C·A·P

Certified Carbon Auditor Professional (CAP)

4-Day Program for Professional Certification

Date: 13 – 16 October, 2008

Time: 9:00 am to 5:30 pm
Exam: 1:30 am to 5:30 pm (Last Day)

Venue: Chamber 3, G/F, InnoCentre, 72 Tat Chee Avenue, Kowloon Tong, Kowloon.

Course Code: CAP / 02 / HK   **Registration Deadline: 30 September 2008**

THE MARK OF A CARBON AUDIT PROFESSIONAL

Climate change has become a challenge to the international community.   The Association of Energy Engineers (USA) is offering an international professional training on carbon audit and reduction in 2008.   This is the first ever international course to be held in Hong Kong after the Certified Energy Manager (CEM®) courses introduced in 2006 and 2007 in Hong Kong.   It is believed that the Certified Carbon Audit Professional (CAP) training course will become widely accepted and used as a measure of professional accomplishment within the energy management field.   It will gain industry-wide use as the standard for qualifying energy and carbon audit professionals both in the United States and worldwide.   **The course is a custom-tailored course for Hong Kong for the "Guideline to Account and Report Greenhouse Gas Emissions and Removals for Buildings of Commercial, Residential or Institutional Purposes in Hong Kong".**

COMPREHENSIVE 4.5-DAY TRAINING PROGRAM FOR CARBON AUDITOR

This is the first CAP course in Hong Kong after a long negotiation with the USA instructors to custom-tailored for the Hong Kong practice.   The US instructors shall travel from the headquarters to Hong Kong to conduct the training.   CAP certificates will be issued directly from the Association of Energy Engineers (USA Headquarters) to candidates after passing the exam with eligibility conditions of experience and qualifications.

Regular Price: **HK$12,900.00**
Discounted Price*:   **HK$12,100.00**
                    * For members of AEE HK Chapter, HKAEE and all supporting organizations.

Supporting Organizations: ASHRAE HK Chapter   CIBSE HONG KONG   BSOMES   energy INSTITUTE (Hong Kong Branch) 能 源 學 會（香 港 分 會）   HKIE-BSD   soe engineering success soe hong kong region 營運工程師學會 香港分會

ABOUT THE COURSE

This course will show you how to conduct a "carbon audit" and begin a carbon reduction program aligned with the Kyoto Protocol and the guidelines published by WRI, ISO and WBCSD. It is a custom-tailored course for Hong Kong for the "Guideline to Account and Report Greenhouse Gas Emissions and Removals for Buildings of Commercial, Residential or Institutional Purposes in Hong Kong". There is a practical session in the course, students have to take an exam and become a certified professional in this new area of expertise.

Professional knowledge on:

- How to conduct a carbon audit and enhance carbon monitoring.
- How to set up a carbon reduction program using cutting-edge resources and tools.
- How to calculate and communicate the "Green" benefits from your energy-efficiency projects.
- How you can improve the financial bottom line, the environment, your clients and colleagues in your business.

Additional Benefits:

- Prepare for new legislation that could affect your organization.
- Increased business efficiencies and profits,
- Energy, water, waste, taxes (and other resource) savings,
- Improved company image and marketing opportunities.

INSTRUCTOR

Dr ERIC WOODROOF, Ph.D., CEM Board Member, CRM Board Chairman, is a trainer and writer, widely recognized both nationally and internationally for helping energy/environmental projects get approved and implemented. His focus is to help clients make more money and simultaneously help the environment. Dr. Woodroof has over 15 years of experience, 20 publications and has identified profit-improvement strategies at over 200 facilities. He has also been a Board Member of the Certified Energy Manager Program since 1999. Dr. Woodroof has worked with the U.S. Public Health Service, Ford, GM, Hertz, Visteon, Trane, Johnson Controls, IBM, the Tulsa International Airport and many others. He is friends with many of the top minds in energy, environment, finance and marketing.

