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MESSAGE FROM THE PRESIDENT

邁向五十周年



Mr. K.Y. Ip
President

An ambitious master plan was unveiled recently for public consultation and debate about a third runway for HK airport development with projected cost of HK\$136 billion and targeted completion by 2030. While the construction industry is looking forward to the opportunities spun out from this huge project in the years ahead, the E&M trade should pay attention to two statutory enactments in recent months: Minor Works Control System that became effective in December 2010 and Building Energy Efficiency Ordinance (BEEO) which will be in full operation effective in September 2012, and should respond to face these two challenges.

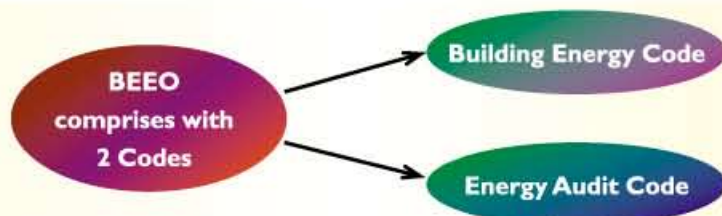
Minor Works (MW) Control System aims to improve efficiency and flexibility to enhance building safety and increase user friendliness of the building control regime. E&M installation, particularly the air conditioning installation of the HVAC&R trade with equipment affixed to building exterior or on building roof, is under this regulatory control where installer of the relevant equipment has to be registered under such scheme to be a registered person/ company to conduct such kind of work. Contractors of Registered Specialist Contractor (Ventilation) under Cap 123 Building Ordinance, with many of them are also on the government's list of approved specialist contractors for public works under the category of Air Conditioning Installation, are not being fairly considered and granted a direct registration or exemption from registration of this MW control system. Members, contractors and proprietors in the HVAC&R trade have to respond promptly for staff and company registration in the scheme in order to continue the business and installation to be in compliance with this enforcement with an objective for elimination of unauthorized building works, and this is a red hot issue these days.

Global warming, energy crisis, breakdown of nuclear power plant in Fukushima Japan and other threats in environment and fossil fuel depletion have prompted the urge for reduction of carbon emission, exploration of clean energy and conservation of energy. While the industry and society are in support of BEEO for putting energy efficiency into regulatory control, E&M contractors and suppliers should be aware of the contractual obligations in the contracting for new buildings and major retrofit works. Compliance to the code of practice for energy efficiency in force for air conditioning installation is not limited to COP/ efficiency of chillers, unitary air conditioners or motors, ductwork leakage limit or insulation thickness as a usual norm in HVAC&R, but also the design issues involving air distribution system, pumping system and system control will become mandatory too. The risks and responsibility in the design and its mandatory compliance equitably and justifiably apportioned to the E&M contractors/ suppliers, designer or other contract parties in a contract are what the members should carefully contemplate and account for when contractual liability is being evaluated.

AGM for the current term of office had been successfully held on 3 June 2011 with reporting to members about ongoing works and further planning. On behalf of the Council and Subcommittees I would like to extend the greatest thanks to the members and cooperation parties for supporting ACRA to have achieved a busy and fruitful time in the past year. The BIG event for ACRA's 50th Anniversary under the slogan “凝聚同業心，金禧啟未來” shall be held in November this year at HKCEC together with a special journal publication that will mark another memorable milestone for ACRA with your support and presence. Let's join hands and be with collective spirit to strive and serve our industry and Hong Kong at large in the years to come!!

Building Energy Efficiency Ordinance – a basic understanding

The Bill has been gazette as the Building Energy Efficiency Ordinance (BEEO) in Dec. 2010. However, our Government provides a grace period to allow various stakeholders and public have ample time to be adapted to and familiarized with the requirements of the Ordinance. It would be fully implemented in 2012.



I. Building Energy Code (BEC)

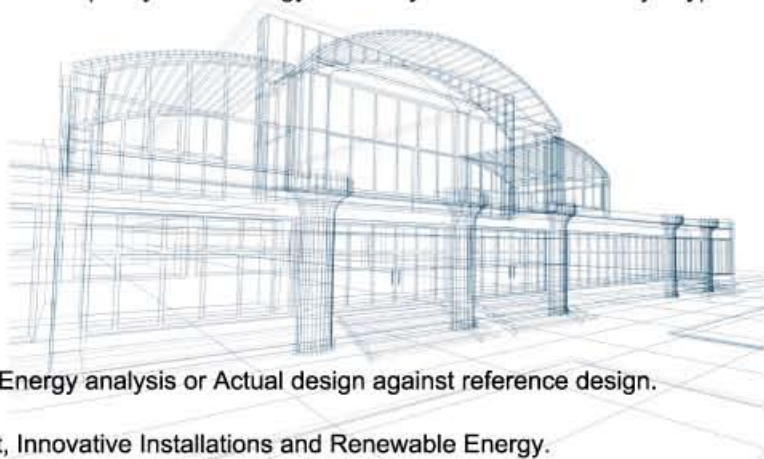
BEC mainly controls the **design** but not the daily operation and settings of the concerned building services installations, and no restriction on import and sale of any equipment. The codes specify basic energy efficiency standards for 4 major types of Building Services installations:

A) Prescriptive-based

1. Lighting Installation
2. Electrical Installation
3. Air Conditioning Installation
4. Lift & Escalator Installation

B) Performance-based

1. As an alternative route to comply with BEC
2. Total Energy budget approach with either Building Energy analysis or Actual design against reference design.



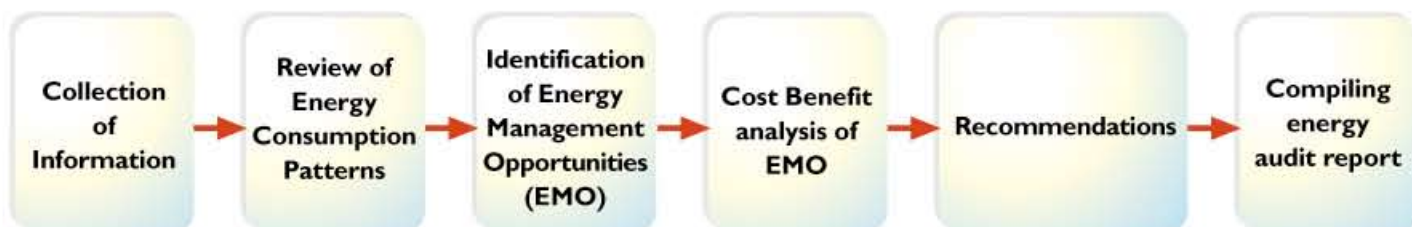
The direction is to encourage Energy Efficient equipment, Innovative Installations and Renewable Energy.

II. Energy Audit Code (EAC)

The objective of EAC is to provide a systematic review of the energy consuming equipment/systems in a building to identify energy management opportunities (EMO), and with useful information for the building owners to decide and implement energy saving measures for environmental consideration and economic benefits.

Please note that EAC is totally independent from BEC, and not a checking tool for BEC-compliance. Also, the implementation of EMO is not mandatory.

Key steps of Energy Audit:



Owners of commercial buildings and commercial portion of composite buildings (both Post-enactment and Pre-enactment Buildings) are required to conduct energy audits for the common area of their building once every ten (10) years. Energy audits should be carried out by registered energy assessors and the audit results should be exhibited in a conspicuous position at the main entrance of the buildings.

