



# ENERGY & CARBON TRAINING

THE ESSENTIAL TRAINING FOR SUSTAINABLE DEVELOPMENT

SGS ENERGY AND CARBON SERVICES TRAINING MANUAL (2012)

**SGS**



## ENERGY SERIES

- 01 Certified Energy Manager (CEM) Training (5 Days)
  - 02 Certified Measurement & Verification (CMVP) Training (3 Days)
  - 03 Fundamental of Energy Efficiency Management Training (1 Day)
  - 04 Energy Efficiency Manager Training (2 Days)
  - 05 Advanced Energy Efficiency Manager Training (4 Days)
- 



## ENERGY MANAGEMENT SYSTEM SERIES

- 06 GB/T23331-2009 Energy Management System Internal Auditor Training (3 Days)
  - 07 ISO50001 Energy Management System Internal Auditor Training (3 Days)
- 



## CARBON SERIES

- 08 ISO14064 Greenhouse Gas Verifier Training (3 Days)
  - 09 Product Carbon Footprint Management Awareness Training (1 Day)
  - 10 Product Carbon Footprint Accounting Training (2 Days)
- 



## PACKAGING SERIES

- 11 The Essentials of Sustainable Packaging Training (2 Days)
-

## TRAINEES' COMMENTS

1. There are lots of training institutions like SGS. I chose SGS because it represents a uniformly high standards. — Intel trainee
2. Certified energy management (CEM) training material is my Xinhua dictionary and I can put it on my desk for looking over at any time. — Ingersoll students
3. Energy saving and emission reduction, take education first.  
— Director of China CEM Project Management Committee
4. It benefits me a lot to attend CEM training. Because every teacher's experience is rich and the curriculums are comprehensively covered. We study not only the international advanced energy-saving knowledge but also use it in daily life.  
— Wu jianfei from Shanghai Sheng Yu Trade company Limited.
5. I am satisfied with the course. I enjoy the way in which teachers ask us the questions in class. So that we can have good interaction. Teachers also add some interesting contents to share with the participants. All in all, this SGS training is excellent.  
— Rao jingping from Guangzhou Xiangxue pharmaceutical company limited.
6. The case analysis is very good and the building systems commissioning technology is very interesting. The teacher introduced the world advanced technology and trend as training contents. if there is more time that would be better.  
— Lu Xiao from Comfort blade ( Guangzhou) limited.
7. The training course is very good, by which I learn a lot of knowledge about energy. I hope you can offer more this kind of training. And each instructor's attitude is very serious and responsible. — SGS organize and arrange this training very well.
8. Sharp tools make good work; Ideology is very important, more important to realize ideas; A beard well lathered is half shaved. Thanks to SGS — Kingfa science and technology students



## THEY SAID

"You can refuse to learn, but your competitors will not." Jack Welch (CEO of General Electric from 1981 to 2001)

"Training is very expensive, but do not train is more expensive, money that save from no-training sure loss from the wasted product."  
Konousuke Matsushita (founder of Matsushita Electric Industrial Company, with brand names National and Panasonic)

# CERTIFIED ENERGY MANAGER (CEM) TRAINING


**To Learn The Leading Edge Energy Concept and Science**  
**To Cultivate Senior Energy Management Staff**  
**To Improve Energy Efficiency and Lower The Cost**

## COURSE OVERVIEW

SGS-CSTC signed cooperation plan with the Association of Energy Engineers (AEE) in year 2007, getting the exclusive right to operate the CEM training course. CEM established in US in 1981, is recognized as the best-known energy management training and certification courses in North America. CEM certificate get widely recognized from government, enterprises to energy service sectors. As high-end management training, CEM training with advanced and pragmatic ideas has extremely far-reaching significance on the development of China's energy saving emission reduction industry.

## U.S. ASSOCIATION OF ENERGY ENGINEERS (AEE)

The Association of Energy Engineers (AEE) is a non-profit professional society of 10,000 members, founded in 1977. The mission of AEE is "to promote the scientific and educational interests of those engaged in the energy industry and to foster action for Sustainable Development". AEE offers a full array of informational outreach programs including seminars (live and internet based), conferences, journals, books, and certification programs.



