





SUSTAINABILITY REPORT 可持續發展報告

utreach

Journey

展之旅













2014



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I was a member of the Provisional Construction Industry Coordination Board (PCICB) formed in September 2001 to spearhead industry reform, and I have been Chairman of the Construction Industry Council (CIC) since 2010.

我曾擔任臨時建造業統籌委員會的委員。該委員 會於 2001 年成立,旨在推動行業改革。其後, 我加入建造業議會(議會),並於 2010 年起擔任 主席至今。

> Ir LEE Shing-see, GBS, OBE, JP 李承仕 工程師

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金紫荊星章,OBE,太平紳士

Chairman, Construction Industry Council 建造業議會 主席

Rewarding experiences in construction industy

It seems like only yesterday that I started my career as an **engineer**. In that career I have been involved in a variety of construction projects, construction-related policy making, and initiatives to sustain the development of the construction industry. My **unabated passion** for construction motivates me to continue participating in industry affairs. The construction industry has made promising progress in the past few decades and has contributed to the overall development of Hong Kong. It is astonishing that we actually feel the benefits of the construction industry in daily life, whenever we commute from one place to another via the transport network, use a lift in a skyscraper, or enjoy convenient access to water, gas and electricity.

I have always **shared** my industry experience, as I am proud to be involved in this robust industry. The CIC is not only the sole industry coordinating body in Hong Kong but we also aspire to contribute to the betterment of our home, Hong Kong. This belief is reflected in the **three pillars** of the CIC Sustainability Framework: sustaining construction industry development, embedding green and low-carbon practices, and empowering people.

This is how the CIC reaches out to all walks of life. The general public learns more about the construction industry through our commercial advertisements, television drama, and visits to the CIC' s Zero Carbon Building (ZCB) and Construction Industry Resource Centre. Industry practitioners collaborate with us, strengthening ties among different groups to work towards a common goal of maintaining the **competitiveness of the industry**. Greening and low carbon are our focus, through demonstrating the eco-life style in the ZCB and other greening initiatives within the organisation. Overseas guests and locals are invited to join our low carbon footprint movement through a variety of activities.

建造業界的豐盛經歷

回想我開展**工程師**的事業,一切都恍如昨天, 還那麼的歷歷在目。多年來,我參與了眾多 建造工程、與建造相關的決策制定,以及推 動建造業持續發展的措施。對建造業始終如 一的**熟誠**,推動著我持續參與業界事務。 建造業在過去數十年取得了很大的發展, 對香港的整體發展也作出了重大貢獻。 在日常生活中,我們可以實實在在感受到 建造業所帶來的裨益,例如利用高效的交通 網絡上下班、乘搭摩天大樓中的升降機, 或便利地使用水、煤氣及電力資源等等。

我為自己能成為這個蓬勃的行業的一份子而 感到自豪,因此一直都很樂於分享自己的業界 經驗。議會不但擔當著香港業界統籌機構的 角色,亦致力為香港謀福祉,讓我們的家園 變得更美好。議會可持續發展框架的三大支 柱:建造業的可持續發展、推動綠化和低碳 作業方式,以及關愛社群正正體現這信念。

議會透過不同方式向社會各界推廣建造業。 公眾透過我們的廣告、電視劇及議會的零碳 天地及建造業資訊中心,加深對建造業的認 識。業界人士與我們緊密合作,加強不同團 體之間的聯繫,同心協力實踐「維持業界競 爭力」這個共同目標。綠化和低碳是我們 的工作重點,我們透過零碳天地及議會的其 他綠化項目,示範環保生活方式。我們亦邀 請海外及本地人士參加我們各項低碳足跡的 活動。

invite you to share our vision, and its theme of "outreach", in this Sustainability Report.
我 誠邀您支持我們的願景,以及這本《可持續發展 了了



People often ask me why the CIC keeps diversifying the scope of its activities and services. Before we opened a Service Centre at Nam Cheong MTR station in January 2014, people were curious, and obviously doubtful, about the idea of placing a statutory body's service centre at such a busy location. But within the blink of an eye, the Service Centre had celebrated its anniversary, and had received an overwhelming response – experience always speaks louder than words. Inevitably, this success drives us to strive for even greater goals in 2015, as the CIC marches into its eighth year since establishment.

常常有人問我,為什麼我們要持續拓展議會 的活動和服務範疇?建造業議會服務中心 (南昌)於2014年1月在港鐵南昌站啟用 之前,人們既好奇,亦很懷疑議會為什麼要 把一個法定機構的服務中心設於這麼繁忙的 地段。轉眼間,南昌服務中心就迎來了週年 慶典,並獲得熱烈的反響。事實勝於雄辯。 議會成立至今只有八年,無疑,這次成功推 動著我們在2015年追求更宏大的目標。

> Ir Dr. TO Wing, Christopher 陶榮 博士工程師

Executive Director, Construction Industry Council 建造業議會 執行總監

Back to basics: people make things happen.

- We want people from all walks of life to better understand the construction industry. We invite them to join us as part of a competent workforce, or at least give their support for our drive to further develop the industry.
- We want to **build** a better world for the next generation, by promoting green construction materials and low-carbon building concepts.
- We want people to know we do **care**. Our Council Members, staff, and trainees volunteered for various activities to spread the "builders' spirit" to society, despite the demands of their work in a busy year. The CIC also pays attention to maintaining a healthy work-life balance for its staff, by encouraging staff activities.

The theme of this *Sustainability Report* is "Outreach". By reaching out to different organisations and different groups of people, we can achieve sustainable development for the construction industry, embedding green and low carbon ideals, as well as empowering people. Maintaining the momentum towards creating a better life and future, our industry and our organisation will continue promoting the values that are treasured by the people of Hong Kong, as well as the world.

