Power Economics and Strategic Utility Business Models Training Course

Ref: #ERE7861

Course Introduction / Overview:

The global energy landscape is undergoing a profound transformation, driven by the rapid growth of renewable energy sources, technological innovation, and evolving regulatory frameworks. This course is designed to provide a comprehensive understanding of the complex interplay between power economics and utility business models in this new era. Participants will explore the fundamental principles of energy markets, including wholesale and retail electricity pricing, market design, and the financial implications of integrating intermittent renewable generation. We will analyze the challenges and opportunities facing traditional utilities as they shift from a centralized, generation-based model to a decentralized, service-oriented one. The program at BIG BEN Training Center highlights key topics such as distributed energy resources, smart grid investments, and new revenue streams like "energy-as-a-service." We will delve into the insights of prominent academic authors like Dr. Fereidoon Sioshansi, whose extensive work on the future of energy markets provides a critical framework for this discussion. The course content is informed by his book, "Utility of the Future: An International Perspective," which offers valuable international case studies and strategic guidance for industry stakeholders. By mastering the core concepts and emerging trends, participants will be equipped to navigate the economic and business model disruptions shaping the future of the power sector.

Target Audience / This training course is suitable for:

- Utility executives and senior managers.
- Energy market analysts and consultants.
- Strategic planners in the power and energy sectors.
- Policy makers and regulatory affairs professionals.
- Financial analysts specializing in energy projects.
- Project developers for renewable energy and smart grid technologies.
- Engineers and technical specialists involved in grid modernization.

Target Sectors and Industries:

- Electric Utilities and Independent System Operators (ISOs).
- Renewable Energy Developers and Operators.
- Energy Trading and Financial Services.
- Government agencies and energy regulatory bodies.
- Consulting and Engineering Firms.
- Technology and software companies focused on smart grids.
- Industrial and commercial energy consumers.

Target Organizations Departments:

- Strategy and Corporate Planning.
- Finance and Business Development.
- Regulatory and Policy Affairs.
- Power Generation and Grid Operations.
- Asset Management and Investment.
- Risk Management and Market Analysis.
- Renewable Energy Integration.

Course Offerings:

By the end of this course, the participants will have able to:

- Analyze the economic drivers of the power sector transition.
- Evaluate new business models for utilities in the renewable era.
- Develop strategies for integrating distributed energy resources and smart grids.
- Assess the financial viability of renewable energy projects and investments.
- Understand the impact of evolving market design on utility revenues.
- Identify new revenue streams and customer-centric services.
- Navigate policy and regulatory challenges in transitioning energy markets.
- Conduct risk assessments for new utility business models.

Course Methodology:

This training course at BIG BEN Training Center uses a highly interactive and practical methodology to ensure a deep and lasting understanding of power economics and new business models. The training incorporates a mix of presentations, group discussions, and real-world case studies from various global markets. Participants will engage in hands-on exercises and financial modeling simulations to analyze the economic performance of different business models, such as the aggregator model or the "utility as a service" model. We will use a case study approach to examine successful and unsuccessful transitions by leading international utilities, providing concrete examples of the opportunities and pitfalls. There will be dedicated interactive sessions where participants can present their own business model concepts and receive constructive feedback. The course also includes scenario planning activities to help professionals prepare for future market disruptions and regulatory changes. This approach is designed to foster a collaborative learning environment where knowledge is not just passively received but actively applied and tested through discussion, peer learning, and problem-solving.

Course Agenda (Course Units):

Unit One: Foundations of Power Economics

- The economics of electricity generation, transmission, and distribution.
- Wholesale and retail electricity market fundamentals.
- Market design, pricing mechanisms, and competitive forces.
- The role of subsidies, feed-in tariffs, and tax credits.
- Financial metrics for power generation assets.
- Introduction to the economic challenges of renewable energy integration.
- Understanding the traditional vertically integrated utility model.

Unit Two: The Shifting Utility Business Model

- The unbundling and deregulation of utilities.
- Drivers of change: decarbonization, decentralization, and digitalization.
- The threat of revenue erosion from distributed energy resources.
- The transition from volume-based to value-based business models.
- New business typologies: grid operator, service provider, and aggregator.
- Customer-centric business models and demand-side management.
- Case study: a utility's pivot to a new business model.

Unit Three: Revenue Streams in the Renewable Era

- An overview of new revenue streams for utilities.
- Energy-as-a-Service (EaaS) and its applications.
- Grid services and ancillary markets.
- Opportunities in electric vehicle (EV) charging infrastructure.
- Managing and monetizing distributed energy resources (DERs).
- The role of smart meters and data analytics in creating value.
- Developing business cases for non-wires alternatives.

Unit Four: Regulatory and Policy Frameworks

- The impact of government policy on business models.
- Reforming regulatory frameworks to accommodate renewables.
- The role of Power Purchase Agreements (PPAs) and contracts for difference.
- Rate design, net metering, and dynamic pricing.
- Interconnection standards and grid access for DERs.
- Regulatory hurdles and solutions in a decentralized grid.
- Examining the best international practices in energy policy.

Unit Five: Strategic Planning and Financial Analysis

- Financial modeling for new business models and assets.
- Risk management in a high-variability market.
- Valuation of renewable energy assets and projects.
- Strategic planning for utility transformation.
- Investment decisions and capital allocation in the new energy landscape.
- Leveraging innovation and new technologies.
- Building a resilient and profitable utility for the future.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

As utilities move away from a traditional monopoly model, how can they create new value and ensure profitability while serving the public good and enabling the energy transition?

What unique qualities does this course offer compared to other courses?

This course stands out by providing a comprehensive, forward-looking view of the power sector that goes beyond a single technical or economic discipline. Unlike programs that focus solely on renewable energy technologies or general finance, this training masterfully blends both aspects to offer a holistic perspective on the industry's transformation. It provides a deep dive into the strategic and financial challenges facing utilities, offering practical frameworks and real-world case studies for developing new and profitable business models. The curriculum is specifically designed to help professionals navigate the complexities of a decentralized, data-driven energy landscape, where traditional revenue streams are under threat. It provides actionable insights into emerging opportunities, from grid services to customer-centric offerings like "energy-as-a-service." BIG BEN Training Center's program is unique in its focus on the strategic decisions that will define the future of the power sector, equipping participants with the critical thinking and analytical skills needed to lead their organizations through this period of profound change.