## COURSE OUTLINE

- Day 1: Course Introduction; Need for Energy Management; Energy Auditing; Energy Audit Instrumentation; Electric Systems;
- Day 2: Green Buildings and LEED; Energy Purchasing; Energy Accounting and Benchmarking; Electric Rate Structures; Economic Analysis and Life Cycle Costing; Lighting System Basics and Lighting System improvement; Motors and Applications; Electrical Systems
- Day 3: Drives and Compressed Air System; Energy saving Project Financing; M&V; Contract Energy Management; Buildings Envelope
- Day 4: HVAC Basics Improvements; Boilers and Thermal Systems; Boiler Efficiency Improvement; Cogeneration and CHP Systems
- Day 5:  
AM: Production Technology System Energy Saving; Cogeneration; Green Building; In-house Air Quality;  
PM: Examination

## TARGET AUDIENCES

- Members in enterprises who are in charging of energy/facilities operation and maintenance
- Members in Design Institutes, energy service companies
- Officers in energy department and offices of government
- Management and technical staffs in property management companies
- Engineers working in utility companies and energy service companies
- University students and tutors
- Any parties who are interested in energy management topics

## TRAINING CERTIFICATE

A CEM certificate issued by AEE will be awarded upon passing the examination and fulfill the eligibility requirements.



# CERTIFIED MEASUREMENT & VERIFICATION (CMVP) TRAINING

 **To Obtain The Latest M&V Methodology and Technique  
To Satisfy The Corporate Demands on Energy Professionals**

## COURSE OVERVIEW

Efficiency Valuation Organization (EVO), which is an internationally recognized authority on the development and improvement of efficiency evaluation standards, tools and methods. It helps end-users to quantify and manage the risk and payback of energy efficiency, renewable energy and water use efficiency. EVO is a subscriber-based organization with supporters around the world. EVO is responsible for the maintenance, revision and management of IPMVP.

To perform energy savings measurement and verification in accordance to IPMVP, it is necessary for the responsible engineer to acquire specific engineering and technical knowhows, which allow him/her to make the M&V plan based on the specific circumstances of the project. In order to ensure the competence of the practitioners, EVO developed and hosted a CMVP training, examination and registration program.

## COURSE OUTLINE

- Principles and definition of IPMVP and M&V
- Emission trading
- Four basic methodology options of IPMVP methods, options A, B, C and detailed case studies
- Evaluation of energy saving on frequency converter system
- Examination

## TARGET AUDIENCES

- Managers and technical staff of ESCO
- Technical managers and staff in energy saving companies (industry, architecture, transportation)
- Related staff work in energy efficiency and renewable energy
- Managers in financial enterprise concerning energy saving services

## TRAINING CERTIFICATE

A CMVP certificate issued by EVO will be awarded upon passing the examination and fulfill the eligibility requirements.



# FUNDAMENTAL OF ENERGY EFFICIENCY MANAGEMENT TRAINING



**To Understand The Trend of Energy Development and The Principle of Energy Management  
To Realize The Latest Technology and Enhance Energy Management Skill**

## COURSE OVERVIEW

Energy structure optimization, energy efficiency improvement and energy conservation enhancement are all the major considerations for low carbon economy. Both awareness and up-to-dated mindset are crucial factors to optimize energy management.

## COURSE OUTLINE

- Fundamental of energy and macro-economic analysis
- Implementation of energy management system
- Energy audit and instrumentation
- Energy performance contracting
- Introduction of IPMVP (International Performance Measurement and Verification Protocol)
- Energy efficiency technology of thermal, electrical and HVAC systems
- Optimization of automation control system
- Maintenance and commissioning of equipment and facilities

## TARGET AUDIENCES

- Members in enterprises who are in charging of energy/facilities operation and maintenance
- Officers in energy department and relevant government offices
- Management and technical staffs in property management companies
- Engineers working in utility companies and energy service companies
- Investment managers

## TRAINING CERTIFICATE

A Fundamental of Energy Efficiency Management Training certificate issued by SGS will be awarded upon completing the course.



# ENERGY EFFICIENCY MANAGER TRAINING



**To Enhance Management Consciousness and Technology  
To Develop Professional Energy Management Team and  
Reveal Energy Saving Opportunities**

## COURSE OVERVIEW

Prior to any energy improvement plans, the development of energy management team is the first step on a road that leads to success. To be effective, training is best designed as an on-going process. Through the widespread provision of energy efficiency technology, the team can constantly improve productivity and thus reduce energy costs.