回歸基本:由人創造

- 我們希望社會各界的人士能更加了解 建造業。我們邀請他們加入業界、成為 我們的一份子,或支持我們推動行業的 進一步發展。
- 我們希望透過宣揚綠色建築材料及低碳建築概念,為下一代建設一個更美好的世界。
- 我們希望大眾知道我們關愛社會。議會 成員、員工及學員在繁忙的工作中抽出 時間參與義工活動,以向社會傳播「建造 者精神」。議會支持舉辦員工活動,讓員 工能平衡工作和生活。

本《可持續發展報告》的主題為「外展推廣」。 我們透過接觸不同機構及群體,實現建造業 的可持續發展、推動綠化及低碳理想,以及 實踐關愛社會。建造業界及議會將繼續推動 「建立更美好生活和未來」,促進香港及世界 各地民眾所珍視的價值。

hope you enjoy joining the outreach journey of the CIC in this Sustainability Report for 2014. 我希望您能享受議會在這 2014 年度《可持續發展

the Construction Industry Council (CIC)

建造業議會(議會)

ABOUT 以下 The CIC was established as a statutory body in Hong Kong on 1 February, 2007, under *the* **Construction Industry Council Ordinance (Cap.587) ("CICO")**. The CIC amalgamated with the then Construction Industry Training Authority in 2008 and the then Construction Workers Registration Authority in 2013. The CIC thus became the sole coordinating body for the construction industry in Hong Kong, providing a platform for the industry to share knowledge and discuss key issues, and offering manpower training, trade testing, and registration services. 議會是一所根據《建造業議會條例》第587 章(條例)規定於2007年2月1日在香港 成立的法定機構。議會於2008年與前建造業 訓練局合併,並於2013年與前建造業工人 註冊管理局合併,成為香港建造業界單一 統籌機構。議會為業界提供一個分享知識 及討論業界關注事項的平台,以及提供人力 培訓、工藝測試和註冊服務。

Mission 使命

To strengthen the sustainability of the construction industry in Hong Kong by providing a communications platform, striving for continuous improvement, increasing awareness of health and safety, as well as improving skills development 為加強香港建造業的可持續發展提供一個 溝通平台,強化健康及安全意識, 提升技能發展,力求不斷改善

Vision 願景 To drive for unity and cellence of the construction indus of Hong Kong 團結香港建造業 精益求精

05•2006

Approved the

enactment of the Construction Industry

Council Ordinance

(CICO)

通過制定建造業議會 條例(條例)

Milestones

里程碑

09•2001

Established

Provisional Construction

Industry Coordination

Board

成立臨時建造業

統籌委員會

01•2008

Amalgamated with the then Construction Workers Registration Authority 與建造業訓練局合併

02•2007

Established Construction Industry Council, a statutory organisation according to CICO

建造業議會根據條例 成立,成為法定機構 01•2013

Amalgamated with the then Construction Workers Registration Authority

> 與建造業工人 註冊管理局合併



Where are we

From our **headquarters in Wanchai** and 17 locations across Hong Kong, we endeavour to provide diversified, high quality services to the construction industry. Back in 2008, we had nine locations in Hong Kong. But by the end of 2014, we had **doubled the number to 18**, reflecting the growing scope of our services. We set up two new training grounds in 2014, at Tat Mei Road in Kwai Chung, and at Tin Yuet Road in Tin Shui Wai (replacing the original training ground there). In addition, the Sheung Wan Office was renovated in 2014, becoming a modernised service centre that now provides enhanced registration services to workers and subcontractors.

我們的位置

我們透過設於灣仔的總部及全港17個地點, 致力為建造業提供多元化、高質素的服務。 我們在2008年在香港僅設有9個地點, 但在2014年底增加了一倍至18個。這反映 了我們服務的範圍不斷擴大。我們於2014年 分別在葵涌達美路及天水圍天月路(取代該處 的原訓練場)設立了兩個新的訓練場。此外, 上環辦事處於2014年翻新為現代化服務中心, 為工友及分包商提供更完善的註冊服務。



What we offer

The scope of our work and services is defined by the *CICO*. We provide an **open platform** for stakeholders to raise industrywide concerns. We address these concerns by taking actions such as: issuing good practice guidelines, alerts, and standard documents, and giving advice to the Hong Kong Special Administrative Region Government (the Government) on strategic matters, major policies, and legislative proposals.

The CIC encourages and supports **research**, to further improve the quality and competitiveness of the industry, through CIC Research Grants and the new Carbon Labelling Scheme for Construction Materials. The CIC has recently stepped up these efforts.

Two registration schemes – Subcontractor Registration Scheme and Workers Registration – help improve practitioners' performance through their admission criteria, and on-going monitoring.

This is not to mention the wide spectrum of training courses offered by the CIC, covering trade skills, safety knowledge, professional skills, and information technology. These courses improve the skills of newcomers, as well as existing personnel. The CIC Trade Test certification provides a benchmark of the skill levels of workers.

In addition to being a **communication platform**, the CIC is also a resource centre for the sharing of knowledge and experience within the industry. Moreover, the CIC' s educational and publicity programmes deepen public awareness and understanding of the construction industry in areas such as occupational safety and health, environmental protection, and sustainable development in the industry.

The above are the key offerings of the CIC, but the range of services continues to expand.

我們的服務範圍

我們的工作和服務範圍由《條例》訂定。我們 提供開放的平台,讓持份者就涉及整個業界 的議題討論。我們採取多方面措施處理這些事 宜,例如:頒佈良好作業方式指引、提示及標 準文件,以及就策略性事宜、重大政策及立法 提案向香港特別行政區政府(政府)提出意見。

議會提供研究資助及推行新的「建築材料碳 標籤計劃」,以鼓勵及支持<mark>研究</mark>,進一步提升 業界的質素和競爭力。

「分包商註冊制度」及「建造業工人註冊制度」 透過制定註冊標準及持續監察,幫助提升從業 人員的表現。

此外,議會更提供廣泛的培訓課程,包括 工藝技能、安全知識、專業技能,以及資訊 科技等。這些課程有助提升新人及在職人員 的技能。議會工藝測試為工友的技能水平提 供了衡量的標準。

議會除了提供<mark>溝通平台</mark>外,亦是與業界人士 分享知識和經驗的資源中心。此外,議會的教 育和宣傳計劃加強了公眾對建造業的認識和 了解,包括職業安全和健康、環境保護,以及 業界的可持續發展等。

以上為議會的主要職能,但我們的服務仍在 繼續擴充。



Highlights of 2014

The way forward for Hong Kong's construction industry

When we performed a stock take of our achievements in 2014, we identified 100 key items. Amongst the key achievements in 2014, there were several highlights.