For details, please refer to the Energy Audit Code as published in the website of EMSD.

BEEO Coverage – Types of Building

- a. Commercial building
- b. Hotel & guesthouse
- c. Composite building: non-residential & non-industrial portion, and common area.
- d. Residential building and industrial building: both common area only.
- e. Educational building
- f. Community building
- g. Municipal building e.g. market, library etc.
- h. Medical and health care services buildings
- i. Government building
- j. Airport passenger terminal building
- k. Railway station

Exclusion

1. Buildings with the main electrical switch at approved loading $\leq 100A$, 1-phase or 3-phase.
2. Small Buildings
3. Declared or proposed monument or historical buildings
4. Buildings that will be demolished or redeveloped within 12 months.
5. BS installations with special purposes i.e. solely for fire suppression, solely for air/railway traffic regulation etc.
6. Special exemption on individual BS installations granted by EMSD upon receiving written applications with justifications.

Post-enactment Buildings

Developers are required to submit a stage one declaration to the Director of Electrical and Mechanical Services (DEMS) after obtaining the consent to the commencement of building works for superstructure construction. The stage one declaration is to declare that suitable design provisions have been included to enable compliance with BEC. After obtaining the occupation approval, developers are required to submit a stage two declaration to confirm compliance with BEC.

Post-enactment buildings	Central BS installations	Other BS installations serving an individual unit	
		With internal floor area < 500 m ²	With internal floor area \geq 500 m ²
Need to comply with the Building Energy Code?	✓	✓	✓
Need to obtain a Certificate of Compliance Registration from EMSD?	✓ (occupation approval stage)	✓ (occupation approval stage, only for installations provided by developers)	
	✓ (10-year renewal)	× (10-year renewal)	
Need to obtain a Form of Compliance from registered energy assessor?	✓ (for major retrofitting works of main components only)	×	✓ (for major retrofitting works only, also applicable to common area \geq 500 m ²)

Pre-enactment Buildings

Pre-enactment buildings would be required to improve energy efficiency only when the buildings undergo major retrofitting works. The responsible persons or owners are required to obtain Form of Compliance (FOC) for major retrofitting works carried out in respect of building services installations of individual unit or common area, as well as major retrofitting works for the central building services installations, and are required to maintain the building services installations concerned to standards not lower than that applied in the respective of FOC.

Pre -enactment buildings	Central BS installations	Other BS installations serving an individual unit	
		With internal floor area < 500 m ²	With internal floor area \geq 500 m ²
Need to comply with the Building Energy Code?	✓ (for major retrofitting works only)	×	✓ (for major retrofitting works only)
Need to obtain a Form of Compliance from registered energy assessor?	✓ (for major retrofitting works of main components only)	×	✓ (for major retrofitting works only, also applicable to common area \geq 500 m ²)

The above are intended to provide the fundamentals about BEEO only and readers should check with EMSD for more official details about this Ordinance as appropriate. •

Reference: <http://www.emsd.gov.hk>

今期「人物專訪」的主角 - 陳壽同先生〔Richard〕既是位資深工程師，投身工程界屋宇設備專業（Building Services）超過半個世紀，並於1976年創立了「陳壽同屋宇設備顧問工程師有限公司」經營至今；與此同時，他亦在學術界貢獻良多，1980年參加了創立香港能源工程師學會，翌年擔任該會會長，推廣會務，啟動了節約能源和能源開發的工作。1990年起，他就擔任東北大學的董事會常務董事及該校的客席教授。難怪在訪問時，看到陳壽同剛巧穿著一件有點中國色彩的「企領青年裝」，感覺他比起其他同業，看似多了一分學者氣派。



陳壽同先生〔Richard〕

《事業基礎（始於祖國）》

1950年，陳壽同在中學畢業的一年，參加了一次「畢業旅行」，坐火車環遊半個中國。這一次旅程，不單給了他體驗到中國南、北不同的風土人情，更讓他看到了新中國開始建設發展。鐵路沿線的供水塔已陸續改建為永久性的供水塔，各地亦已修復多年戰爭造成的損壞，國內已顯現了昇平建設之象。雖然他曾考慮過在中學畢業之後往日本或美國升學，甚至已取得入讀廣州嶺南大學的學位，但最後他還是決定入讀位於遼寧省瀋陽市的東北工學院〔今已復名為東北大學〕機械動力系。翌年，因中國全國統一的大專學校「院系調整」，他就被「統一分配」到建築系，並轉讀當時全中國首辦的「採暖通風及供煤氣工程專業」課程，至1955年順利畢業。陳壽同可說是全中國，甚至是全亞洲，這項專業學科的第一屆大學畢業生。

他畢業後，隨即被國家派往位於湖北省武漢市的中南建築設計院，參加當年新中國的「重點」大型工業、民用建築設計工作。50年代，建設人才仍然缺乏，所以陳壽同到任後不久，他又被國家建築工程部抽調派到北京去創辦技術訓練學校，專門負責培養「採暖、通風及空氣調節」的工程設計人才。因為當時國內很少有關這行業的書籍及教材，他便親自到各設計院去搜集資料，並和另外三位共事的同班同學編寫了一套《暖通手冊》作為教本，為方便同業的工作出一分力。這些經歷，建立起他對空調系統的認識之餘，也為他日後的事業建立了穩固的基礎。

陳壽同在1962年回到香港加入一家剛來香港開業的英國顧問工程師公司。當年該公司總共只得五人，陳壽同以繪圖員開始，加入該公司工作。公司老闆都是英國人，儘管工作上大家會有著語言及文化差異，但由於陳壽同具備了同一行業的基礎經驗，做事勤快、靈活、易上手，又能與上司的工作方式和步伐配合一致，建立良好默契，所以他的工作能力很快得到上司的信任及認同。因為這個原因，公司的主管就推薦陳壽同加入英國的《採暖通風工程師學會》/ IHVE (The Institute of Heating and Ventilation Engineers)〔即CIBSE前身〕；經呈遞學歷和工作經驗後，更獲豁免考試。於是在1968年，陳壽同便成為第一位以中國學歷加入該學會的香港華人工程師。

《無限創意（迎接挑戰）》

正因為陳壽同的豐富經驗、創意和膽識，他的能力在同事之間都獲得高度認同；而若遇上什麼「奇難雜症」，很多時候公司上級都會交由他參與處理。

至1973年，他工作服務的公司10年間已由幾個人發展到百多人的機電顧問工程師公司。因為該公司原屬英國公司的關係，當年香港政府及幾大業主要發展商的機電工程顧問服務，百分之九十都由這家公司承擔。但到1973年世界能源危機發生，全球經濟不景，香港也受牽連。公司的人員至1974只剩下二十餘人。當時陳壽同已被提升為公司的合夥人之一，所以他就一下子承擔了公司多項未完成的工作更在三年間有機會參與香港各項大型工程的完成和發展，例如：啟德機場的機電設備中心、世界貿易中心、紅磡火車站及香港體育館的設計和規劃等。