## COURSE OUTLINE

- Introduction of energy management
- Energy efficiency technology of thermal, electrical and HVAC systems

## TARGET AUDIENCES

- Members in enterprises who are in charging of energy/facilities operation and maintenance
- Officers in energy department and relevant government offices
- Investment managers
- Project managers of NGO
- Members in Design Institutes, energy service companies

## TRAINING CERTIFICATE

An Energy Efficiency Manager Training certificate issued by SGS will be awarded upon completing the course.



# ADVANCED ENERGY EFFICIENCY MANAGER TRAINING


**To Realize The Latest Energy Management Techniques  
 To Develop A Professional Management Team, Improve  
 Energy Efficiency Management Skills  
 To Avoid Potential Risk and Reduce Energy Costs**

## COURSE OVERVIEW

Through latest energy management techniques, advanced energy efficiency manager training can effectively assist you to find the potential energy saving opportunities, make specific investment analysis to various types of energy saving projects, reduce the energy cost, and obtain government's subsidies or investment opportunities by the third party funds.

## COURSE OUTLINE

- Introduction of energy management
- Economic analysis, financing and trading of energy efficiency projects
- Energy efficiency technology of thermal, electrical and HVAC systems
- Energy consumption and monitoring
- Maintenance and commissioning of equipment and facilities
- Examination

## TARGET AUDIENCES

- Members in enterprises who are in charging of energy/facilities operation and maintenance
- Officers in energy department and relevant government offices
- Management and senior engineers of energy service companies
- Investment managers
- University students and tutors
- Project managers of NGO
- Members in Design Institutes and energy service companies

## TRAINING CERTIFICATE

An Advanced Energy Efficiency Manager Training certificate issued by SGS will be awarded upon passing the examination.



## GB/T23331-2009 EnMS INTERNAL AUDITOR TRAINING



**To Enhance Understanding and Comprehension of The  
Essence of Management System  
To Reduce Your Energy Cost with Minimum Resources  
and Improve Productivity**

### COURSE OVERVIEW

Effective energy management is a crucial issue for the success of any business. The establishment of energy management system can help enterprises and institutions to improve energy conservation and energy efficiency. GB/T23331-2009 is a Chinese national standard on the energy management system requirements published on 11th Mar 2009 by AQSIQ and SAC, and came into effect on 1st Nov 2009.

### COURSE OUTLINE

- Basic knowledge of energy management
- Explanation of EnMS standards
- Implementation of internal EnMS audit
- Role-playing assessment and auditing Examination

### TARGET AUDIENCES

- Corporate and facility energy managers
- Professionals in energy management, planning, audit and consultation

### TRAINING CERTIFICATE

A GB/T 23331 EnMS Internal Auditor Training certificate issued by SGS will be awarded upon passing the examination.



## ISO 50001 EnMS INTERNAL AUDITOR TRAINING



**To Master The Enms Rules and Audit Methods  
To Increase Productivity with The Use of Energy  
Management Knowledge and Practices**

### COURSE OVERVIEW

The establishment of EMS is one of the most popular energy saving methods. ISO 50001 is based on the common elements of management system of ISO to guarantee the maximum compatibility with ISO 9001 (Quality management) and ISO 14001 (Environmental management).

### COURSE OUTLINE

- Basic knowledge of energy management
- Explanation of ISO 50001 EnMS standards
- Implementation of internal EnMS audit
- Discussion: non-conformance report and audit summary; internal audit review and improvement; selection of internal auditor
- Role-playing assessment and auditing scenarios
- Examination

### TARGET AUDIENCES

- Corporate and facility energy managers
- Professionals in energy management, planning, audit and consultation

### TRAINING CERTIFICATE

An ISO 50001 EnMS Internal Auditor Training certificate issued by SGS will be awarded upon passing the examination.



## ISO14064 GHG VERIFIER TRAINING

**To Better Understand The Development Trend of GHG Inventory and Minimize The Potential Risk To Get Ready for The GHG Emission Trading**

### COURSE OVERVIEW

On 1<sup>st</sup> Mar 2006, International Standard Organization published ISO14064 Standards which stipulated internationally the best mode of managing, reporting and verifying GHG material and data. This standard united the calculation of uncertainty of GHG emission statement in the world. ISO 14064 contains three standards which set detailed standards and guidance for organization and enterprise respectively. It can be used independently or as a series of methods so as to meet various needs in measurement and verification of GHG emission.