To promote excellence in the industry, the CIC set up a *Consultancy Study on the Development Strategy for the Hong Kong Construction Industry.*

The initiative has six core strategic objectives:

- i Clearly state the industry' s vision and goals, to provide guidance to the industry on development in the coming decade
- ii Build a competent, innovative and skilled workforce
- iii Continue fostering a safety culture in the construction industry
- iv Build capabilities to enhance productivity
- v Make the built environment green
- vi Promote sustainable development for the industry

2014 要聞

香港建造業的前路

回顧 2014 年,我們取得了 100 項主要成果, 當中包括多個亮點。

為推動業界精益求精,議會開展了**《香港** 建造業發展策略顧問研究》:

該項目有六大策略目標:

- i 明確申明業界的願景和目標,提供未來 十年的發展方向
- ii 組建能幹、創新及熟練技術的人才隊伍
- ⅲ 持續促進建造業的安全文化
- iv 透過能力建設提升生產力
- v 營造綠色建造環境
- vi 加強業界的可持續發展

Meeting the immediate manpower challenge

To help the industry face labour shortage challenges, the CIC set up the **Task Force on Short-term Labour Supply**, which identified 26 critical trades eligible to use a streamlined process to apply for the Supplementary Labour Scheme which reviews and approves applications for importation of skilled labour.

A record high of 4,878 semi-skilled worker graduates was achieved in CIC training schemes, expanding the workforce to alleviate the manpower pressure felt by the industry.

應對即時的人力挑戰

為協助業界應對人力資源短缺問題,議會組建 了短期勞動力供應專責小組,確立 26 個可利 用簡化流程申請「補充勞工計劃」的短期人手 短缺工種。「補充勞工計劃」用於審視及審批 輸入熟練勞工的申請。

議會各項培訓計劃共有 4,878 名半熟練工人 畢業生,創下記錄新高,從而擴充了勞動力, 紓緩業界人力方面的壓力。

CONSTRUCTION EXPENDITURE FORECAST FOR PUBLIC AND PRIVATE SECTORS 公營界別及私營界別建造工程量預測

(2014/15 - 2023/24)<u>Actual Expenditure 實際工程量</u> Long-Term (2004/05 - 2013/14) & Mid-Term 中期預測 <u>長期預測</u> Public Sector Private Sector Public Sector + Private Sector 公營界別 私營界別 公營界別 + 私營界別 E&M Works* 機電工程 **RMAA** Works* 裝修及維修工程 Civil Works 土木工程 Building Works 建造工程 * E&M Works - Electrical and Mechanical Works 機電工程 - 電力與機械工程 * RMAA Works - Repair, Maintenance, Alteration and Additional Works 裝修及維修工程 - 維修、保養、改建及加建工程 HKD \$ Actual Expenditure Mid-Term Forecast Long-Term Forecast 中期預測 長期預測 實際工程量 Billion 10億元 (2004/05 至 2013/14) 260 240 Upper Bound Line 上限線 200 Construction 180 **Expenditure** Lower 160 建造工程量 -Bound Line 140 下限線 (in September 2013 Prices 以2013年9月 價格計算) 80 60 40 2015.16 2022 2022 2022 2013-14 2014.15 \$017.18 2018.19 e019.50 cz,1202 Year 年份 2016.1> 1200002 A 22 20^{-20} 2005 00

Administering new amendments to Construction Workers Registration Ordinance

It was also a busy year for worker registration services, as it was the year in which the new **Construction Workers Registration System** was launched to prepare for the implementation of the *Construction Workers Registration (Amendment) Ordinance 2014 (CWR(A)O)*, not to mention the year in which the CIC introduced a series of service enhancements, including construction site outreach card renewal services and a revamp of the Workers' Card application process. All these initiatives were aimed at the ultimate goal of providing better customer-focused services. In addition, the launch of the Pilot Medical Examination Scheme for Construction Workers received an overwhelmingly positive response.

Innovation and technology

The CIC held a series of activities to promote the use of Building Information Modelling. To further promote research and innovation, the CIC' s inaugural research journal, *Innovation in Construction*, was published.

Recognition and awards

The CIC showcased its sustainable initiatives in its inaugural *Sustainability Report*, and the ZCB secured HK\$ 11 million in sponsorship and donations to enhance its green facilities, which are enjoyed by the public. Our 2014 was concluded with numerous awards, including a public relations award from the Hong Kong Public Relations Professionals' Association, Distinguished Family-Friendly Employer recognition from the Family Council, and numerous local and international awards obtained by the ZCB, which are described later in this report.

實行《建造業工人註冊條例》的新修訂

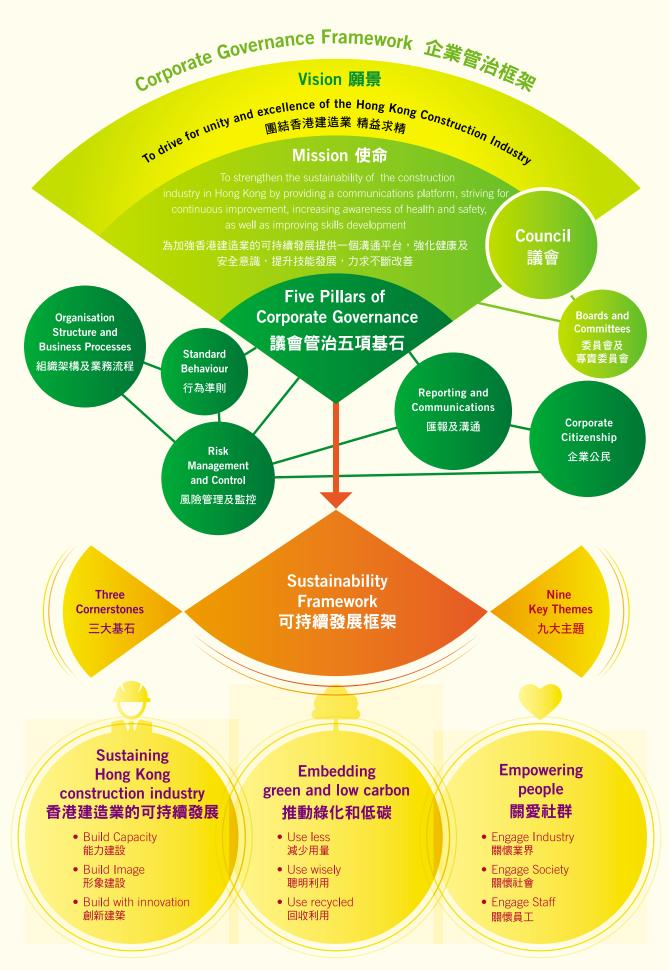
今年是工人註冊服務繁忙的一年,新的 「建造業工人註冊系統」亦於年內推出, 以配合《2014年建造業工人註冊(修訂)條 例》的實行。此外,議會更於今年推行一系 列提升服務,包括工地外展續証服務及更新 工人註冊証申請程序。所有這些舉措均是為 了實踐我們的最終目標:提供更佳的以客為 本服務。此外,「建造業工人醫療體檢試驗 計劃」的推出,也得到了熱烈而正面的回應。

