



FMM INSTITUTE *(Centre for Professional Development)*

Wisma FMM, No. 3, Persiaran Dagang, PJU 9, Bandar Sri Damansara, 52200 Kuala Lumpur
Tel: 03-62867200 Fax: 03-6277 6712 / 62761316 E-mail: nora@fmm.org.my / anitha@fmm.org.my

SMEs SKILLS UPGRADING PROGRAMME:

FMM Certificate in Energy Management

SBL SCHEME



Energy Manager is a professionally qualified person with expertise in energy management, project management, financing and implementation of energy efficiency projects, as well as policy analysis to enable firms to make more profit. Energy management starts or fails with energy managers. In line with the Efficient Management of Electrical Energy Regulation 2008 which came into effect on December 15, 2008, this programme represents a unique effort of FMM Institute to produce a pool of qualified energy manager for the industry towards the noble vision of utilising energy efficiently.

COURSE OBJECTIVES

- To be made aware of the importance of energy conservation and energy efficiency issues
- To be able to use the knowledge and skills gained to execute energy efficiency practices in their working place, which may include HVAC systems, electrical systems, steam generators, furnaces and internal combustion engines
- To be able to use various tools and procedures in energy management, energy auditing and energy planning
- To gain knowledge on new technologies and advances in the efficient utilisation of energy
- To be certified as a qualified energy efficiency manager at workplace in the efficient utilisation of energy;
- Be certified as a qualified energy efficiency manager at workplace.

ENTRY REQUIREMENTS

Candidate who wishes to sit for the assessment conducted by the Energy Commission must meet the following requirement:

- holds a certificate of registration as a Professional Engineer under the Registration of Engineers Act 1967 [Act 138] and possesses at least six months of working experience in the efficient management of electrical energy at an installation; or
- holds a degree in Science, Engineering, Architecture or its equivalent and possesses at least one year working experience in the efficient management of electrical energy at an installation; or
- holds a Certificate of Competency issued by the Commission as an Electrical Services Engineer or a Competent Electrical Engineer and possesses at least nine months of working experience in the efficient management of electrical energy at an installation

CERTIFICATION

Participants are required to meet the 80% attendance requirement to qualify to sit for FMM Institute's internal examination. Participants who have attended at least 80% of the programme will be awarded a Certificate of Attendance and those who pass the internal assessment of this programme will be awarded the FMM certificate in Energy Management.

WHO SHOULD ATTEND

This programme is specially designed for: Factory, Facility, Maintenance, Service Managers and Engineers, Senior Managerial Production and Technical personnel who are involved in managing, maintaining and operating energy-related matters in their organisations.

ADMINISTRATIVE DETAILS

Date: October 5, 2013 – March 8, 2014

Time: 9.00 am – 5.00 pm

Venue: **FMM Institute**,
2nd Floor, Wisma FMM,
No.3, Persiaran Dagang, PJU 9
Bandar Sri Damansara,
52200 Kuala Lumpur

Fees: **RM1,350** per pax (after 70% Skills Upgrading Grant)
RM4,500 per pax (before Skills Upgrading Grant)
(Fees is not included meals)



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COURSE CONTENTS

Module 1 : Introduction to Energy Management

- Basic Energy
- Energy Sector in Malaysia
- Energy Management
- Energy Conservation
- Energy Efficiency
- Efficient Management of Electrical Energy Laws and Regulations
- Registration of Electrical Energy Manager
- Application for Electrical Energy Manager

Module 2 : Energy Efficiency in HVAC System

- Introduction
- Air Conditioning System
- Air Conditioning ESO's (Energy Saving Opportunities)
- Refrigeration System
- Refrigeration Energy Saving Opportunities
- Fans and Blowers
- Fans and blowers Energy Saving Opportunities
- Cooling Tower
- Cooling Tower Energy Saving Opportunities