### COURSE OUTLINE

- Introduction of ISO14064 GHG verifier training background
- ISO 14064 terms and definitions
- Introduction of the standard: ISO 14064 verification scope, principles and content
- Design and preparation of GHG list
- GHG data management
- Verification management
- Examination

### TARGET AUDIENCES

- GHG verifiers and internal auditors
- Tutors, consultants and executive of ISO 14064 GHG management system
- Qualified persons who want to learn about ISO 14064

### TRAINING CERTIFICATE

An ISO 14064 GHG Verifier Training certificate issued by SGS will be awarded upon passing the examination.



# PRODUCT CARBON FOOTPRINT (PCF) MANAGEMENT AWARENESS TRAINING



**To Familiarize The Development Trend of Industry**  
**To Understand The Workflow of PCF Calculation**  
**To Enhance PCF Management**

## COURSE OVERVIEW

PCF management is not only an effective approach for energy efficiency, emission reduction and cost control, but also a marketing tool to develop sustainable corporate image and promote brand reputation.

## COURSE OUTLINE

- Global market updates on sustainability development and relevant regulations
- Domestic information on emission reduction, regulation and standards
- Sustainability solutions in low carbon economy
- Standards, principles and methodology of PCF calculation
- Carbon neutral and carbon trade
- Case studies of PCF

## TARGET AUDIENCES

- Product Managers / R&D Managers
- Quality Control Managers
- Marketing Managers
- Corporate Sustainability Managers
- Senior Management

## TRAINING CERTIFICATE

A Product Carbon Footprint Management Awareness Training certificate issued by SGS will be awarded upon completing the course.



# PRODUCT CARBON FOOTPRINT (PCF) CALCULATION TRAINING



**To Formulate Internal GHG Emission Assessment  
To Establish GHG Emission Management System PER Product Basis  
To Meet The GHG Reporting Requirements From  
Governments and Customers**

## COURSE OVERVIEW

Product carbon footprint management can provide a systematic way to identify emission reduction opportunity. The course will help enterprises to train a technical team to collect, analyze, and manage greenhouse gas information.

## COURSE OUTLINE

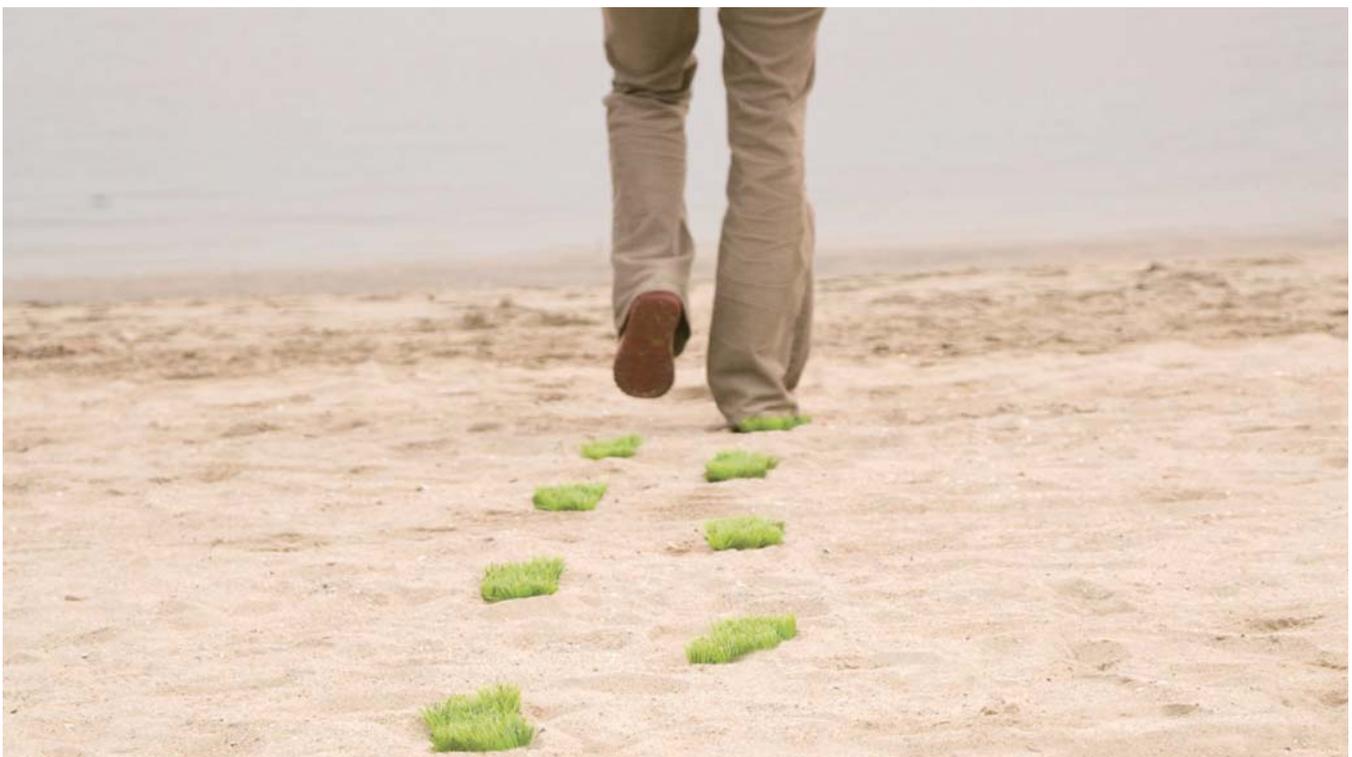
- Global market trends and updates on sustainability development and relevant regulations
- Sustainability solutions in low carbon economy
- Standards, principles and methodology of PCF calculation
- PCF calculation process
- Case studies of PCF

