Maximizing Refinery Profitability and Strategic Planning Training Course

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Sharm El-Sheikh

4100 € (Per Person)

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Course Introduction / Overview:

This comprehensive training course is designed to provide professionals with the financial, technical, and strategic knowledge needed to drive profitability in the refining sector. It explores the key economic drivers of refining operations, from crude oil valuation and product pricing to margin management and asset optimization. Participants will learn how to analyze market conditions, evaluate feedstock quality, and use advanced tools like linear programming models to make informed decisions that maximize value. The course draws on principles from leading academic works, including Petroleum Refining: Technology, Economics, and Markets by Mark J. Kaiser and James H. Gary, to bridge the gap between process engineering and economic principles. By the end of this program, hosted by BIG BEN Training Center, participants will be equipped with a holistic understanding of refinery economics and the skills necessary to navigate the complexities of the global energy market, ensuring their organizations can adapt and thrive in a volatile environment. The curriculum covers the entire refining value chain, from supply and logistics to marketing and sales, providing a complete picture of the business.

Target Audience / This training course is suitable for:

- Refinery planners and economists.
- Process engineers and technical managers.
- Crude traders and product marketers.
- Supply chain and logistics professionals.
- Finance and business analysts in the oil and gas industry.
- Commercial and strategic planning teams.
- Government agency officials involved in energy policy.

Target Sectors and Industries:

- Oil and gas companies.
- Petrochemicals and chemicals.
- Energy consulting firms.
- Financial institutions with energy portfolios.
- Government agencies and equivalents.

Target Organizations Departments:

- Strategic planning.
- Supply chain management.
- Commercial and trading.
- Finance and accounting.
- Operations and technical services.
- Engineering.

Course Offerings:

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

- Understand the fundamental economic principles that govern refining operations.
- Analyze the impact of crude quality and product specifications on refinery margins.
- Interpret key performance indicators like gross and net margins, yield, and utilization.
- Use economic tools and models to support optimal crude selection and operational decisions.
- Integrate refining economics into broader planning, trading, and supply chain strategies.
- Assess and mitigate financial risks in a volatile market environment.
- Develop a strategic mindset for long-term investment planning and project evaluation.

Course Methodology:

This training course uses an interactive and practical approach to ensure a deep understanding of the material. The methodology combines expert-led presentations with hands-on exercises, case studies, and group discussions. Participants will engage in problem-solving activities that simulate real-world refinery business challenges, allowing them to apply economic principles and tools in a practical context. Case studies are drawn from various global refining scenarios, highlighting different challenges and strategies. The interactive sessions also include a trading game to teach market dynamics and risk management. This dynamic and engaging methodology, championed by BIG BEN Training Center, promotes active learning and knowledge retention, helping participants not just to memorize concepts but to truly internalize and apply them. The course emphasizes collaborative teamwork and peer-to-peer learning, creating a rich learning environment where participants can exchange experiences and best practices, and gain confidence in their decision-making skills.

Course Agenda (Course Units):

Unit One: Fundamentals of Refinery Economics and Profitability

- The refining value chain and its components.
- Key drivers of refinery profitability and margin analysis.
- Gross versus net refining margins and crack spreads.
- Factors impacting refinery profitability and performance.
- Refinery complexity and its effect on economics.
- Introduction to linear programming in refinery planning.
- Case study on analyzing profitability across different refinery configurations.

Unit Two: Crude Oil Valuation and Feedstock Management

- Crude oil characteristics, quality, and grading (API gravity, sulfur, TAN).
- Crude assay analysis and economic evaluation of feedstocks.
- Strategies for crude selection and blending to optimize yields.
- Logistics and supply chain economics for crude procurement.
- Introduction to crude oil markets and pricing mechanisms.
- Risk management in crude procurement and hedging strategies.
- Group exercise on optimal crude selection for a specific refinery.

Unit Three: Product Valuation, Pricing, and Market Dynamics

- Fundamentals of refined product pricing and regional markets.
- Product specifications and their impact on value and blending.
- Yield optimization and adjusting cut-points for maximum value.
- Economics of upgrading and conversion units.
- The role of petrochemicals in the modern refinery.
- Market analysis and forecasting for refined products.
- Case study on product portfolio optimization and sales strategy.

Unit Four: Financial and Operational Planning

- Cost accounting for refineries (capital and operating costs).
- Budgeting and cost control in a refining environment.
- Performance monitoring and key performance indicators (KPIs).
- Economic evaluation of projects and investments (NPV, IRR).
- Supply chain economics and logistics management.
- Operational planning and scheduling using linear programming models.
- Hands-on workshop on building a simple refinery economic model.

Unit Five: Strategic Refinery Management and Future Trends

- Long-term strategic planning for refinery assets.
- Adapting to environmental regulations and the energy transition.
- The impact of carbon pricing and sustainability on refinery economics.
- Integration of refining, trading, and marketing functions.
- Managing operational risks and market volatility.
- Future trends in refining technology and business models.
- Final capstone project on developing a strategic roadmap for a refinery.

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:

Given the increasing emphasis on sustainability and the global energy transition, how will refiners need to rethink their economic models to remain profitable and competitive in the coming decades?

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

This course stands out by providing a uniquely integrated perspective that combines deep technical knowledge with practical financial and strategic skills. Unlike programs that focus solely on engineering or accounting, this curriculum bridges the two disciplines, empowering participants to make decisions that are both technically sound and financially astute. The training goes beyond theoretical concepts, using detailed case studies and interactive workshops to simulate real-world challenges, such as optimizing crude selection for volatile markets or evaluating the economic viability of new capital projects. We also incorporate a forward-looking view of the industry, addressing the business implications of emerging trends like energy transition and carbon capture technologies. Participants gain a comprehensive, holistic understanding of the refining business from "well to wheels," which is crucial for rising through the ranks. This program's emphasis on strategic planning and cross-functional collaboration gives attendees the tools they need to become not just proficient professionals, but future leaders who can steer their organizations toward long-term profitability and sustainable growth.