EDUCATION:

- 1998 Ph.D. Industrial Engineering (Energy & Environment Emphasis)
- 1995 M.S. Environmental Sciences (GPA = 4.0)
- 1992 B.S. Physics

COURSE OUTLINE

DAY 1 - AM: INTRODUCTION, EXECUTIVE BRIEFING & HIGH-LEVEL STRATEGIES

- Introduction and The Need for Carbon Reduction:
    - Trends and Data on the Global Challenges we Face, (Data Students Can Apply)
    - Why Monitor and Reduce Your Organization's Carbon Footprint?
    - History, Legislation and Terminology
    - Examples of Successful Programs: Profits, Results and Benefits,
- Class Member Introductions (Student's Goals)
- Review Selected Student Objectives and Profiles, Local Challenges, Problems, Barriers
- Day-by-Day Overview of Course
- Q&A

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DAY 1 - PM: INTRODUCTION TO THE CARBON REDUCTION PROCESS

- Insights from Class / Instructor
- Carbon Reduction Process Overview:
    - Reduce, Reuse, Recycle and apply Energy Efficiency/Management
    - Implement Green Power / Renewable Energy Sources
    - Implement Offset / Trade Strategies
- Protocol Overview & Terminology
    - Kyoto's 6 Listed Greenhouse Gases, GWP Factor, Control vs. Equity Share Approaches, De-Minimis, Base Year and Adjustments, Transitional Periods, Tier Quantification System.   ISO 14064 & 14065 as well as Trading Terms like: CCX, CDM, JI, VER, etc.
    - Emissions Types: Direct, Indirect, Fugitive and Mobile; Scope I, II and III and Biogenic
- Overview: Carbon Audit and Reporting Process (Getting Credit for What you Do):
    - Identify Boundaries (Tenant vs. Communal Areas), Sources
    - Quantify, Report and Verify Emissions
- Homework Assignments
- Q&A

DAY 2 - AM: CARBON FOOTPRINT MEASUREMENT & MONITORING

- Components of a Carbon Audit
    - Identify Carbon Intensity
    - Electricity, Gas and Fuel Usage (Scope I and II Emissions)
    - Scope III Emissions: Extended Audit Components (Travel, Personal Travel, "Cradle to Cradle" Products and Processes)
    - Class Exercise on a Carbon Audit / Carbon Map of their Operations
- Exact Steps to setting up a Carbon Reduction Program & Reporting Software
    - Protocols and timelines to calculate, certify and report your emissions
    - Establishing reduction goals as well as monitoring and reporting tools
    - Verification process tools
    - Direct, indirect, mobile and fugitive source management
- Reporting Software / Reporting Formats
    - Report Content must include:
        - Info on organization, emissions, offsets (and locations)
        - New Goals to further reduce GHG emissions
- Verification Process
- Emissions Conversion Factors and Where to Find Them
- Q&A

DAY 2 - PM: BEST PRACTICES FOR A CARBON AUDIT PROESSIONAL

- Quick review, Insights from Case Studies
- Practical Tips for Setting up a Program in Your Facility
- Inventory Management Plan and Processes
- Day to Day Functions
- Implementation and Data Management Best Practices
- Q&A

DAY 3 - AM: PRACTICAL STRATEGIES & TACTICS TO REDUCE YOUR CARBON FOOTPRINT AND ENVIRONMENTAL IMPACT

- Quick review, Insights from Case Studies
- Proven tactical measures to reduce your carbon footprint:
    o Re-Engineer Processes to Reduce Carbon
        - Design, Materials, Manufacturing/Process Changes
    o Resources for Building it "Right", (LEED plus more)
    o Energy Efficiency and Management
    o Energy Procurement and Green Power

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- o Emissions Conversion Exercises- *to help students convert energy savings into avoided carbon emissions*
- o Renewable and other Sustainable Technologies
- o Tax Benefits
- o Green Janitorial, Water & Waste Management / Reuse / Recycling
- o Green Transportation and Administrative Functions
- o Greening your Suppliers and Distributors
- Local Strategies and Techniques
- Q&A