## TARGET AUDIENCES

- Product engineers
- R&D engineers
- Quality control managers
- Consultants
- Corporate sustainability managers
- Product carbon footprint managers

## TRAINING CERTIFICATE

A Product Carbon Footprint Calculation training certificate issued by SGS will be awarded upon completing the course.



# THE ESSENTIALS OF SUSTAINABLE PACKAGING TRAINING

- ▶▶▶ **To Introduce The Key Concepts of Sustainability and What It Means for Packaging**
- To Provide The Latest Sustainable Packaging Information and Technical Advice**
- To Create Significant Value Added to Products**

## COURSE OVERVIEW

The Sustainable Packaging Coalition® (SPC) presents a professional training program introducing the key concepts of sustainability and what it means for packaging. SGS is proud to be the first authorized partner to deliver “The Essentials of Sustainable Packaging” course in China for packaging professionals and corporate sustainability decision-makers. It offers a comprehensive to sustainability considerations that apply to the entire packaging life cycle: material sourcing, packaging design, manufacturing, transport and final disposal.

## SUSTAINABLE PACKAGING COALITION

SPC is a project of GreenBlue®, a non-profit organization that equips business with the science and resources to make products more sustainable. Through strong member support, an informed and science-based approach, supply chain collaborations and continuous outreach, they endeavour to build packaging systems that encourage economic prosperity and a sustainable flow of materials. SPC’s team of scientists, engineers, designers, and business strategists has decades of experience in sustainability and a proven track record in using that experience for the good of business. They can translate complex scientific concepts into concrete business strategies.



## COURSE OUTLINE

- Sustainability and Balancing Tradeoffs
- Tools for Measuring and Reporting Sustainability
- Sourcing and Recovering Materials
- Communicating Sustainability communications
- Understanding Environmental and Human Health Impacts

## TARGET AUDIENCES

- Exporters and Buyers
- Supply Chain Management Professionals
- Quality Control Managers / Supervisors
- Corporate Social Responsibility Professionals
- Sustainability Professionals
- Packaging Professionals / Engineers

## TRAINING CERTIFICATE

An Essentials of Sustainable Packaging training certificate issued by SGS and SPC will be awarded upon completing the course.



# ABOUT SGS

SGS is the world's leading inspection, verification, testing and certification company. SGS is recognized as the global benchmark for quality and integrity. With more than 70,000 employees, SGS operates a network of over 1,350 offices and laboratories around the world.

SGS-CSTC Standards Technical Services Co. Ltd. was founded in 1991 as a joint venture between SGS Group and China Standard Technology Development Corp under the State Administration of Quality Technical Supervision. With an extensive network of more than 50 branches and dozens of laboratories we have more than 10,000 professionals working for us.