Module 3 : Energy Efficiency in Electrical Systems

- Introduction
- Lighting System
- Lighting System Energy Saving Opportunities
- Motors
- Motors Energy Saving Opportunities
- Transformers
- Transformers Energy Saving Opportunities
- Power Cables
- Power Cables Energy Saving Opportunities
- A Systems Approach to Calculating Energy Efficiency

Module 4 : Energy Efficiency in Mechanical Systems

- Pumps
- Energy Efficient Pumps ESOs
- Steam Boilers
- Boilers Maximum Efficiency and ECO's
- Waste Heat Recovery
- Waste Heat Recovery ESO's
- Cogeneration
- Evaluating Cogeneration Opportunities
- Air Compressors
- Air Compressors ESO's

Module 5 : Energy Audit

- Introduction
- Types of Energy Audit.
- Methods in Energy Auditing
- Criteria of an Effective Energy Audit
- Energy Audit Instruments
- Roles and Duties of Energy Auditors
- Energy Saving Opportunities (ESO's)
- Energy Audit Reporting

Module 6 : Economic Analysis

- Introduction
- Financial Analysis for Energy Efficiency Projects
- Financial Sources/Options
- Time Value of Money Concepts
- Economic Analysis

Module 7 : Advances and New Technologies in Energy Efficiency

- Introduction to Renewable Energy
- Biomass Energy
- Wind Energy
- Solar Energy
- Water Energy
- Geothermal Energy
- Fuel Cells
- Project Briefing

COURSE STRUCTUR

Contact Days / Hours : 14 days / 98 hours
Lecture Days : Saturday & Sunday
Number of modules : Seven (7)

Evaluation

The evaluation will consist of a 2-hour written examination after the completion of the lecture sessions.
A compulsory project paper will have to be completed within two months after the completion of the course.

All cancellations must be made in writing. There will be no charge for cancellation received 10 or more working days before the start of the programme. Cancellation received 6-9 working days before the start of the programme is subjected to a cancellation fee of 50% of the course fees. Cancellation received 5 working days and below before the start of the programme is subjected to cancellation fee of 100% of the course fees. If the participants fails to attend the programme, the full course fees are payable. However, replacement can be accepted at no additional cost.



FMM INSTITUTE (Centre for Professional Development)
SMEs SKILLS UPGRADING PROGRAMME:

Private and Confidential
(475427-W)

REGISTRATION FORM

FMM CERTIFICATE IN ENERGY MANAGEMENT

Saturday & Sunday, Date: _____, Venue : FMM Institute, Kuala Lumpur

(To be completed in BLOCK LETTERS)

A. PERSONAL PARTICULARS

Full Name (Mr/Ms) : _____ NRIC No. _____

Designation : _____ Name of Company : _____

Permanent Address : _____

Correspondence Address : _____
(if different from permanent address)

Tel No. (H) : _____ (O) : _____ Fax No. : _____

E-mail Address : _____ H/P No: _____

Date of Birth : _____ Sex : _____ Age : _____ Nationality : _____ Race : _____

B. EDUCATIONAL BACKGROUND

Name of School / Institution	Years Attended From To	Highest Qualification Obtained
Secondary : _____	_____	_____
College / University : _____	_____	_____
Any Special Professional Course : _____	_____	_____

C. SPONSORSHIP

☐ Company Sponsored ☐ Self Sponsored Please Tick (✓)

D. SUBMITTED BY (To be filled if sponsored by company)

☐ SBL Please Tick (✓)

Name : _____ Designation : _____

Company Name: _____

Company Address : _____

Tel No. : _____ Fax No. : _____ E-mail Address : _____

FMM Membership No: _____ My Corporate Identity No : _____

E. DECLARATION

I hereby declare that the information provided is correct and complete.

Signature of Participant: _____ Date: _____

Payment Advice:

Enclosed cheque/bank draft No. _____ for RM _____ being payment for _____ participant(s) made in favour of "FMM Institute".

Please fax or mail the registration form to :

Nora Liza / Anitha Tel : 03-62867200 Fax : 03-62776712
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