

ADVANCED ENERGY AUDIT TRAINING COURSE

1, 2, 5, 8 & 12 December 2006

Organisers:



Department of Mechanical Engineering
The University of Hong Kong

Professional Organiser:



Funding Organisation:



Co-Organisers:



Organising Committee:

Chairman : Ir Colin CL Chung, The Energy Institute (Hong Kong Branch)

Members : Ir Joseph KC Chan, The Energy Institute (Hong Kong Branch)

Ir Dr Dennis YC Leung, Department of Mechanical Engineering, The University of Hong Kong

Ir Dr Michael KH Leung, Department of Mechanical Engineering, The University of Hong Kong

Ir Raymond CL Fong, Hong Kong Productivity Council

Ir Vincent TW Chu, American Society of Heating, Refrigerating and Air-conditioning Engineers, Inc. (Hong Kong Chapter)

Mr KM So, The Building Services Operation and Maintenance Executives Society

Ir KK Lam, The Chartered Institution of Building Services Engineers (Hong Kong Branch)

Ir Peter WP Ma, Hong Kong Association of Energy Engineers

Ir PW LAM, Building Services Division, The Hong Kong Institution of Engineers

Ir Matthew MH Cheung, Environmental Division, The Hong Kong Institution of Engineers

Ir Matthew PL Ngan, Gas & Energy Division, The Hong Kong Institution of Engineers

Objective

Buildings (commercial, industrial and residential) represent a major sector that accounts for more than 50% end-use energy consumption in Hong Kong. There are many opportunities for engineers and facility management staffs to upgrade these buildings with more efficient system designs and newer equipment. This course will describe effective methods of screening buildings for energy efficiency using utility data, and how to address the building owners' concerns of energy efficiency, environmental performance and comfort. Attendees will learn systematic and flexible approaches for auditing buildings in order to improve their energy efficiency and reduce operating costs. The key topics will cover building envelope, HVAC systems, hot water systems, lighting systems and electrical systems. Moreover, the course will expose the participants to sound economic analysis to assess the cost effectiveness of energy efficiency measures.

After completing the course, the participants will be able to:

- Analyse utility bills to estimate retrofit opportunities
- Gather preliminary data on the building's operations
- Audit a facility to gather equipment design data for HVAC, hot water, lighting and electrical systems
- Conduct an on-site inspection and determine actual equipment performance
- Determine specific energy conservation measures
- Analyse the cost-effectiveness of each energy conservation measure
- Acquire information on latest methods for measuring and verifying energy savings
- Prepare and present the report to the owner

Course Content

Day 1: 01 Dec 2006 (Fri; 6:30 p.m. to 9:30 p.m.)

- Introduction to Energy Analysis and Energy Audit
- Overview of Energy Analysis of Energy Efficiency Measures

Day 2: 02 Dec 2006 (Sat; 9:30 a.m. to 12:30 p.m.)

- Energy Audit of Building Envelope Systems
- Guidelines on Energy Audit

Day 3: 05 Dec 2006 (Tue; 6:30 p.m. to 9:30 p.m.)

- Introduction of Computer Simulation Tools

Day 4: 08 Dec 2006 (Fri; 6:30 p.m. to 9:30 p.m.)

- Energy Audit of Electrical Systems and Power Quality Improvements
- Energy Audit of Heating Ventilating and Air Conditioning (HVAC) Secondary and Primary Systems

Day 5: 12 Dec 2006 (Tue; 6:30 p.m. to 9:30 p.m.)

- Discussion of Advanced Technologies
- Introduction of Energy Saving Measurement and Verification Methods

** Contents are subject to change without further notice.*

Key Speakers

Overseas Speaker

Mr Trevor Floyd

- Principle Consultant - TENBY Consultancy Group
- Chairman of the Independent Energy Consultants Group of ESTA
- Council member of ESTA (Energy Systems Trade Association)
- Vice Chairman - West Midlands & Mid Wales Branch of the Energy Institute

- Treasurer of the Birmingham Branch of the British Association (BA) for the Advancement of Science
- Registered Energy Consultant with the Carbon Trust
- Consultant Editor - Croner's Energy Management publication
- Lead Verifier for EU - Emissions Trading Scheme
- Accredited Assessor for the Energy Efficiency Accreditation Scheme
- Member of the Association of Consulting Engineers