創新和科技

議 會 舉 辦 了 一 系 列 活 動 推 廣「 建 築 信 息 模擬」。為進一步加強研究和創新,議會出 版了首期研究雜誌《創新建築》。

榮譽與獎項

議會在其首份《可持續發展報告》中載述了 其所推行的可持續發展措施,而零碳天地則 獲得港幣1,100萬元贊助和捐贈,以加強 綠色設施,供公眾享用。我們在2014年獲 得不同的獎項,包括香港公共關係專業人員 協會頒發的公共關係獎、香港政府家庭議會 的「傑出家庭友善僱主」榮譽,以及零碳天 地所獲得的數個本地及國際獎項。詳情列於 稍後章節。 Corporate Governance Framework and Sustainability Framework 企業管治框架及可持續發展框架



Governance of the CIC 議會管治

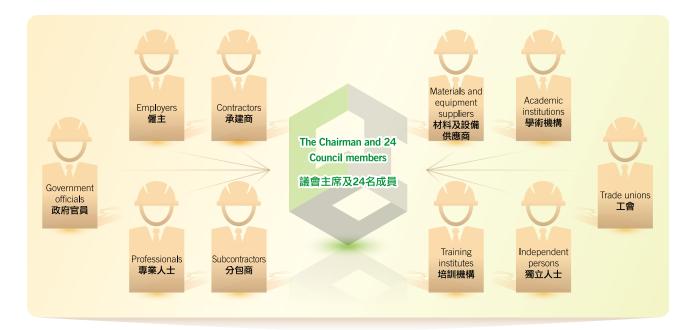
In order to carry out its mission and fulfil its vision, the CIC continues to grow and develop under the strategic direction of its Council and Chairman. 為了履行使命和實現願景,在議會及議會主席的策略性指導下,不斷成長 和發展。

Composition of Council

The Chairman and 24 Council members of the CIC are appointed by the Secretary for Development. Members come from various sectors of the industry. They include representatives of employers, professionals, contractors, subcontractors, materials and equipment suppliers, training institutes, academic institutions, trade unions, as well as independent persons, and Government officials.

議會的組成

議會主席及 24 名成員由發展局局長委任。 成員來自業界的多個不同範疇的代表,包括 僱主、專業人士、承判商、分包商、材料及 設備供應商、培訓機構、學術機構、工會、 獨立人士,以及政府官員。



Five committees established by the Council set the strategic direction and oversee the operations of the CIC, together with five statutory boards established under the *CICO* and *the Construction Workers Registration Ordinance Cap.583 (CWRO)*. Boards and Committees can further establish subcommittees or task forces to focus on specialised tasks or industry issues.

議會設立的五個專責委員會與根據《條例》 及**《建造業工人註冊條例》第583章**成立 的五個法定委員會合作,制定議會的策略 性方向並監督議會運作。委員會和專責委 員會可進一步設立小組委員會或專責小組, 專門處理特別任務或業界事宜。

Corporate Governance Framework

The CIC's Corporate Governance Framework emphasises the following objectives:

- i Executing the CIC's functions in accordance with the CICO, CWRO and the Prevention of Bribery Ordinance Cap.201
- ii Exercising due care in use of funds
- iii Creating value for the construction industry and community at large
- iv Laying down policies and procedures to govern CIC operations
- v Communicating with stakeholders and business partners in a timely and informative manner

The CIC upholds transparency in its operations and handles every complaint raised with due care. Having the aim of continuous enhancement of operations, a designated subject officer is assigned to handle each complaint raised against the CIC through various channels – phone, fax, email, mail and even walk in. Written acknowledgement is returned within five working days of receipt of written complaints. A formal reply is issued upon completion of review.

Compliance with laws and regulations is of paramount importance to the CIC. For example the personal data collection processes for training, trade testing and other business processes follow best practices, from information collection to discarding of unused information, according to the good practices promulgated by the Office of the Privacy Commissioner for Personal Data, Hong Kong.

企業管治框架

議會的企業管治框架強調以下目標:

- i 根據《條例》、《建造業工人註冊條例》及 《防止賄賂條例》第201章的規定履行 議會的職能
- ii 在資金使用上秉持審慎原則
- ⅲ 為建造業及社會大眾創造價值
- iv 制定政策和程序,監管議會的運作
- > 與持份者和商業夥伴進行及時和詳實 的溝通

無論在運作方面,或是處理每一項投訴, 議會都會堅持透明和審慎的原則。為了不斷 優化議會運作,無論透過任何渠道(包括電 話、傳真、電郵、函件,乃至親身)收到對 議會的投訴,我們都會委派一名相關指定人 員負責跟進。若收到書面形式的投訴,須於 五個工作天內以書面確認收到投訴,並於完 成檢討後作出正式回覆。

遵守法律和規定是首要任務。例如培訓、 工藝測試及其他業務流程需要收集個人資料, 流程須遵守最佳實務,無論是收集資料,或是 丟棄不再使用的文件,都必須依據香港個人資 料私隱專員公署頒佈的良好作業方式進行。

The CIC's Five Pillars of Corporate Governance (shown in the chart and explained below) represent the core values upheld by the CIC: 議會的企業管治五項基石(如圖所示並闡述如下)代表了議會奉行的核心價值:



Standard behaviour lays down our expectations for the conduct of individuals, from staff to Members. The core values include integrity, impartiality and transparency. The *Code of Conduct* sets out the basic standard of conduct expected of all staff and the CIC's policy on acceptance of advantages and managing conflicts of interest in connection with official duties.