《見證中、港、澳建築業60年的發展》

國家近30年的發展，他參加了大江南北很多不同的建築機電設計工作 - 近兩年他還親自動手為浙江省幾個酒店工程作修改和規劃 - 到今天都沒有停下來，仍還在追趕新事物的發展。他清楚地回憶這60年來中、港、澳三地的變遷 - 戰後新中國的建設發展起步、香港房屋政策轉變、以及澳門博彩業合法化、全球能源危機、至今天經濟蓬勃發展等不同階段，都為三地及陳壽同個人帶來不同的機遇。他參加過多個大型建築設計工作：例如在國內以800座位德國人設計的首都劇院為藍本而設計了500座位的武漢歌劇院，在澳門有5,000座位的回力球場及12,500座位的初步設計的文娛體育中心等。建築項目不但一座比一座新穎漂亮，冷凍機械亦已由過往復式 - 離心式 - 螺旋機 - 至今日正在發展的磁懸浮軸承製冷系統，為著更佳能源效益不斷進步。



《工作負責，熱心社會》



陳壽同在1976年成立了自己的顧問公司。數十年間，參與中國國內、香港、澳門及東南亞等地的大小建築的屋宇設備設計及施工工程項目，至今承擔並完成大小工程項目約有三百五十項。難得的是公司和他所承擔的工程，不論大小，都由他直接主持和完成的。這一點在工程界來說，很少有人能夠做得到。

陳壽同在經營自己的公司之餘，對祖國發展的非常關心。自離開中國，回到香港之後，他每年都回到國內去參觀，了解國內的發展。遇上舊朋友有困難時，主動給他們一些幫助。特別是在1987年，深圳和廣東的經濟開放改革已經有一些進展，他走到東北去，看到自己的

母校 - 東北工學院三十多年間已興建了很多校舍，但是多年來辦學經費短缺，至使校舍失修，他就主動地邀請自己的香港朋友，到東北工學院去參觀。隨後就牽頭組織了朋友們為學校建立了「東北工學院教育建設基金」和以已故校長為命名的教育基金。〔當年中國是無接受捐款的意識，這也可說是早期的先例〕。

陳壽同於1990年獲授予「瀋陽市榮譽市民」稱號。他亦獲選為政協，遼寧省委員會委員直至2008年才退下來，可見他對國家的貢獻是持續的而且是看著當地的困難和當時的需要有目標而投入的。

《給後輩的話》

雖然現今的教育模式偏向「專才」，但陳壽同認為年青人也必須時刻抱好奇心，不防以「通才」為目標，不斷吸收多方面的知識和前輩的經驗，來平衡理論和實踐。因為無論一個空調系統設計看上去有多麼先進，若是安裝和使用的人不表滿意，也不算是一個真正有水平和有效的系統。

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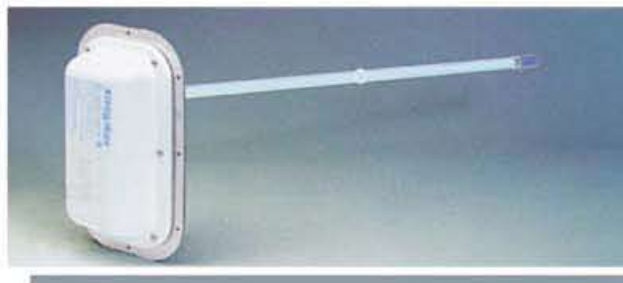
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New Dimension on MVAC Construction

By: Ir Daniel Chong, FHKIE, FIPHE, RPE, MCIBSE, MIMechE, MIE(Aust), MIMarE

Introduction

The construction industry of Hong Kong is gaining momentum in time towards the up-roasting of the private developments as well as the launching of infra-structure and utilities projects by HKSAR. While all fellow contractors are planning their resources for the promising business development, we all are facing the problem on recruiting all tiers of hands-on construction professionals. In addition, less new blood willing to join the life long career as "skilled workers" is indeed a threat on the skilled people resource on the way forward. Import of labour can be a short-term solution to the problem. However, to sustain the excellence on construction and safety standard of Hong Kong and to export our services to the world construction market, promotion on total off-site M&E fabrications is considered as the best way out to drive our industry to a new dimension into the next decades.

Off-site Fabrication

In recent years, there have been significant increases in the use of prefabrications on MVAC installation such as ductwork, pipework and controls panels etc. In fact, the approach on off-site fabrications is not a new subject to the MVAC industry; back in 1950-70's, engineers were required to size the condenser coil, refrigerant pipe, fan, compressor and all associated elements of a chiller and to assemble all such on site long before the packaged type air cooled chiller was developed.

With the advancement of technologies, the entire mechanical portion of MVAC system can now be totally pre-fabricated off-site:

- 1) All ductwork with insulation and/or cladding;
- 2) All chilled water pipe works from risers to plant with insulation, grooving joints, flange joints;
- 3) The entire mechanical side installation of the chiller plant and the associated water cooling plant;
- 4) The air handling units, primary air units, fan coil units, fans, and all air distribution equipment such as VAV and CAV etc. can be supplied in the form of complete-packaged assembly such that all associated elements including valves, control elements, BMS interface etc. are all installed, tested and ready for operation by just connecting the supply/return pipe, the power supply and/or the BMS in/out connections at site.

Apart from the above, plug and play modular type electricity power distribution panel, motor control panel integrated with BMS control and monitoring functions etc. are also available from the prefab shops.



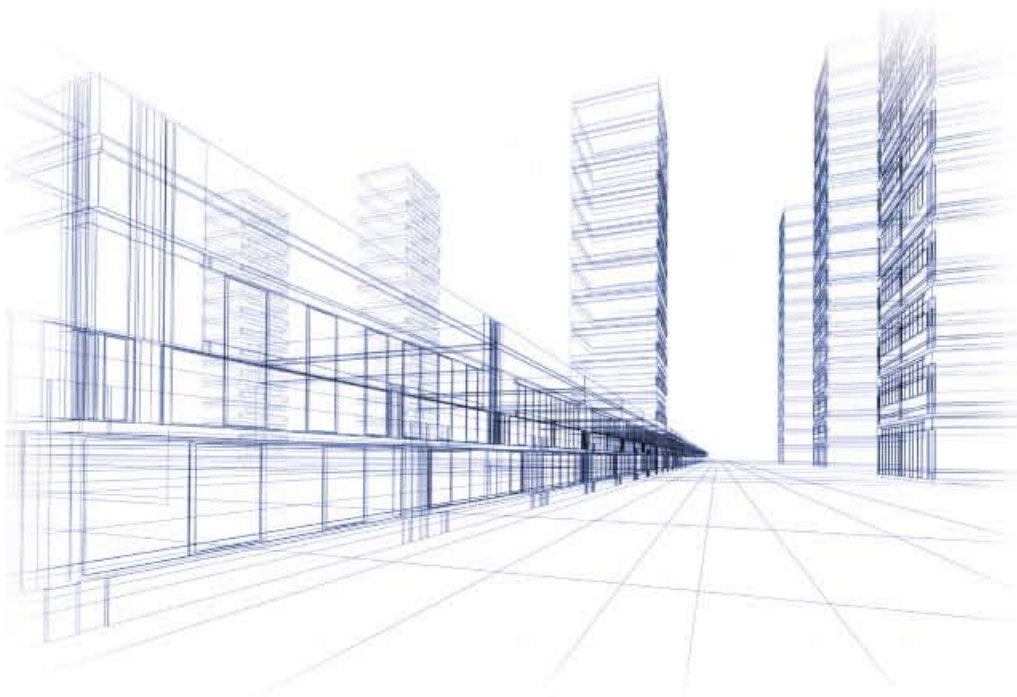
Pros & Cons on Pre-fabrications

Off-site manufacture may not be a cost effective solution, in particular, when the entire plant is built to exact scale, the cost for double handling may include dismantling at the factory and subsequently reassembling on the job site, packing and shipping, additional set up for factory test, cost of space from plant erection to complete the knock-down shipping process, all are added costs to the project. For packaged type AHU/PAU and fans, reinforced base-frame and additional compartment are required for the additional components and extra loading to the installation. The associated cost for shipping, hoisting and delivery plus the opportunity cost on walls left unbuilt until large items of such have been brought inside the site cannot be under estimated. However, the real value on prefabrication/assembly done in the factory is conceivable and sustainable in every aspect on construction:

- 1) Less skilled technical personnel are required on site;
- 2) Less interface problems, delays and disruptions on work;
- 3) Less risk and uncertainty on site construction, testing and commissioning;
- 4) Less hot work, better site safety;
- 5) Better control on the quality of work and finished product;
- 6) Reduce waste on material and less labour idling time;
- 7) Unforeseen problems and obstacles on the installation can be minimized;
- 8) Better control on project time.

Dream on Future

Improve construction safety, total control on project time and build quality, up-lifting site hygiene standard as well as green, energy efficiency and sustainable construction are the common goals of all participating in the construction industry, off-site fabrication sounds to be an answer for it. To adopt prefab approach on MVAC system and for all other E&M installation systems may not seem to be worthwhile at the moment due to commercial considerations, but the author is hopeful that with the support of all in the industry it certainly will be possible in the near future. ◉



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The Air Conditioning and Refrigeration Association of Hong Kong
Room 1801, Tung Wai Commercial Building,
109-111 Gloucester Road,
Wan Chai, Hong Kong

30 December 2010

Dear Sirs,

**Proposed Amendment to the Montreal Protocol—
Phase-down of Hydrofluorocarbons (HFCs)**

We are writing to inform you about the latest position of the proposed amendments to the Montreal Protocol to phase down HFCs submitted by Canada, Mexico and the United States of America and the Federated States of Micronesia, respectively, which may have implications to the existing and future refrigeration and air-conditioning systems that use HFCs as the refrigerant in Hong Kong.

Presently HFCs are alternatives in many existing applications of hydrochlorofluorocarbons (HCFCs) which, according to the Montreal Protocol, have to be phased down by 2020, the earliest. However, HFCs are potent greenhouse gases and there are concerns about the swap of HCFCs to these chemicals.

In the last Twenty-Second Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer held in Kampala on 8-12 November 2010, two proposals, one jointly by Canada, Mexico and the United States of America and the other by Federated States of Micronesia, were submitted to amend the Montreal Protocol to control HFCs. Both of these two proposals suggested a gradual phase-down mechanism with a plateau and using the average of the annual production and consumption of HCFCs and HFCs in terms of global warming potential (CO₂-eq) from 2004-2006 as the baseline. The following is a summary of these proposals. Please note that in these two proposals, HFCs include HFC-1234yf (HFO-1234yf) and HFC-1234ze(E) (HFO-1234ze(E)) which are sometimes referred to as HFOs.

- (a) Federated States of Micronesia proposes the phase down of HFCs to be commenced in 2013, with the consumption of HFCs to be reduced from the baseline by 15% every 3 years beginning in 2013 until it reaches 15% of the baseline in 2028 and 10% of the baseline in 2030; and

- (b) Canada, Mexico and the United States of America have submitted a similar proposal, with a later commencement date in 2014 and a smaller reduction of 10% every 3 years or so.

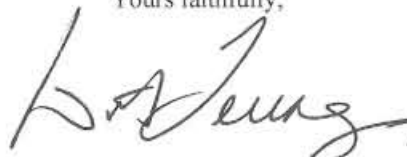
At the meeting, the Parties had yet to reach any consensus or agreement on whether the proposed amendments had to be considered by the Montreal Protocol. Anyhow, the Parties agreed that the issues being discussed at the meeting would be discussed during the thirty-first meeting of the Open-ended Working Group to be held in June 2011. There are therefore chances that the proposed amendments to phase out HFCs will eventually be accepted by the Parties and then Hong Kong has an obligation to comply with these requirements.

We should be grateful if you would inform your members about the potential phase-out of HFCs in future as discussed above so that they will consider low-global-warming-potential alternatives to HFCs to minimize the reliance on HFCs during the import of fabricated refrigeration and air-conditioning units, and/or the design of new refrigeration and air-conditioning systems and replacement of existing systems. In this regard, enclosed please find the following notes on low-global-warming-potential alternatives to HFCs prepared by the Ozone Secretariat based on the submissions by the United States of America for their information and reference, which are available at the following UNEP's website: http://ozone.unep.org/Meeting_Documents/mop/22mop/conf-presession-en.shtml.

- (a) Making the transition to low-global-warming-potential alternatives in domestic refrigeration;
- (b) Making the transition to low-global-warming-potential alternatives in unitary air conditioning; and
- (c) Making the transition to low-global-warming-potential alternatives in commercial refrigeration.

We shall keep you informed of the latest developments of the Montreal Protocol in this regard and as appropriate, the timetable for the control of HFCs in Hong Kong.

Yours faithfully,



(LEUNG Wah-hing, Albert)

for Director of Environmental Protection

Encl.



1961

The Hong Kong Air Conditioning and Refrigeration Association Limited 香港空調及冷凍商會有限公司

A Founding Association of HKTFAMC

Ref.: ACRA/KY/2011/003

Date: 28 March 2011

Environmental Protection Department
Air Policy Group
33/F, Revenue Tower
5 Gloucester Road
Wan Chai
Hong Kong.

Attn.: Mr. Leung Wah Hing, Albert

Dear Sir,

Proposed Amendment to the Montreal Protocol - Phase-down of Hydrofluorocarbons (HFCs)

We refer to your letter dated 31 December 2010 from your department in respect of the amendment to the Montreal Protocol notably proposed by four countries to phase down HFCs in consideration of the global warming potential (GWP).

We support the government policy and direction in preserving the environment and fighting global climatic change, being a world class city taking its obligations towards the society, regions and international treaty, for the present and future generations without reserve. Phasing out CFCs and then followed by HCFCs starting from 1 January 2010 enforced by legislation is a reflection of it.

It is our view that the phasing out policy shall not solely based on one single or very few environmental factors, but a portfolio of considerations with due regard to the social and economic impacts when formulating a sustainable and amicable solution which is supported by the industry and general public.

In complying with the phase-out schedule of HCFCs under the Montreal Protocol solely on Ozone Depletion Potential (ODP), the consideration of GWP had been addressed in our submission to your department in year 2008. In spite of this, the industry has tried the best to comply with this policy and legislation and managed to develop and acquire a number of alternatives, namely R134a, R407c and R410A. Technology and product innovation, development, launching and marketing of the feasible alternatives take time, therefore, the social and economic impacts as result of the policy and direction change shall be well evaluated and addressed when the focus now is shifted from ODP to low GWP.

