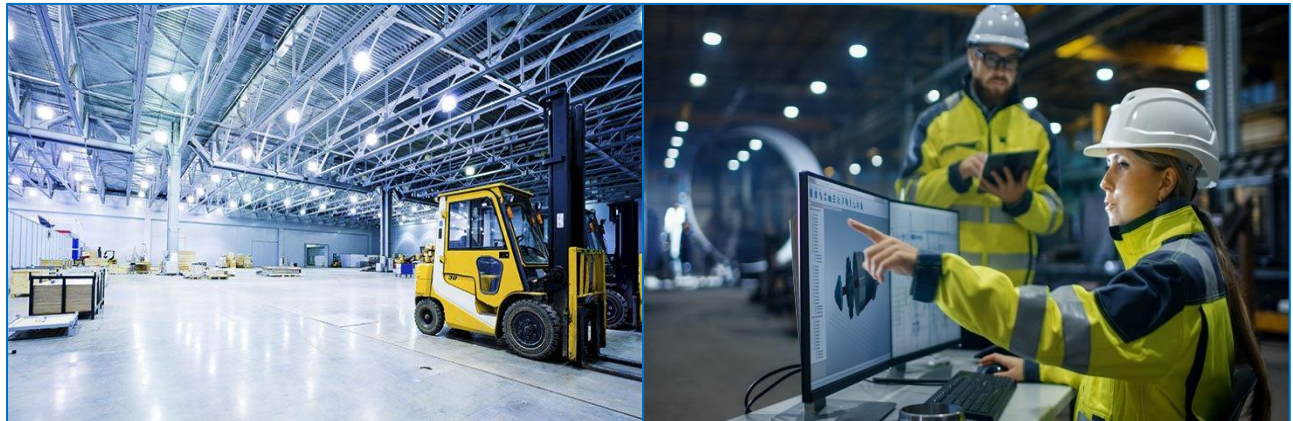




RE035: Industrial Energy Efficiency Improvement

Training Description:

The major industrial energy systems commonly found in manufacturing facilities are compressed air, ammonia refrigeration, chilled water, steam, process heating, combined heat and power, pumps, and fans. The efficiency of these systems contributes significantly to the whole-facility energy performance. On the national and even the international level, well-structured training and highly recognized certification programs help develop a highly skilled and qualified workforce to maintain and improve facilities' energy performance, particularly as technologies within these systems become more and more advanced.

The improvement of energy efficiency has become the most important tool for industries striving to achieve excellence in cost competitiveness. Energy cost, being one of the major components of cost of cement production, not only necessitates the installation of energy efficient technology but also to inculcate energy efficient practices and methods amongst the plant personnel.

This industrial Energy Management training course is designed to develop a better understanding of methods and approaches related to identification, quantification and analysis of energy management opportunities.

The main objectives of this intensive training are to disseminate latest techniques and advancements in the field of energy management, provide information on latest energy saving ideas, develop participants to create innovative energy saving ideas through actual implemented case studies and highlight managerial skills required to sustain energy conservation activities.

Participants are encouraged to raise energy management questions relevant to their facilities and related to the topics of the course.

Training Designed for:

This course would be beneficial to corporation and plant managers, engineers, technologists, researchers and anyone involved in the development and implementation of energy management and environmental pollution control programs, and in the identification, evaluation and implementation of energy management and GHG emissions reduction measures in their plant or corporation.

Training Requirement:

"Hand's 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:

FIVE DAYS:

- ❖ PRE-TEST
- ❖ Introduction
- ❖ Fundamentals of Energy Management
 - Concepts of Energy Efficiency & Management
 - Energy Units and Calculations



- Energy Benchmarking
- Engineering Economic Analysis
- Energy Auditing
- Energy Performance Models
- Electricity Tariffs
- ❖ **Energy Conservation in Electrical Systems**
 - Introduction to Electrical Systems
 - Power Factor Upgrade
 - Power Quality Issues and Harmonics
 - Energy Conservation Opportunities in Motors
 - Variable Speed Drives
 - Energy Conservation Opportunities in Lighting Systems
- ❖ **Energy Conservation in Thermal Systems**
 - Introduction to Boilers
 - Combustion Reactions and Stoichiometry
 - Energy Conservation Opportunities in Boilers & Steam Networks
 - Introduction to Cooling Equipment and Chillers
 - Energy Conservation Opportunities in Chilled Water Systems
 - Thermal Energy Storage
- ❖ **Energy Conservation in Compressors, Pumps, Heat Recovery & CHP**
 - Introduction to Compressors and Compressed Air Systems
 - Energy Conservation Opportunities in Compressors
 - Introduction to Pumps
 - Energy Conservation Opportunities in Pumps
 - Waste Heat Recovery Opportunities
 - Cogeneration Options
- ❖ **Energy Management System ISO 50001**
 - Introduction to ISO 50001
 - Benefits of ISO 50001
 - ISO 50001 Approach & Methodology
 - Requirements of Energy Management System (EnMS)
 - Energy Policy & Energy Planning
 - Implementation & Operation of EnMS
- ❖ **Energy Management Overview**
- ❖ **Successful Energy Management Program**
- ❖ **Energy Management Information Systems (EMS)**
- ❖ **Monitoring, Targeting and Forecasting (MT&F)**
- ❖ **Energy Analysis – Structure and Procedures**
- ❖ **Identification of Energy Efficiency Opportunities**
- ❖ **Quantification of Energy Efficiency Opportunities, such as:**
 - Waste Heat Recovery
 - Thermal Insulation
 - Exhaust Air Recirculation
 - Compressed Air Systems

- Adjustable Speed Drives
- Power Factor Improvement
- Electrical Load Management
- Pumps and Fans
- Boilers, Steam and Condensate
- ❖ **Practical Sessions**
 - This hands-on, highly-interactive training includes real-life case studies and exercises
- ❖ **Course Conclusion**
- ❖ **POST-TEST 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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