In China our expertise is servicing the supply chains of various sectors such as agricultural, minerals, petrochemicals, industrial, consumer products, automotive and life science. For decades, we have been providing sustainability solutions and services for

companies and organizations across the globe. As a result, we are perfectly placed to help you be kinder to the environment, have a positive impact on society and achieve greater economic sustainability. The testing, inspection and certification services we provide help local and overseas businesses, governments and institutions develop sustainable solutions that balance People, Planet and Profit.

In the fields of energy efficiency and low carbon, SGS is the advocator in response to the global climate change and is also the leader providing testing and certification solutions. SGS is always concerned about environmental protection and energy saving and focus on the green future. In China, our low carbon energy efficiency professional services team has more than 120 people, who separately located in Beijing, Tianjin, Qingdao, Wuhan, Guangzhou, Shenzhen, Xiamen, Shanghai, Hangzhou, Suzhou, Chongqing and other cities now .

SGS keep walking in industry forefront in the research and service of energy efficiency and low carbon area, and has set up multiple milestone for success attempts to internal energy saving and emissions reduction, such as the first domestic food industry carbon label, the first carbon neutral project, the first carbon assets management ability construction project, the first public institutions energy saving planning project, the first energy efficiency power plant pilot project, and has successfully introduced international energy management training courses, which provides copied valuable experience from the third party for Government and the enterprises to save energy in the future. SGS is able to help the parties to achieve energy-saving emission reduction targets, identify energy-saving space, reduce energy costs, improve products added value, establish a good institution reputation and gain sustainable competitiveness.

## SGS ENERGY EFFICIENCY AND LOW CARBON SOLUTIONS

- Energy efficiency services
  - Energy audit
  - Equipment performance testing
  - Energy saving measurement and verification
  - Energy management system
  - Electric balance / water balance
  - Energy saving emission reduction development planning
  - Building energy system optimization adjustment
- Low carbon services
  - ISO 14064 Carbon verification service
  - Carbon verification service
  - Carbon emission reduction and carbon neutral service
  - CDM (Clean development mechanism) verification
- Product eco-design services
  - Product carbon footprint
  - Product life cycle auditing and Product green claims service
  - Eco design for Products and packaging design services
  - Material recycling assessment service



## CONTACT US

Beijing  
Tel: +86 (0)10 6845 6699 ext 602

Shanghai  
Tel: +86 (0)21 6107 8354

Shenzhen  
Tel: +86 (0)755 8602 3961

Guangzhou  
Tel: +86 (0)20 3213 6481

Email: [ecs.china.training@sgs.com](mailto:ecs.china.training@sgs.com)

Hong Kong  
Tel: +(852) 2204 8307  
Email: [hk.ecs.enquiry@sgs.com](mailto:hk.ecs.enquiry@sgs.com)

## EXPERIENCED TRAINING TEAM



### **WILLIAM LAU (HONG KONG)**

Dr. Lau is a chartered engineer, environmentalist scholar and scientist, Certified Energy Manager (CEM), Certified Carbon Auditor, and has more than 30 years experiences of chemical program, energy management, environmental program and management. He has participated in the research of Energy Management System, IMPVP and Contract Energy Management, ISO14064 Greenhouse Gas Verification, establishment of Green products management, ROHS & WEEE conformity Audit, Sustainability report confirmation, MARCH, energy consumption products, TOC and offered related training, verification and certification. Dr. Lau is currently the Director of Energy & Carbon Services department in charge of technical services related to climate change and energy, including CDM, Energy Audit, Carbon Audit, M&V, establishment and auditing of Energy Management System and CEM, Carbon Verifier Training.



### **XIANGMEI ZHOU**

Senior engineer of environmental engineering; Senior auditor of National Certified Environmental Management System; Tutor of National Certified Environmental Management System Auditor Training; National Certified Senior Safety Valuator; Member of Beijing Population Resource and Environment Committee; Professional of Energy Management System; She has always involved in working about energy-saving and cleaner production and has participated in more than 10 research projects; China-Canada cleaner production projects. As the pioneer of China energy management system, she has participated in verification of more than 400 corporations. As one of the professionals team in China, she joined in the drafting process of ISO50001 and other standards. She is one of the first National certified Energy Management System Auditors and participates in drafting <Papermaking Energy Management System Verification Rules>.