Efficient air conditioning and refrigeration equipment offers great opportunities for reducing power consumption and energy-related greenhouse gases, thus resulting lower indirect global warming, climate change impact or other atmospheric pollutants adversely affecting the environment. Example of life cycle of air conditioners and chillers is 10-12 years and 23-25 years respectively, this gives the energy efficiency become the dominate contributor to GWP, now considered in the proposed amendment to the protocol, rather than the amount or kind of refrigerant staying whole life inside the equipment. Good practice in handling and storage coupled with recovery, recycling and reclaim of the refrigerants shall be encouraged and promoted as a solution to the consumption, leakage and disposal.

Room 1801, Tung Wai Commercial Building, 109-111 Gloucester Road, Wanchai, Hong Kong
Tel: 2598 0101 • Fax: 2598 0102 • www.acra.org.hk • info@acra.org.hk



Safety is a very crucial factor in the selection and application of refrigerants, where operating pressure, flammability, toxicity and corrosiveness shall be carefully weighted. Nevertheless, most low GWP alternatives to HFCs proposed by the Ozone Secretariat are Hydrocarbons, CO₂ or Ammonia. Though their properties are good in both GWP and ODP, they are flammable, corrosive or extremely high operating pressure causing a safety concern.

Economic consideration shall be another factor to be addressed carefully in view of the impact to the industry and society. How new products and services are widely available in the market will regulate the pricing to a reasonable and affordable level. Air conditioning and refrigeration is now no more a deluxe commodity or services in the domestic and commercial markets of Hong Kong. The policy and direction change shall avoid unfairly impose a burden to the society or given advantage to a very small group of market players in the extreme.

Nevertheless, we appreciate your release of information to the industry in respect of the latest and coming development of the Montreal Protocol and other international treaty which the government will comply, this transparency is crucial to the successful implementation of policy for environment which benefits our society and generations. Should there be any further development about this issue, please keep us informed.

Yours faithfully,
The Hong Kong Air Conditioning and
Refrigeration Association Limited



KY Ip
President

cc FEMC - Mr. Otto Poon, President

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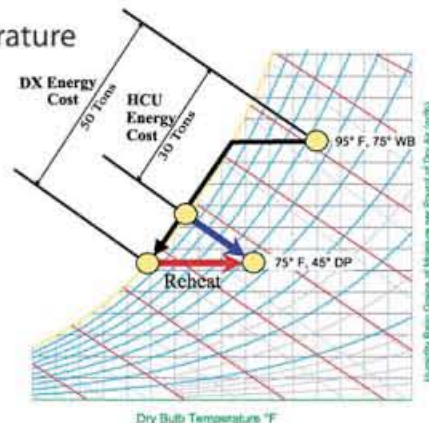
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Before

After



Before

After



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Kembla (HK) Limited is a member of the Metal Manufactures (MM) Group, which is Australasia's largest and most highly regarded supplier of copper tube and fittings. Copper tube and fittings are stringently manufactured under the famous **Kembla** name to various international standards for more than 90 years.

Kembla (HK) is a specialist distributor of pipes, valves and fittings delivering to a broad cross-section of markets such as plumbing and drainage, HVAC and fire services. Warehousing facilities reduces delivery times and retail shop offers additional delivery options. Products are sourced from a number of top manufacturers. **Kembla** (HK) is moving forward by growing the business with new products and value added services.



	Kembla	: Copper Tubes and Fittings - BS EN 12735. Suitable for high pressure refrigerants such as R410A
	SeAH	: Black Carbon and Galvanized Steel Pipes - BS 1387 / BS 3601 / BS 4360 / BS EN 10255 / BS EN 10217 / API / ASTM A53
	SEAF	: Black Steel Fittings - BS 1965 / BS EN 10253
	TM	: Galvanized Steel Fittings - BS 143 & 1256 / BS EN 10242
	Grinnell	: Grooved Couplings and Fittings - WRAS Certification, with FM / LPC / UL approvals
	K-Top	: Ductile Iron Pipes & Fittings - BS EN 545 / BS EN 598. K9, K12 up to 1200mm DN Nominal size
	Vinidex	: uPVC Pressure Pipes & Fittings - BS 3505 / BS 4346
	Superlon	: Insulation Tubing / Sheets / Rolls / Foam Tape - BS 476-6 & 7 / ASTM D 635 / UL94 / JIS K6911

ACMV System in Customs Headquarters Building, North Point



The new Customs Headquarters Building consisted 32-storey high rise multi-purpose building comprising offices, multi-function rooms, indoor shooting range, library, car park and other facilities that suit the purpose of the Customs and Excise Department.

The total gross area exceeds 42,000m² while 31,000m² are air-conditioned. The refrigeration system comprised of 4 water-cooled centrifugal chillers (each 600TR) with refrigerant leakage detection and 2 essential air-cooled screw chillers (each 300TR) as standby, and also 4 evaporative type fresh water cooling towers. Ozone treatment system is provided for the tower circulating circuits. VAV system with terminal reheating is applied and each office floor is served by two AHU's. The main supply and return air duct of each AHU are interconnected with on/off damper for back-up purpose in case of failure of either one AHU. Water scrubber and hydro-vent exhaust air system complied with EPD requirement are provided to remove the odour, particulate and oil mist from kitchen exhaust air. A central control and monitoring system, with 4 workstations at various control/plant rooms, controls and monitors various sub-systems within the ACMV other E & M services.

Inclined Laminar Flow Outlet devices are provided for the indoor shooting range and mini shooting range. The treated air enters the room in distributed even layers through a laminarizer, air is then blown out at an angle into the shooting range above the head of the rifleman. This prevents the build up of any turbulence in front of the rifleman and the shooting area is also maintained at a negative pressure in order to prevent any hazardous fumes or airborne substances contamination to other areas.

Individual CO₂ sensor was equipped for the high density of population area such as auditorium, conference room to monitor the CO₂ level and modulate the fresh air damper to provide sufficient amount of fresh air supply.

A 20,000 L fresh water storage tank was provided to the fresh water cooling tower system. This provides 24 hours full backup for the water cooling tower system in case of city fresh water supply failure.

Most of the chilled water pipework and ductwork of ACMV system were pre-fabricated and pre-insulated off-site. The exact dimension and quantities were coordinated well to suit site installation program.

Total energy recovery wheel was adopted for all primary air handling unit to recover either the heating or cooling energy from exhaust air to pre-treat and dehumidify fresh air intake and would not increase the risk on cross contamination to the air handling unit.

