Tel No:+97126654546 | Fax No:+97126654182 | Email: training@cmc-me.com | www.cmc-me.com



FM110:
Oil Refinery Cost Management: Effective Energy Management

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Training Description:

This Oil Refinery Cost Management: Effective Energy Management comprehensive training course provides participants with an understanding of cost management in oil refineries, with a strong emphasis on effective energy management practices. The course addresses the growing impact of energy costs on refinery profitability and focuses on practical approaches to managing, controlling, and optimizing energy consumption across refining and utility systems.

This intensive training course will let participants gain in-depth knowledge of refinery energy flows, major energy cost drivers, and the interaction between process operations, utilities, and energy efficiency. The training covers proven techniques for monitoring energy performance, identifying inefficiencies, reducing losses, and improving overall energy utilization without compromising safety, reliability, or product quality. Real refinery-based examples and practical discussions are used throughout the course to reinforce learning.

By integrating technical, operational, and financial perspectives, this course equips participants with the skills required to implement sustainable energy cost reduction initiatives. Participants will be able to link energy management strategies with operational excellence, maintenance practices, and long-term business objectives to achieve measurable cost savings.

Training Objectives:

By the end of the training, participants will be able to:

- ✓ Understand the role of energy management in refinery cost control and profitability
- ✓ Identify key energy consumers and cost drivers within refinery processes and utilities
- ✓ Apply energy efficiency principles to reduce fuel, steam, electricity, and hydrogen costs
- ✓ Analyze refinery energy performance indicators and benchmarking data
- ✓ Evaluate energy-saving opportunities using technical and economic assessment methods
- ✓ Develop structured energy cost reduction and optimization plans
- ✓ Integrate energy management practices with operations, maintenance, and planning
- ✓ Support continuous improvement and sustainability initiatives in refinery operations

Training Designed for:

This training course is designed for Refinery Process Engineers, Energy & Utilities Engineers, Operations and Production Engineers, Maintenance & Reliability Engineers, Cost and Performance Analysts, Planning & Economics Engineers, Technical Managers and Supervisors, HSE & Sustainability Professionals, and anyone involved in refinery energy usage, cost management, and operational optimization.

Training Requirement:

"Hands on practical sessions, equipment and software will be applied during the course if required and as per the client's request."

Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client's learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

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DAY ONE:

- Introduction to Refinery Cost Management and Energy Fundamentals
  - Overview of Energy Use in Oil Refineries
  - Energy Costs as a Component of Operating Expenditure (OPEX)
  - Major Energy Consumers in Refining Operations
  - Understanding Energy Balance and Energy Accounting
  - Key Energy Performance Indicators (EnPIs) and KPIs
  - Relationship Between Energy Efficiency and Refinery Profitability
  - Case Study: Refinery Energy Cost Breakdown

DAY TWO:

- Utility Systems Optimization and Energy Cost Control
  - Steam Generation, Distribution, and Condensate Recovery
  - Fired Heaters and Boilers: Efficiency and Fuel Cost Reduction
  - Power Generation, Grid Interaction, and Electricity Cost Optimization
  - Compressed Air, Cooling Water, and Utility Loss Management
  - Hydrogen Production, Distribution, and Cost Optimization
  - Utility System Benchmarking and Best Practices
  - Workshop: Utility Energy Cost Reduction Opportunities

DAY THREE:

- Process Energy Efficiency and Operational Cost Reduction
  - Energy Consumption in Major Refining Units (CDU, VDU, Hydrotreating, Cracking)
  - Heat Integration and Heat Exchanger Network Performance
  - Furnace and Heater Performance Monitoring and Optimization
  - Energy Losses During Start-up, Shutdown, and Upsets
  - Operational Best Practices for Energy Cost Control
  - Case Study: Process Energy Optimization in a Refinery Unit
  - Group Exercise: Identifying and Prioritizing Energy Losses

DAY FOUR:

- Energy Performance Monitoring, Analysis, and Improvement Tools
  - Energy Audits and Assessment Methodologies
  - Metering, Data Collection, and Energy Monitoring Systems
  - Energy Data Analysis, Trending, and Reporting
  - Economic Evaluation of Energy Saving Projects (Payback, NPV, IRR)
  - Risk, Reliability, and Sustainability Considerations
  - Digital Tools and Software for Refinery Energy Management
  - Workshop: Developing an Energy Improvement Action Plan

DAY FIVE:

- **Strategic Energy Management and Sustainable Cost Reduction**
  - Integrating Energy Management with Refinery Business Strategy
  - Overview of Energy Management Standards (ISO 50001)
  - Organizational Roles and Change Management for Energy Efficiency
  - Energy Cost Forecasting, Budgeting, and Performance Tracking

- Continuous Improvement and Long-Term Energy Roadmaps
- Course Review, Key Takeaways, and Action Planning
- Group Exercise: Building a Refinery Energy Cost Management Roadmap

❖ Course Conclusion
❖ POST-ASSESSMENT and EVALUATION

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

TBA as per the course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:
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