth

4: Grid Management

- Demand and Supply Scenario
- Power Grid Corporation of India Limited (PGCIL)
- Load Dispatch Centres

5: Electricity Procurement

- Source and Method of Electricity Procurement and its Implication
- Options of Energy Procurement and its Effect on Costs
- Post-COVID – 19 Scenario

6: Tariff Fixation

- Basic Principle
- Case Studies
- Big Data Applications

7: Power Trading – Trading and Exchange

- Indian Energy Exchange (IEX)
- Power Exchange India Limited (PXIL)

8: Environment Issues and Renewable Energy

- Negative Externalities and Environmental Laws
- Renewable Energy and Renewable Technologies
- Feed-In-Tariffs

Program Director: Prof. Saakshi

Fees (Per Candidate):Rs 27300+GST (Non Residential-In Campus),Rs 21000+GST(Online)

Proposed Dates:January 15 to 17,2021