行為準則 闡明了議會對員工及成員行為的期望。核心價值包括誠信、公平及透明。《行為準則》制定了所有 員工應遵守的行為準則,以及議會在接受利益及管理與公務相關的利益衝突方面的政策。

Organisation structure and business processes govern the delivery of work results of the CIC. Effectiveness, efficiency and value for money are taken into account during execution of business processes.

組織架構及業務流程負責管理議會工作成果的交付。在履行業務流程過程中,將會考慮效率、成效及是否物 有所值等因素。

Risk management and controls allow the CIC to remain versatile in a dynamic world, and to face various challenges. Emphasis is put on preventive measures – planning ahead to bring the organisation forward. 風險管理及監控 確保議會在瞬息萬變的世界中能靈活應對各種挑戰。我們重視預防措施,透過預早計劃, 推動議會向前發展。

Reporting and communications provides channels for the CIC to communicate with its stakeholders current initiatives and the work results on a timely basis. This ensures transparency of the CIC as an industry communication platform.

匯報及溝通為議會與持份者提供各種渠道,以便就目前推行的措施及工作成果進行及時交流,從而確保議會 作為業界溝通平台的透明度。

Corporate citizenship shows what the CIC does to benefit the people, environment, and the construction industry as a whole. This further extends to the CIC's initiatives for the sustainability of the industry and society. **企業公民** 展示議會為大眾市民、環境及建造業裨益的工作,並延伸至為業界和社會的可持續發展所推行的措施。 **The CIC Sustainability Framework** is guided by the G4 Sustainability Reporting Guidelines published by the Global Reporting Initiative and Appendix 27 of the Environmental, Social and Governance Reporting Guide published by Hong Kong Exchanges and Clearance Limited.

The **CIC Sustainability Framework** is built on three cornerstones. The first, "Sustaining Hong Kong' s Construction Industry" is to embrace our future with a world class construction industry. The second cornerstone is to embed a green, low carbon approach to help future generations and to sustain living standards by firmly establishing understanding of a green and low-carbon environment. Last but not least, is the principle of "Empowering People" – the CIC protects and serves people with a culture of care and mutual help.

議會可持續發展框架以全球報告倡議組 織出版的G4 Sustainability Reporting Guidelines及香港交易及結算有限公司出 版的環境、社會及管治報告指南附錄 27 作 指導。

議會可持續發展框架建於三大基石之上。 首先,「香港建造業的可持續發展」旨在以世 界級的建築制度建設未來;第二個基石是實踐 綠化和低碳,培育下一代了解綠化和低碳環境 以維持優質生活;最後是「關愛社群」,在社 群中建立關懷和互助的文化。

Welcome to our "Outreach Journey" – through outreach activities, the CIC is bringing its vision for sustainability to life, by focusing on nine key areas.

提 迎加入我們的「外展之旅」。議會透過外展推廣活動, 在九個重要領域將其可持續發展的願景融入生活。









Cultivating the younger generation – by promoting the significance, professionalism and contributions of the construction industry – sustains the industry' s development by spreading appreciation of its work and attracting new blood to join. The CIC began its **"Get to Know the Hong Kong Construction Industry"** outreach journey in 2012 by establishing the Construction Industry Resource Centre for those working in the industry, as well as the general public.

透過宣傳建造業的重要性、專業水平及 貢獻,培養年輕一代加深認識建造業,從而 吸納更多新人入行,以維持業界持續發展。 議會透過為業內人士及社會大眾建立建造業 資訊中心,自 2012 年展開其「了解香港建 造業」的外展之旅。

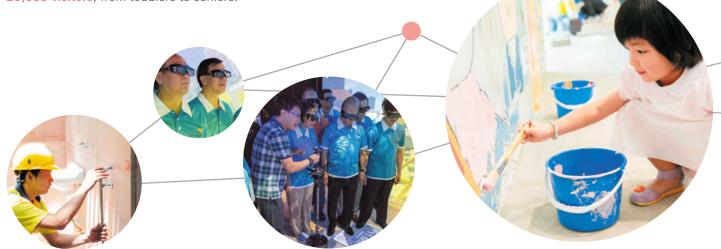


Featuring information about signature buildings, leading construction practices, the latest green building features showcase, machinery operator games, as well as a "building" workshop for young children, the Construction Industry Resource Centre had 20 primary school and 51 secondary school students making a tour. For the senior secondary students, the CIC arranged career talks, introducing the possible career path in the construction industry.

建造業資訊中心提供具代表性建築物的資訊、 領先的建造實務、最新的綠色建築特色展 示、機械操作員遊戲,以及為小朋友而設的 「建造工作坊」,吸引了 20 所小學和 51 所 中學學生參觀。議會還為高中生安排就業 講座,介紹建造業可提供的就業發展路向。



Nothing was more impressive than to have **personal experience** with actual trade work. **WorldSkills Hong Kong** was one of the CIC' s signature events. The event not only hosted the competition to select representatives of Hong Kong to participate in the 2015 Sao Paulo World Skills Competition, but it also included a building technology and skills showcase as well as building games. The event attracted a record high of **23,000 visitors**, from toddlers to seniors. 沒有什麼比親身體驗工藝作業更令人難忘。 香港青年技能大賽是議會的重點活動之一。 該活動除了舉辦技能比賽,選拔 2015 聖保羅 世界技能大賽的香港代表外,還包括建築技 術及技能展示,以及建造遊戲。該活動吸引 了 23,000 名由小童到長者的參觀人士,人數 創歷史新高。



The CIC always aims to **engage the public**, and television is one of the most effective ways to reach a wider audience. The second series of **"Dreams Come True"**, which featured the stories of six young people striving to realise their dreams in the construction industry, reached an **audience of 4,787,800** on TVB's Jade Channel. It was among Hong Kong's ten most popular television programs in the fourth quarter of 2014, and it was the only drama in the top ten list. All leading characters showed the audience the energetic and rewarding life that the construction industry can offer – whether they were moving up the career ladder to a supervisory role, becoming a subcontractor from a beginning as a skilled worker, or pursuing a professional career through further studies. 議會一如既往致力吸引公眾的參與,而電視 是接觸廣大公眾的最有效途徑之一。在無線 電視翡翠台播放的《總有出頭天》第二輯講 述了六個年輕人在建造業實現夢想的故事, 吸引了 4,787,800 名觀眾收看,躋身 2014 年 第四季度香港十大最受歡迎電視節目之列, 更是當中唯一躋身十大的劇集。劇中主角向 觀眾展示如何在就業階梯中晉升至管理者角 色、從技工成為分包商,或是透過持續進修 成為專業人士等,他們都在建造業開展了有 活力及豐盛的事業。



Compared to some other industries, it is generally more difficult for the construction industry to attract young people to "get into the industry", for reasons such as the perception of hard work or danger. Helping introduce young people to the industry, the CIC' s efforts to **connect with potential trainees** can be seen all over Hong Kong.