Occupancy sensor installed in the office area and connected to the CCMS system would indicate when the zone is occupied and enable the VAV/lighting to operate. When the room is detected to be unoccupied, the room temperature would automatically be set at desire temperature and the VAV box automatically set to close position when detected the zone to be unoccupied for a period of time. •

Project Summary

Project Site	: 222 Java Road, North Point
Client	: Customs and Excise Department
Architect	: Simon Kwan & Associates Limited
M&E Consultant	: Ove Arup & Partners
ACMV Contractor	: Southa Technical Limited
Completion Date	: September 2010

中國製冷展2011訪滬團

第二十二屆中國製冷展已於2011年4月7日至9日在上海浦東新國際博覽中心隆重展開。一如往年，香港空調及冷凍商會獲得中國製冷展的邀請，出席這一年一度空調及冷凍界的盛事。

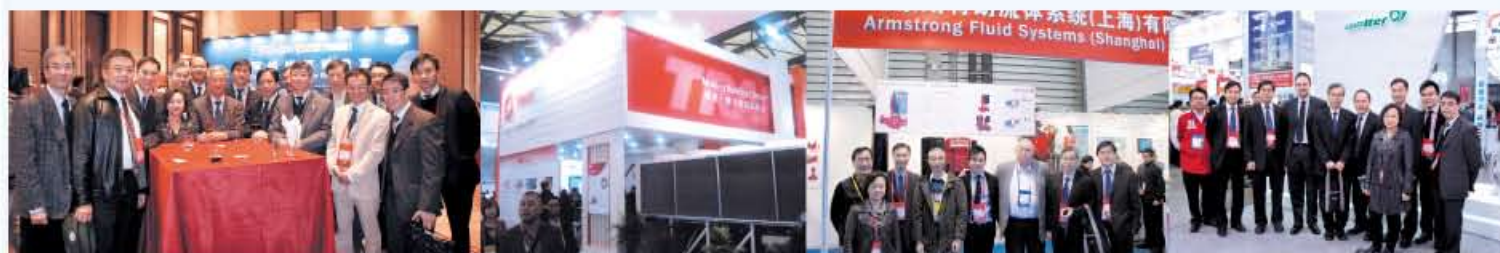


香港空調及冷凍商會的參觀團由會長葉啟賢先生及主席余達志先生親自壓陣，還有永遠名譽會長連金水先生、前會長陳家龍博士、副會長陳志雄先生、理事張惠鏢先生及梁栢泉先生、幹事曾廣健先生、行政主任梅麗英小姐和數位會員參加。

大隊於4月6日早上從香港國際機場出發，大約下午一時許到達上海浦東國際機場。午飯後，馬上安排參觀聯通投資集團位於浦東的製櫃廠。其後趕回酒店辦理入住手續，隨即馬不停蹄地出席大會為國際賓客舉行的歡迎酒會。



第二天早上出席了開幕典禮後，眾人馬上進入博覽館參觀。今年參展商超過一千多個，打破歷年紀錄。晚上團隊也出席了大會為所有來賓及參展商舉辦的歡迎晚宴。



第三天，參觀了上海浦東環球金融中心的空調設施。

第四天早上，參觀了上海浦東國際金融中心。經馬志輝先生詳細介紹下，大家對上海“國金”的整體發展有了更深刻的認識。之後，團隊乘坐下午的航班回港。



明年的中國製冷展將會重回北京舉行，今年錯過了參觀的朋友，明年請留意商會的安排。•

凝聚同業心 金禧啟未來

今年是我們香港空調及冷凍商會成立50年的一個重要里程碑。商會規模最初由幾名創會會員開始，至今已有超過120家業內精英企業加入成為會員；而在過去數十年，我們的會員一直為促進空調和冷凍行業的發展投入不少時間和心血。

為慶祝這別具義意的一年，我們將出版一本紀念特刊 - 主題為「凝聚同業心 金禧啟未來」，希望跟大家分享商會的重要成長歷程和與各界共同合作得來的成果。而在11月28號亦會在香港會議展覽中心舉行「50週年晚宴」。希望到時能與各業界同仁共聚一堂，歡度一個愉快的晚上！

50th Anniversary

凝聚同業心 金禧啟未來



「商界展關懷」機構

大家都知道「商界展關懷」計劃是由超過 2,000家企業與400家社會服務機構組成的合作平台，透過不同的伙伴項目，致力幫助有需要的人士。

隨著商會的運作經已十分成熟，我們在去年起更積極計劃和參與公益活動，很高興商會今年被提名並正式成為「商界展關懷」機構之一。我們曾透過啟田浸信會屬下的「開心社區服務」一起合辦過捐贈電風扇予低收入家庭和贊助長者千歲晚宴等活動，藉以促進社區人士互助互愛的精神，傳遞正面及積極的價值觀。而本會亦將此訂為未來重點發展方針之一，並希望透過結集會員們的關愛力量和自身專業知識，繼續回饋社會。

我們將於未來舉辦更多公益活動，除了本會會員之外，亦期待業界各位能多多支持和參與！

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ACRA/ASHRAE Technical Workshop on HVAC Water System Design & Applications

3-13 January 2011

Training is always our Associations' priority. We have planned a series of training and/or seminars for 2011. The first training course in 2011 was co-organized with ASHRAE in January.



Spring Dinner 2011

25 February 2011

The 2011 ACRA Spring Dinner was held at Hsin Kuang Banquet Hall, North Point. We had 14 tables for the dinner. At the same time there was a Karaoke Contest arranged for members to enjoy and had fun.



Horse Racing Night at Happy Valley

16 March 2011

Our members have diversified interests. Horse-racing is one of them. Members enjoyed so much and tasted the delicious buffet at the Concourse. Sincere thanks go to our President Mr. KY Ip who sponsored the prize for the fun game.



Minor Works - Top-UP Course 2

28 March 2011

The Minor Works Control system was commenced in December 2010. In order to facilitate our members to register as early as possible, a top-up class was organized directly from IVE in September 2010 and the repeated class was arranged in March this year. ACRA always provides the best service we can so that members can have first-hand information for their business.



Golf Day - Efatar Cup

13 May 2011

Among all activities, golf is one of the popular sports in our association. We thank our member Efatar Eng. Co., Ltd. for sponsoring the Efatar Cup at Tycoon Golf Club in Shenzhen.



The Champion	Mr. KK Tung
1 st Runner Up	Mr. Raymond Ng
2 nd Runner Up	Mr. KM Lee
Longest Drive - Hole 6 & 9	Mr. Aidan Heung
Nearest to the Pin - Hole 8	Mr. CM Lee
- Hole 6	Mr. Barry Ku