Local Experts

Ir Anthony CW Lo - New Product Development Manager, Marketing & Customer Services,
CLP Power Hong Kong Limited

Ir Lo Siu-kuen - Senior Building Services Engineer, **Electrical and Mechanical Services Department, HKSAR**

Ir Peter WP Ma - Vice Chairman, **Hong Kong Association of Energy Engineers**

Prof Francis WH Yik - Professor, Department of Building Services Engineering, **The Hong Kong Polytechnic University**

Ir Raymond CL Fong - Principal Consultant, Environmental Management Division,
Hong Kong Productivity Council

Ir Dr Sam CM Hui - Teaching Consultant, Department of Mechanical Engineering, **The University of Hong Kong**

Ir Dr Michael KH Leung - Assistant Professor, Department of Mechanical Engineering, **The University of Hong Kong**

General Information

Venue : Lecture Theatre, 1/F HKPC Building, 78 Tat Chee Ave, Kowloon Tong, Hong Kong

Course Fee# : • HK\$1,200 per person for members of the Organisers, Professional Organiser & Co-organisers
• HK\$1,500 per person for non-members # Including training materials and tea breaks

Medium of Instruction : English

Target : Interested persons include practicing engineers, energy managers, energy auditors, environmental officers, building services managers, plant managers, etc.

Payment : • Complete the enrolment form and fax it to (852) 2776 1617 for reservation.
• Cheque payment should be made payable to **"Energy Institute (Hong Kong Branch)"** and send to Ms Emily Wong, Hong Kong Productivity Council, 3/F, HKPC Building, 78 Tat Chee Avenue, Kowloon Tong, Hong Kong, within 2 weeks after reservation.

Registration Deadline : 15 November 2006

Certificate : Attendance certificate will be issued.

Enquiry : Ms Emily Wong [Tel: (852) 2788 6366; email: emilyw@hkpc.org]
Ms April Li [Tel: (852) 2788 5097; email: april@hkpc.org]

Enrolment Form

Advanced Energy Audit Training Course 1, 2, 5, 8 & 12 December 2006

Name (Ir/ Mr/ Ms) _____ Position _____
(name for issuance of attendance certificate)

Organisation _____

Member Energy Institute (HK Branch) HKU / ME HKPC ASHARE (HK Chapter) BSOMES
 CIBSE (HKB) HKAEE BS - HKIE EV - HKIE EG - HKIE non-member
Fee HK\$ 1,200 HK\$ 1,500 (# please tick appropriate boxes)

Cor. Address _____

E-mail _____ Fax _____ Tel _____

If you do NOT wish to receive any of HKPC's promotional materials in future, please tick the box, complete your details and fax this page to 2776-1617.

Company Name _____ Contact person _____ Tel _____ Fax _____

Importance

1. All cheques should be crossed and made payable to "Energy Institute (Hong Kong Branch)" and are subject to bank clearance.
2. Enrolment fee is not refundable unless the Professional Organiser is notified in writing of your withdrawal at least 10 working days before the course commences. A handling charge of HK\$200 will also be levied.
3. An applicant may, subject to approval from the Organisers, nominate a substitute to attend the course on his/her behalf.
4. Successful applicants will be notified by email or fax.
5. Organisers reserves the right to reject any application in any circumstances and for whatever reasons and to change the contents, venue and / or time as necessary.
6. HKPC has adopted a Personal Data (Privacy) Policy. The policy statement is available at HKPC enrolment counters for collection. You may also contact our Personal Data Controlling Officer for further details.
7. **TYPHOON:** Classes in the morning, afternoon or evening will be cancelled if a typhoon signal No. 8 or above, or a black rainstorm warning, is still hoisted after 6:00 am, 10:00 am or 2:00 pm respectively.

Disclaimer

- Any opinions, findings, conclusions or recommendations expressed in this material / any event organised under this Project do not reflect the views of the Government of the Hong Kong Special Administrative Region or the Vetting Committee for the Professional Services Development Assistance Scheme.
- It does not reflect the views of the Organisers, Professional Organiser, Co-organisers and Organising Committee either.