由於建造業一向予人辛苦和危險的印象, 因此比其他行業較難吸引年輕人入行。為幫 助吸納年輕生力軍,議會走遍全港,致力 發掘有潛質的學員。





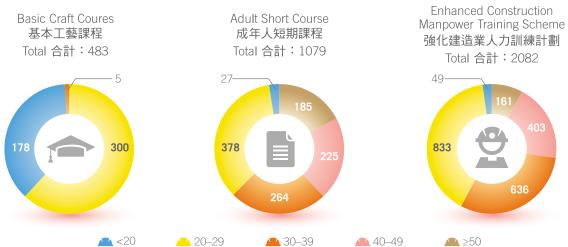
The CIC had a record high of **4,878** graduates from the CIC in-house training courses and collaborative training schemes in 2014. Among the 3,644 in-house training graduates, 62% were under 35.

議會於 2014 年舉辦的內部培訓課程及合作 培訓計劃共有 4,878 名畢業生,人數創歷史 新高。在 3,644 名內部培訓畢業生中,62% 年齡低於 35 歲。

Graduates of the CIC Training Courses and Collaborative Schemes 議會培訓課程及合作培訓計劃的畢業生



CIC In-house Training 2014 Graduate Age Profile 議會 2014 年內部培訓畢業生年齡分佈



The CIC offers **skills training for diverse trades**. In addition to the trades the CIC always teaches, such as plumbing and pipe-fitting for building construction, and joinery for building works, the Enhanced Construction Manpower Training Scheme (ECMTS) focuses on trades with acute manpower shortages. These include bar-bending and fixing, formwork, welding etc. The ECMTS consists of an enhanced allowance with a goal of attracting more people to join the industry. 議會提供**多種工藝訓練。**除了議會一直提供 與樓宇建築及土木工程有關的工藝如水喉、 喉管及木工等,「強化建造業人力訓練計劃」 (計劃)更專注於人力短缺的工藝,包括紮鐵、 模板及燒焊等。計劃提供較豐厚的訓練津貼, 以吸引更多人入行。



A competent workforce is the key to sustaining Hong Kong' s construction industry. The construction industry has a unique demographic pattern dominated by male workers and an aging workforce. Thus, in addition to attracting more **young people** to join the industry, the **female workforce** is also of utmost importance. Although the number of female trainees was still relatively low in 2014, the female workforce was not only present in the less physically-demanding trades like painting, but also in more demanding ones such as bar-bending and fixing. This is an encouraging result.

擁有能幹的團隊是香港建造業可持續發展的 關鍵。建造業從業員的人口特性以男性為 主,而且較年長。因此,除了要吸引更多 年輕人入行外,也不能忽視女性從業員的重 要性。雖然在2014年女性學員的人數仍然偏 低,但女性從業員的蹤跡不只出現在油漆等 體力要求較低的工種,紮鐵等體力要求較高 的工種也有女性從業員,實在讓人鼓舞。

CIC In-house Training 2014 Graduate Gender Profile 議會 2014 年內部培訓畢業生性別分佈

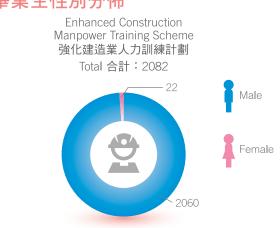


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Adult Short Course

成年人短期課程





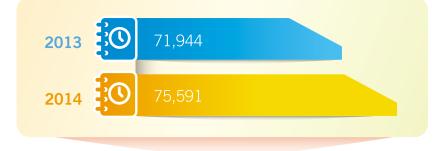
Building the capability for the construction industry to sustain its development is an on-going journey. During 2014, as always, the CIC reached out to the industry practitioners, from management to workers, via training, seminars and conferences, events, as well as welfare schemes.

In-service personnel have diversified work scope and responsibilities in construction, from project management to skilled work. The CIC provides **continuous development support** by offering a wide variety of courses and training. For example, the safety and management courses are specifically designed for refreshing knowledge in relation to legislative changes and new industry standards.

為支持建造業可持續發展而進行能力建設是一個持續的過程。在2014年,議會一如以往, 為包括管理人員以至工人在內的從業人員提供 培訓、講座及會議、活動,以及福利計劃。

在職人士各自在建造業界擔任不同的職位和 職責,包括項目管理以至技術工作等。議會 透過廣泛的課程和培訓,為他們的發展提供 持續的支援。例如,安全及管理課程專門 針對法例的修改和新的行業標準設計,以幫 助學員掌握新的知識。

Number of students for part-time courses 兼讀課程學員人數



As well as training, knowledge and experience sharing is an effective means to build capacity. The CIC held a series of **seminars and conferences**, covering a wide range of topics, from practical tips for front-line execution to the latest innovation and technology. A key goal was to highlight the leading practices in the market and at the same time, bring in new ideas and practices from overseas or locally, to stimulate thinking about enhanced methods for smart and innovative building. In total, **3,571 people** participated in these CIC seminars and conferences. 除了培訓外,知識和經驗分享也是建設能力的 有效途徑。議會舉辦了一系列講座和會議, 涵蓋廣泛的議題,包括前線操作的實用訣竅, 以至創新和科技的最新發展等。其主要目標 除了展示領先的市場作業方式外,同時亦探 討海外及本地的新構思和作業方式,以激勵 與會者思考採用優化方法達致高效和創新的 建築。年內共有3,571 位人士參加了議會 舉辦的講座和會議。



Safety is always a grave concern for the whole construction supply chain. The "Zero Accident" message should be widespread and repeated as frequently as possible. The CIC, together with the Development Bureau, gathered together 833 industry practitioners to set the World Guinness Record for the Largest Qigong Lesson. This kicked off the Safety Week 2014 which promote workers health, a crucial element to construction safety.