COMPANY NAME	CONTACT NO.	TRADE	
ATAL Engineering Ltd.	安樂工程有限公司	2565 3392	E&M Contracting
Carrier Hong Kong Ltd.	開利(香港)有限公司	2694 5618	Air-Conditioning Equipment Supplier
Krueger Engineering (Asia) Ltd.	高雅機電工程有限公司	2860 7333	Air-Conditioning,Electrical,Fire Services,Plumbing & Drainage Installation
Newland Engineering Ltd.	新陸工程有限公司	2967 8620	Registered Contractor in ACMV & Electrical Installation
REC Engineering Co.,Ltd.	盈電工程有限公司	2619 8888	E&M Contracting
Shinryo (Hong Kong) Ltd.	新菱工程香港有限公司	2237 8624	Building Services,E&M Contractor
Shun Hing Engineering Contracting Co., Ltd.	信興機電工程有限公司	2419 8282	Contracting
The Jardine Engineering Corporation Ltd.	怡和機器有限公司	2807 4511	Contracting / Supplier / Building Automation / Energy Service
Trane Hong Kong	特靈香港	3128 4733	Air-Conditioning Equipment Supplier
Winston Air Conditioning & Engineering (HK) Co., Ltd.	永通冷氣工程(香港)有限公司	2764 1200	Contracting
York International (Northern Asia) Ltd.	約克國際(北亞)有限公司	2331 9286	Manufacture of Air-Conditioning Equipment
Young's Engineering Co., Ltd.	景福工程有限公司	2235 0900	Design,Supply & Installation of Electrical & Mechanical Services , Routine Maintenance Work
Fellow Members			
Alliance Contracting Co., Ltd.	聯和承造有限公司	2891 9083	Contracting
Analogue Technical Agencies Ltd.	安樂科技有限公司	2565 3339	Air-Conditioning Equipment Supplier 'Hitachi','Evapco',etc.
Chevalier (HK) Ltd.- A/C Division	其士(香港)有限公司-冷氣部	2111 4811	Contracting
China State Mechanical & Electrical Engineering Ltd.	中國建築機電工程有限公司	2823 7888	Contracting
Chun Wo E & M Engineering Ltd.	俊和機電工程有限公司	3758 8007	Contracting
Cold Magic Efatar (HK) Co., Ltd.	高美怡輝(香港)有限公司	2606 6922	Manufacturer of HVAC Equipment
Daikin Airconditioning (Hong Kong) Ltd.	大金冷氣(香港)有限公司	2570 2786	Air-Conditioning Equipment Supplier
Efatar (HK) Co., Ltd.	怡輝(香港)有限公司	2606 6922	Manufacturer of HVAC Equipment
Honeywell Ltd.	霍尼韋爾(香港)有限公司	2331 9133	Building Automation Contracting
Hsin Chong Aster Building Services Ltd.	新昌亞仕達屋宇設備有限公司	2579 8238	E&M Contracting
Johnson Controls Hong Kong Ltd.	江森自控香港有限公司	2590 0012	Supply ,Install & Maintenance of HVAC ,Fire Services ,E&M ,Security & Extra Low Voltage System
K-Thorn Engineering Co.,Ltd.	旗鋒工程有限公司	2481 2918	Air-Conditioning & Electrical Installation
Lucky Engineering Co., Ltd.	運通冷氣電業有限公司	2780 5285	E&M Contractor
McQuay Air-Conditioning Ltd.	麥克維爾空調有限公司	2893 6261	Split type A/C,Chilled Water Fan Coil Unit,Water Cooled Package & Split Type Water Source,Heat Pump Chiller Supplier
Meco Engineering Ltd.	德寶工程有限公司	2891 8722	Engineering Contractor
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Siemens Ltd.	西門子有限公司	2107 6506	Building Automation AFA,Security,CCTV & ELV System
Skyforce Engineering Ltd.	天科工程有限公司	2885 1620	Building Services Installation
Southa Co.,Ltd.	南龍有限公司	2963 7175	Supplier of A/C Equipment
Standard Refrigeration & Engineering Co., Ltd.	立德工程有限公司	2781 0871	Design, Supply, Installation and Maintenance of HVAC System
Takasago Thermal Engineering (HK) Co., Ltd.	高砂熱學工業(香港)有限公司	2520 2403	Contracting / Energy Service
Technicon Engineering Ltd.	得力確工程有限公司	3193 1300	Building Services Design, Installation and Maintenance
Welcome Oncho Denki Ltd.	偉基溫調電機有限公司	2806 8316	Trading of HVAC Equipments
Westco Air Conditioning Ltd.	威高冷氣工程有限公司	2426 3123	Contracting
Corporate Members			
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Air Master International Ltd.	雅士(國際) 空調有限公司	2764 0307	Manufacturing of Air Conditioning Equipment & Component
Air Trade Centre Ltd.	裕風先達有限公司	2887 7000	Contracting & Supplier of Air Conditioning product
Alison M & E Engineering Ltd.	雅訊機電工程有限公司	2595 1199	Contractor
Alpha Appliances Ltd.	第一電業有限公司	2529 7555	Authorized distributor of 'General' air-conditioner
Alstern Technologies (HK) Ltd.	奧思(香港)有限公司	2647 8163	Contracting
Anway Engineering Co., Ltd.	正佳工程有限公司	2598 4228	Supplier
Armcell Asia Ltd.	阿樂斯亞洲有限公司	2574 8376	'Armaflex' Insulation manufacturer
Arnhold Trading Limited		2807 9400	To Market and Distribute A/C and Engineering Equipment for Building Construction Industry of HK & China Market
A Shing Engineering Co., Ltd.	亞成冷氣工程有限公司	2537 1818	Contracting, Supplier
Boca International Limited	寶加國際有限公司	3176 6028	PCM-TES Supplier/ Manufacturing/ Energy Service
Brightwell Air-Conditioning Ltd.	冠昇空調有限公司	2331 8559	Trading of HVAC Equipment
Brisky Limited	穿梭科技有限公司	2511 3161	Supply of 4 main themes'commerical split, central air conditioning, ventilating fan & fire rated board
Bun Kee (International) Ltd.	彬記(國際) 有限公司	2748 9319	Wholesale
Chi Yip Engineering Co.	志業工程公司	3078 9984	Contracting / Supplier
Chivas Corporation Ltd.	端瑋洋行有限公司	2521 9768	Supplier
Chong Kin Air-Condition Trading Engineering Co., Ltd.	創建冷氣貿易工程有限公司	2307 5159	Contracting & Trading
C.J. Wishing International Ltd.	惠生電業有限公司	2799 9797	Supplier of air-conditioning products - Daikin-Japan, Kimukoh-Japan, Inaba-Japan, Taco-USA, etc.
Clydeman Engineering Ltd.	佳電工程有限公司	2332 3591	E & M Contracting
Crownin Limited	冠殿有限公司	8202 0830	Contracting / Supplier / Building Automation
Dah Chong Hong (Engineering) Ltd.	大昌貿易行工程有限公司	2768 3595	HVAC Installation, E&M Packaged Installation
Delta Pyramax Co., Ltd.	佳澤科技有限公司	2511 2118	Trading
Dextra Pacific Limited	德士達太平洋有限公司	2511 8236	Supplier
Dynamic Success Co., Ltd.	勁技有限公司	2116 9021	Supplier (water treatment)
Eaxon International Co., Ltd.	恩索有限公司	3590 4656	Supply of HVAC equipment
Electrodrive Engineering Ltd.	高宜工程設備有限公司	2573 7211	Supplier
Associate Members			