### **AUSTIN LIU**

The registered Inspection Engineers of China. Austin Liu went to the University of Nebraska Lincoln (UNL) in the United States in 2006 as a visiting scholar. He learned Continuous Commissioning - CC® technology of central air-conditioning system and made experimental research in the energy system laboratory (ESL), getting some successful applications in engineering practice. He is the pioneer who firstly brings America Continuous Commissioning - CC® integrated patent technology for central air-conditioning system to China. He obtained the Certified Energy Manager (CEM) and Certified Measurement & Verification Professional (CMVP) qualifications awarded by the U.S. Energy Engineers (AEE) and he is one of only four tutors authorized by AEE in China. Moreover, he got SGS carbon verifier qualification for GHG. He has completed eight energy-saving retrofit projects, completed more than 80 energy-saving retrofit feasibility study reports, including building system and industrial system; completed three mechanical and electrical system design of large-scale commercial projects.



### **SAND WANG**

Sand Wang graduated from Tianjin University with master degree in engineering; He has ten years experiences in building energy saving projects, HVAC system, including every aspects of energy utilizing. He has a deep understanding of energy efficiency and energy consumption system. He also studied and researched in EVO's IPMVP, and now is focusing on introducing and spreading the usage of IPMVP in China through applying it in specific energy projects.



### **DANNY WONG (HONG KONG)**

Danny Wong is a Certified Carbon Auditor Professional (CAP) of Association of Energy Engineer (AEE) with industrial experience of consulting, research and development on various technological projects with areas covering advanced materials, product ecodesign, Life Cycle Analysis, environmental regulatory studies, green manufacturing and other environmental issues. He has delivered a number of talks and trainings on sustainability topics in Asian region. In his career, he coauthored and published a number of scientific & technological papers in major international journals.

---



### **JAMES ZHANG**

Graduated from South China University of Technology Macromolecule, James Zhang offers all kinds of packaging solutions for hundreds of companies in China, and conduct the research of Packaging lower cost evaluation assessment and packaging issues evaluation fields. As a professional, he was invited to attend packaging seminars and public related essays in the magazine and newspaper. He now is in charge of Packaging application training, new packaging service development and sustainable packaging services.

---



### **TONY HO (HONG KONG)**

Tony Ho, UK & Hongkong Certified professional Building Facilities Engineer, member of US Cold Ventilating and Air Conditioning, UK Energy Management Master degree and CEM professional, has participated in various of large architecture projects including Hongkong Airport, subway, bank, shopping mall, restaurant, commercial building, industry building etc. He as a leader has completed more than 30 energy management projects and has joined in projects such as HSBC, Hongkong Cyberport, Macau casino, Dongguan, Zhongshan, Jiganglu Toy Company, Shanghai Auto. Tony is member of the Association of Energy Engineers (AEE) and Shenzhen Expertise Federation of Energy Conservation (SEFEC) as well as other local and international professional institutions. With his extended knowledge and exposures in the industry, Tony spent his effort contributing to the community by serving as the Honorary Advisor of Green Investment Promotion Association (GIPA) in Hong Kong. Also he serves as Risk Committee member in the China Low Carbon Investment Fund for the United Nation Industrial Development Organization (UNIDO). In 2011, he has been appointed as Honorary Advisor for the Research Centre of Built Environment and Energy Conservation of Nanchang University, PRC. And Tony is invited to join the Task Force on Energy Management System by Hong Kong Government.

---



### **JOHN HUANG**

John Huang obtained his Bachelor degree of Environmental Engineering in Hubei University of Technology. He worked in a Fortune 500 enterprise, and has many years experiences on environment management, occupational health and industrial safety, including ISO14001system, OHSAS18001 system, environmental monitor, energy conservation and emission reduction, supplier SER audit, internal tutor and GHG inventory. He got national certified safety engineer title, national certified GB/T14001 in training auditor title, and CMVP title. John Huang is now served on energy & carbon service department (ECS) of SGS-CSTC, engaging in GHG verification and GHG accounting training. He is authorized lead verifier and tutor by SGS, Clients which had been served by him are included AMD Technologies (china) Co., Ltd., Delta electronics (Dongguan) Co., Ltd., Sunrex Technology (Jiangsu) Co., Ltd., Genway international hotel, Yanlord Property (Su Zhou) Co., Ltd., China Merchants Property Development (Guangzhou) Co., Ltd.