Safety can be addressed by standardised and leading practices. In addition to workers' awareness, workers' fitness is also tied to safety on construction sites. The majority of tasks on construction sites are physically demanding. Medical examinations are a preventive measure to detect the danger signs of conditions that may impact the onsite performance of workers. This allows workers to assess their own health condition to meet job requirements.

In view of this, the CIC launched a one-year **Pilot Medical Examination Scheme (PMES)** for local construction workers in March 2014. Participants can receive a basic medical examination – provided by the Hong Kong Federation of Trade Unions Workers' Medical Clinics – for only HK\$ 10. All the CIC' s registered workers are eligible to join the PMES, which includes six check-up items, namely blood pressure and heartbeat rate, glucose, cholesterol, liver function, uric acid and renal function. About 3,000 workers participated in the PMES.

The result of the PMES will be analysed by the Hong Kong Polytechnic University to investigate construction workers' general health conditions, making reference to data such as gender, age, type of work, body mass index, blood pressure, blood cholesterol level, pain experience, diet, and exercise habits. The research aims to detect workers' health problems at an early stage, in order to recommend appropriate action to them and to explore worker health conditions in the local construction industry as a whole. 安全一直是整個建造業供應鏈最為關切的議題。「零意外」這個訊息必須廣為傳播,並不 斷強調。議會聯同發展局,與833名業界人士 參與最大型氣功班,更創造了「健力士世界紀 錄」。這是「2014年安全週」的首項活動, 藉此宣揚工人健康是建造業安全的重要元素。

推行標準化、領先實務的作業方式,有助於 克服安全隱患。除了提高工人的安全意識外, 工人的體格亦與工地的安全息息相關。工地的 大部分工作都對體力有較高的要求。醫療體檢 可及早發現一些危險的身體徵兆,避免這些潛 在危險影響工人的前線工作表現,亦可讓工人 評估自己的健康狀況,是否能達到工作要求。

有見及此,議會於2014年3月針對本地建築 工人推出為期一年的「醫療體檢試驗計劃」。 參加者只需港幣10元,便可享有由香港工聯 會醫療所提供的基本醫療體檢。所有議會註冊 工人均可參加此計劃,檢查項目包括血壓及心 率、葡萄糖、膽固醇、肝功能、尿酸及腎功能 六項。已約有3,000名工人參加了「醫療體檢 試驗計劃」。

香港理工大學將分析「醫療體檢試驗計劃」的 結果,並參考性別、年齡、工作性質、體重指 數、血壓、血液膽固醇水平、痛症狀況、飲食 及運動習慣等數據,了解建造業工人的整體健 康狀況。該研究旨在及早發現工人的健康問 題,並向他們建議採取適當的相應措施,以及 了解本地建造業工人的整體健康狀況。

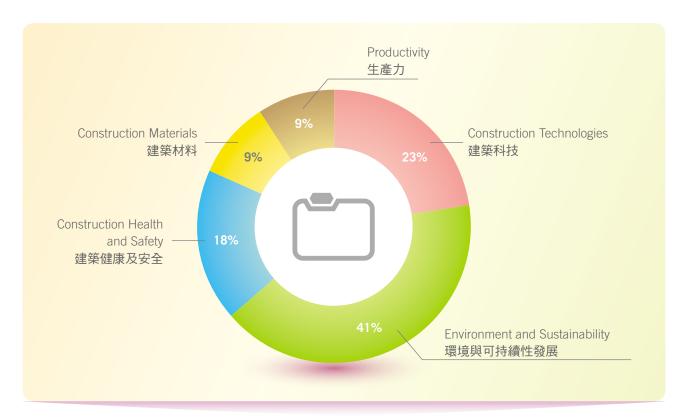


Following the theme of outreach, the CIC works together with stakeholders and counterparts for the **betterment of the industry**. Our diversified channels of communication facilitate a truly open exchange in different projects. These included having regular meetings, co-organising industry events, co-operating in various projects and initiatives.

Building with innovation is crucial to driving the development of the industry. The CIC currently works with The University of Hong Kong, the Hong Kong University of Science and Technology, the Hong Kong Polytechnic University, City University of Hong Kong, The Chinese University of Hong Kong, Nano and Advanced Materials Institute Limited, and Hong Kong Concrete Institute, in 22 research projects receiving grants from the **CIC Research Fund**. 議會秉承外展之旅的主題,與持份者和同業 機構合作,造福業界。我們透過不同的溝通 渠道,促進不同項目的真誠交流,例如舉行 定期會議、合辦業界活動及合作推行各種項 目和措施。

創新建築對推動業界發展至為重要。現時, 議會聯同香港大學、香港科技大學、香港 理工大學、香港城市大學、香港中文大學、 納米及先進材料研發院有限公司和香港混 凝土學會推行 22 項獲議會研究基金撥款的 研究項目。

The distribution of research areas in these CIC funded projects is as follows: 由議會研究基金撥款進行的研究項目範圍包括:



Innovation is **catalyst to sustainability** of the construction industry of Hong Kong. The sharing of three selected projects can demonstrate how it works. According to the report from the Government, there are about 154 tonnes of plastic bottles are dumped to landfills every day in 2007. The plastic bottles are mostly made of polyethylene terephthalate (PET), which is thermoplastic that can be melt and reformed to other shapes. One of the **potential applications of the recycle plastic bottles** is to replace the man-made polyvinyl alcohol fibre, which is commonly used in engineered cementitious composite to form the ultra-ductile cementitious rendering for waterproofing.

In view of this, the CIC has funded a research project, conducted by Nano and Advanced Materials Institute Limited (NAMI), which aims to develop the **ultra-ductile cementitious rendering** and to optimize the extrusion condition and additives to transform the recycle plastic bottle to discrete fibre. Also, by advanced surface modification techniques, the fibre can disperse into the wet mix and form a uniformly distributed network. At the same time, the bond strength between and fibre/matrix interface can be optimised to achieve the multiple-cracking ultra-ductile behavior.