DAY 3 - PM: CARBON CREDITS, OFFSETS, TRADING AND NEW REVENUE TACTICS

- Carbon Trading and Credit terminologies
    - o Renewable Energy Certificates
    - o Green & White Certificates, Offsets Explained
        1. Wind, Solar, Methane Recovery... Certified Credits
        2. Fleet management
        3. Bulk Purchasing Credits
    - o Additional profit-generating as well as bartering strategies
- Creating an On-Going Green Program:
    - o Justification for a "Green" Manager
- Process for Finding Profitable Green Strategies
- Q&A

DAY 4 - AM: FINANCING/SELLING/APPROVING YOUR PROGRAM

- 3 Big Reasons why Green Projects Fail... and How to Overcome Them
- Financing For Positive Cash Flow
- How to quantify all the benefits and help your organization improve its "environmental image".
- Marketing Tactics to help your "Green" project get approved.
- Course Review and Test Prep
- Final Q&A
- WRAP UP / Conclusion

Examination

DAY 4 - PM: EXAM

100 Questions: (The Table Below Indicates # Questions per Topic)

TOPIC	NUMBER OF QUESTIONS
Understanding The Problem:	
History, Terminology, Policy and Legislation	20
Carbon Audit	20
Emissions Reporting / Verification	15
Emissions Conversions	10
Solutions:	
Energy Efficiency Solutions	5
Renewable Energy Sources and Green Power	5
Fleet Management	5
Emissions Trading, Terminology and Offsets	10
Recycling and Water	5
Financing and Marketing	5
TOTAL	**100**

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Note: Regarding the test categories, "Emissions Reporting/Verifications and Conversions" are <u>key components</u> to conducting a compliant carbon audit, so the "carbon audit" related categories actually comprise about 45% of the exam.

Eligibility

The prerequisites to qualify for the certification process have been designed to take into account the possible diversity of education and practical experience an individual may have. However each CAP candidate must meet one of the following criteria with the pass of exam:

- A **Certified Energy Manager (CEM)**,
  with CPD in energy engineering or energy management.

- An **engineering degree and/or R.P.E and/or P.E.**,
  with at least *three* years experience in energy engineering or energy management.

- A **business or related degree**,
  with at least *five* years experience in energy engineering or energy management.

- A **technical diploma or certificate**,
  with *eight* years experience in energy engineering or energy management.

- *Ten* years or more **verified experience** in energy engineering or energy management.

  (Note: Letters of reference and verification of employment must be submitted.)

Application forms will be distributed the students after the course/exam for the certification.

Conditions

1. **All candidates should firstly fax/email the form for registration and issue cheque for seat confirmation.**

2. **Every effort will keep the course date unchanged. However, all candidates will be informed well in advance should there be any change of course date due to venue booking and other reasons.**

3. **The course contents may subject to change according to the decision of the instructors.**

4. **The organizer reserves the right to cancel the course should there be insufficient candidates or other reasons.   Course fee will then be refunded 100%.**

5. **The organizer reserves the right to close the application before the deadline should the application exceeds the maximum intake.**

6. **All CAP successful candidates will enjoy a 1-year free AEE membership and a CAP certificate if he/she fulfils the eligibility requirement.**

Class Details

A limited maximum of 25 students will be accepted for the class.

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< REPLY SLIP >

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Program for Professional Certification

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Registration

Deadline: 30 September 2008

To register, please complete and return the reply slip by fax to 3576 3529 or email to hkaeecap@yahoo.com.hk and then mail to the below address to secure seat with your crossed cheque payable to:

"AEE Hong Kong Chapter"
c/o Genius Production Services
Room 604, Yu To Sang Building, 37 Queen's Road Central, Hong Kong.
Attention: Ms. S L Fok (Tel: 9812 1163)

Course Enquiry

Dr Leonard Chow, AEE Authorized Course Certification Administrator in Hong Kong.

Tel: 2566 3397, leonardchow@ispl.com.hk

Course & Exam Fee: **HK$12,900 / HK$12,100** **(Delete as appropriate)**

Date of Registration: _____

Name (Same as HKID Card): _____ (Ir/Mr/Ms/Miss)

Company Name: _____

Position Title: _____

Company Address: _____

Contact Phone: (Office)_____ (Mobile)_____

Fax #:_____ Email Address: _____

Institution: _____ Membership No: _____

Cheque no.: _____ Amount (HK$): _____

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