# EXPERIENCED TRAINING TEAM



## CHANTEL SUN

SGS senior project engineer, pursued and got the environmental master degree in Canada after Graduating from East China University of Science and Technology with the Bachelor degree of chemical engineering. Chantal SUN is always engaging in Life Cycle Assessment, especially in sustainability related issues which include LCA, SA, EA and various kinds of environmental system models. She owns rich knowledge about the environmental policy, clean energy and green product. She is professional about the theory and practical operation of ISO 14064 and LCA.



## JUICE ZHANG

Obtained his Bachelor degree of Electrical Engineering and Automation in Guangdong University of Technology, Juice Zhang is a member of AEE in China and has certified as AEE's CEM (Certified Energy Manager). He worked in a large stainless steel plant, and has many years experiences on energy management. Juice has been involved in a number of projects on energy audits, energy efficiency test on equipment and establishment of energy management system. Working experiences on plant construction, commissioning and acceptance, measuring equipment management, statistical energy analysis, energy management, equipment performance testing, product unit consumption testing, energy audit, EnMS and other aspects have been accumulated during work.



## WADE XU

Wade Xu graduated from Nanjing Chemical Industry University majored in Polymer Chemical Industry. He has the title of EVO Certified Measurement & Verification Professional (CMVP); CCAA Certified Energy Management System Auditor; CCAA Certified Quality Management Senior Auditor; CCAA Certified Environment Management System Senior Auditor; ECCB Certified ROHS Management System Senior Auditor. He has experience in Management System consulting and training, Management System Certification and Polymer developing field.



## YIXIN HU

Yixin Hu graduated from the Energy management department of Wuhan engineering Institute. He is the senior Economist, Heat Energy Engineer, CEM, SGS senior tutor and Energy Specialist with 24 years experience in energy saving field. He has completed a lot of energy projects including company heat balance, boiler testing, heat supply network, low voltage power distribution system, water supply system and energy saving retrofit. He has several years of energy management experiences in company and good at energy standard building, energy saving policy drawing up, organization chart erecting and energy saving execution. He also has completed 23 companies energy audit and has attended 3 electronic balance projects for main energy consumption enterprise with the lead of Shanghai Government.

**CHAN PANG (HONG KONG)**

Chan Pang graduated from the Hong Kong University of Science and Technology. He joined Mitsubishi Chemical Corporation in 2004 and took several energy conservation projects and power plant development projects for Yokkaichi and Kashima plant sites in Japan. In 2008, he worked in Mitsubishi Corporation taking responsibility for CDM project management for N<sub>2</sub>O abatement projects which were able to generate 1.2 million CER in annual. Since 2009, he has joined SGS Hong Kong Limited and been focusing on energy and carbon management which deploys new sustainability products and policy research.

---

**CINDY JIN**

Cindy Jin, an Environmental Engineering master graduated from Tongji University, has been engaged in Greenhouse Gas research study these years. She organized and attended external affairs with international and local universities in environmental field in UNEP-Tongji IESD in early years. Also she has experience in CDM hydropower projects and CDM incineration projects includes project identification (feasibility study, finance study, etc), technology support (PDD design, WCD report compilation), and final assurance of the successful registration and CER insurance. She is now employed in ECS department of SGS-CSTC, working as an ISO14064-1 greenhouse gas verifier.

---

**CONAN LEE (HONG KONG)**

Conan Lee acquired master degree of industrial engineering and industrial management from The University of Hong Kong after graduating from The University of Science and Technology majoring in chemical engineering. He got more than 10 years solid experience in various manufacturing industries and fully familiarized the production operation in real industrial environment. Being a management representative, he has accumulated numerous administrative as well as auditing experiences on various management system programs such as ISO9001, ISO14000 and ISO/TS16949. In the recent years, he has been actively engaged in product carbon footprint calculation and organization carbon inventory verification projects in Hong Kong and China. Enhancing the public awareness on reducing carbon emission and sustainability is his major focus.

[WWW.SGS.COM](http://WWW.SGS.COM)  
[WWW.CN.SGS.COM](http://WWW.CN.SGS.COM)  
[WWW.HK.SGS.COM](http://WWW.HK.SGS.COM)

WHEN YOU NEED TO BE SURE

**SGS**