COMPANY NAME	CONTACT NO.	TRADE
Enviro-Tech Engineering Co., Ltd.	鷹達工程有限公司	2827 0688
Ever Cool Refrigerating & Air-Conditioning Co., Ltd.	嘉毅冷凍空調設備有限公司	2356 8598
Extensive Trading Co., Ltd.	精基貿易有限公司	2889 1681
Far East Engineering Services Ltd.	遠東工程服務有限公司	2898 7331
Fook Loong (HK) Ltd.	福隆(香港)有限公司	2393 7773
Fungs E & M Engineering Co., Ltd.	馮氏機電工程有限公司	2682 7200
GTECH Services (Hong Kong) Ltd.	英國通用工程(香港)有限公司	2123 0888
GELEC (HK) Ltd.	香港通用電器有限公司	2919 8383
Gether-Force Air-Conditioning Engineering Co., Ltd.	群力冷氣工程有限公司	2890 2622
Getwick Engineers Limited	佳域工程有限公司	2893 3600
Goodways International Ltd.	協進國際有限公司	2575 8770
Gotop Engineering (HK) Ltd.	高陞工程(香港)有限公司	2459 3038
Greatop Power Ltd.	高力通有限公司	2741 8682
Great Top Engineering Ltd.	宏鋒工程有限公司	2345 2219
Hensen System Engineering Ltd.	豪信系統工程有限公司	2884 9001
Honest Air Conditioning Ltd.	明發冷氣有限公司	2396 8108
H.W. International Air-Conditioning Ltd.	豪華國際空調有限公司	2796 8888
IES (Hong Kong) Limited	恒豐工程(香港)有限公司	2992 0830
Intelligent Technologies Limited	毅智科技發展有限公司	2301 4868
Kembla (HK) Ltd.	金特霸(香港)有限公司	2528 0999
Kevin Engineering Co., Ltd.	樂信工程有限公司	2422 3110
Kin Wo A/C Engineering Ltd.	健和冷氣工程有限公司	2398 0157
Kinden Corporation		2368 6136
Kinetics Noise Control (Asia) Ltd.	建力聲震控制(亞洲)有限公司	2191 2488
Kings View Airconditioning Engineering Co. Ltd.	景匯空調工程維修有限公司	2796 2417
Lee Tack Engineering Co., Ltd.	李德工程有限公司	2305 3111
Life Air IAQ Ltd.	活力空氣品質科技有限公司	3527 0106
Lik Kai Engineering Co., Ltd.	力佳工程有限公司	2611 4501
Link The Best Company Ltd.	必發(香港)有限公司	2568 4092
Man Po Environment Technologies Co., Ltd.	文寶環保科技有限公司	2429 0088
Mega Power Engineering Co., Ltd.	雄力工程有限公司	2474 9832
Mesan Fiberglass Engineering (Int'l) Ltd.	明新玻璃纖維工程(國際)有限公司	2787 5717
Midea Electric (HK) Ltd.	美的電器(香港)有限公司	3669 4888
NAP Acoustics (Far East) Ltd.	NAP 聲學工程(遠東)有限公司	2866 2886
New Way Engineering Co., Ltd.	新法機械有限公司	2325 6892
Oxprime (International) Ltd.	鑫輝(國際)有限公司	2590 8088
Peterson Engineering Ltd.	必德信工程有限公司	2365 0372
Practical Engineering (HK) Co., Ltd.	百利高工程(香港)有限公司	2402 2772
Ready Electrical Metal Work Ltd.	全達電器金屬製品有限公司	2898 8623
Richmax Air-Conditioning Co., Ltd.	萬聯空調有限公司	2698 3423
Sanby Trading Co., Ltd.	聖備貿易有限公司	2573 4219
Savills Engineering Ltd.	第一太平戴維斯設備工程有限公司	2534 1688
Shun Hing E&M Engineering Ltd.	順興機電工程有限公司	2387 2882
Sing Kin Ltd.	陸建有限公司	2333 1518
Stars (H.K.) A/C & R Co., Ltd.	恆星(香港)冷熱設備有限公司	6116 7832
Southa Engineering Limited	南龍工程有限公司	2963 7241
Super Mark (H.K.) Engineering Co., Ltd.	高達(香港)工程有限公司	2595 1122
Teembase Development Ltd.	天基發展有限公司	2554 6263
Thermtech Building Products Ltd.	泛達建築材料有限公司	2756 3837
Tom's Equipment Co., Ltd.	義隆設備有限公司	2757 5539
Tyco Water Hong Kong	泰科水務香港	2919 1900
United Regent International	友益國際有限公司	2527 8003
Union Manor Ltd.	聯明有限公司	2797 2168
Victory Engineering Service Co., Ltd.	維陸工程有限公司	2979 4068
Viewco Building Services & Eng. Co., Ltd.	偉保工程有限公司	2543 0610
Vital Engineering Co., Ltd.	威圖工程有限公司	2571 5382
Wai Luen Air Conditioning Ltd.	偉聯空調設備有限公司	2890 9321
Wardson Engineering Ltd.	華順工程有限公司	2329 8268
Wing Shing Air-Flow Co., Ltd.	永盛風咀製品廠有限公司	2792 6331
Wolter Asia Ltd.	華德亞洲有限公司	2456 0198
Wysermann Co., Ltd.	威士文有限公司	2614 2213
Yin On Trading Limited	賢安建材貿易有限公司	2572 7110
Yordland Engineering Ltd.	日島工程有限公司	2362 2186

Associate Members

Trading
Supplier, Manufacturing
Trading - Mechanical Equipment, Building Materials, Environmental Products
Contracting
Insulation Material Supplier
E & M Contracting
Contracting
Supplier
Contracting
Contracting
Manufacturer's Representative
Electrical & Mechanical; MVAC Engineering
Contracting, Supplier, Manufacturing & Energy Service
Contracting
Building Automation
Contracting & Supplier
Manufacturer of Air-Conditioning Equipment
Supply & Install Central Hot Water Plant and Seawater Plant, Supply of Equipment
Supplier
Supplier
HVAC Contracting E & M Engineering
Contracting
Building Services - E & M Works
Supply of Acoustic materials, vibration isolators, floating floor & barrier materials
HVAC Contracting & Maintenance
Registered Ventilation Contractor
Supplier / Manufacturing
E&M Contracting/E&M Service and Building Maint.
Supply Pre-insulated Pipe, Air Filter, Butterfly Valve, Electrostatic Precipitator, UV Sterilizer & Other Building Material
Supplier
Contracting, Supplier of A/C Equipment
Manufacturer of 'MESAN' cooling tower (CTI certified); Sole Distributor for GRP Sectional Water Tank - SUNG IL from Korea; Distributor of Air-Conditioning Equipments - Daikin from Japan
Supplier & Manufacturer of 'MD' product
Design, Supply & Installation of Acoustic Treatment and Vibration Control Products
Supply the Pump (Aurora, Ebara), Auto Self-Cleansing Filter (Filternox), Spring Isolator (NSV), Motor and other E & M Equipments.
BAC Cooling Towers; Thermal Insulations-Fiberglass, Rockwool, Closed Cell Elastomeric; PU Pipe Supports; Solid/Liquid Separation System; Non-chemical Water Treatment System; VAV & Fan Powered Terminals; Water Pumps
Contracting
Contracting/Supplier
Contracting / Manufacturing
Distributor of HVAC products
Specializing in trading Construction Insulation Materials, such as Phenolic Foam, Fibreglass
Contracting /Energy Service
Design, Supply & Installation of Air-Conditioning
Contracting
Manufacturing
Air-Conditioning & Refrigeration Installation
Supplier / Disributor for Electrostatic Precipitator, MVAC System & Electrical Installation
Supplier / Disributor for Electrostatic Precipitator, MVAC System & Electrical Installation
Contracting / Supplier for Weatherproof / Fire Resistant Materials to E & M Services
Insulation Material Supplier
Supplier
Supplier / Manufacturing
Contracting
Contracting / Supplier
Contracting
Contracting
Contracting
Contracting
Supplier/Manufacturing
Supply & Manufacturing of full range of Ventilation Fans
Trading & Manufacturing Air Conditioning Accessories
Supplier
Design, Supply, Installation and Maintenance of HVAC, Electrical and Fire Services System