In this research, different advanced surface modification techniques for changing the cementitious matrix from hydrophilic to hydrophobic (water repelling) will be compared. By using nanotechnology, the thixotropy of the cementitious matrix can be improved. The cementitious matrix contains mostly wasted materials such as ground granulated blast-furnace slag and pulverised fuel ash in order to reduce the carbon footprint of the proposed material. The mix proportion is optimized with different geometrical and mechanical properties of the PET fibre from recycle plastic bottles as well as the constituents of the cementitious matrix. The objective of the mix proportion optimization is to achieve high ductility, high water resistance, low dry shrinkage and water repelling. 以下分享的三個研究項目顯示出創新如何對 香港建造業可持續發展發揮催化作用。根據 政府的報告,在2007年,每天大約有154 噸塑膠瓶被運送至堆填區。這些塑膠瓶大部 分是以聚對苯二甲酸乙二醇酯(PET)製造, 而PET 是一種熱塑材料,熔化後可以重製成 其他形狀。回收塑膠瓶的可能用途之一是取 替人造聚乙烯醇纖維。人造聚乙烯醇纖維常 用於工程用水泥基複合材料,能產生超韌性 防水水泥批盪。

有見及此,議會撥款予納米及先進材料研發院有限公司的相關研究項目,目的是開發 超韌性水泥基批盪,及優化擠塑條件和添加劑,以便將回收塑膠瓶改造為離散纖維。另外,透過先進的表面改性技術,纖維可在濕 拌混合料中散開,形成均匀的分佈網絡。同時,纖維/基體界面之間的結合強度可以得到 改善,以達到多裂縫超韌性狀。

該研究還比較了將水泥基體從親水性變為憎水 性(抗水性)的不同先進表面改性技術。此外 亦採用納米技術加強水泥基體的觸變性。水泥 基體包含大部分被浪費的材料,如高爐礦渣微 粉和粉煤灰等,可減少所開發材料的碳足跡。 根據回收塑膠瓶產生的 PET 纖維以及水泥基體 成分的不同幾何特性和力學特性,材料之間的 混合比將會得到優化。其目的是達到高韌性、 高防水性、低乾縮度和抗水性。 The funded research project will not only develop a new generation of **waterproof rendering material**, but also create a local market for the recycle plastic bottles in Hong Kong that can relief the pressure on the limited landfill space. With the successful completion of the project, it can demonstrate to the industry about the practical application of waste utilization.

The second project relates to earthquake and Hong Kong. The history has shown that major earthquake disasters often occur in places that are not well prepared. From the historical lessons learned in past earthquakes, many earthquake experts, including the internationally renowned authority for seismic design of concrete structures, Professor Robert Park has pinpointed Hong Kong as the "Next" likely city to be earthquake vulnerable needing emergency planning for making its buildings earthquake resistant. The funded project commenced in June 2014 aims at improving efficiency and productivity of the industry in undertaking retrofitting works. It will involve extensive studies to develop equations for evaluating the minimum thickness of Fibre Reinforced Plastic jacket and minimum required zone of retrofitting, involving the concrete crushing zone, rebar yielding zone and curvature concentration zone, using the theoretical model developed in previous work.

Extensive investigations have been undertaken by the project investigator of the City University of Hong Kong, involving experimental testing, numerical simulation and analytical modeling. A more advanced **plastic hinge model** has been developed which allows for the effect of external jacketing, and hence, can be used not only for design of new reinforced concrete columns but also for retrofitting of existing ones. Theoretical studies including evaluation of HK buildings and finite element modeling of columns are also underway. 該研究項目不單止可開發新一代的**防水批盪**, 還可在香港開創回收塑膠瓶的本地市場,藉此 舒緩堆填區的壓力。項目的研究成果可向業界 示範如何應用廢物在實際用途上。

第二個項目是關於地震與香港。歷史顯示, 嚴重地震往往發生在沒有妥善準備的地方。 根據過往地震汲取的歷史教訓,很多地震 專家(包括國際知名的混凝土結構的防地 震設計權威 Robert Park 教授)均指出, 香港有可能是「下一個」在地震面前變得脆 弱的城市,因此需要準備緊急應變規劃, 包括確保建築物有能力承受地震。該研究項 目於 2014 年 6 月展開,目的是提高業界加裝 工程的效率和生產力。項目將展開廣泛研究, 以確立評估以纖維增強複合材料製成的鋼筋 混凝土柱外套的最低厚度和所需加裝區域的 方程式,包括利用過往開發的理論模型來定 出混凝土壓碎區、鋼筋屈服區和曲率集中區。

負責項目的香港城市大學研究員已就此展開廣 泛研究,當中包括實驗測試、數值模擬和分析 建模。該項目已開發出較先進的塑性鉸模型, 該模型能展示外套的效果,不單可用於新鋼筋 混凝土柱的設計,還適用於現有鋼筋混凝土柱 的加裝。另外,評估香港建築物和鋼筋混凝土 柱的有限元建模等理論研究亦已展開。 The funded project will provide various deliverables including more efficient construction methodology and minimized labor and construction costs of the retrofitting work for required seismic level, leading to higher productivity of the construction work. It may benefit the whole Hong Kong construction industry and the society by providing a cost effective method to retrofit reinforced concrete columns in order to meet seismic design requirements of safer buildings under severe earthquake displacement. 該研究項目將帶來多項成果,包括更高效的 建造方法和儘量減低防地震加裝工程的勞工和 建造成本,以提高建造工程的生產力。這個具 成本效益的加裝鋼筋混凝土柱以達到更安全的 建築抗震設計要求的方法,將惠及香港整個 建造業界和社會。



ICON – Innovation in Construction Research Journal 研究期刊 – 建造業的創新 In order to promote **zero carbon building technology** to the wider industry based on the CIC' s experience in establishing the first zero carbon building in Hong Kong, the CIC funded an 18-month research project commenced in Spring 2014 aiming to examine the feasibility of delivering **high-rise low or zero carbon buildings** in Hong Kong. Led by The University of Hong Kong, the research project is collaborated by a range of members and collaborators across academia and industry in Hong Kong and overseas.

The research has four objectives. First is to establish a Hong Kong definition of, and design strategies for achieving zero carbon buildings in dense high-rise developments. Second is to develop scenario-based design solutions to achieving zero carbon for normative high-rise in Hong Kong. Third is to examine the feasibility of such solutions in a systems manner to cover technical feasibility, socio-cultural preference, commercial viability, supply chain competency, and statutory and regulatory acceptance. The final one is to verify such solutions in real cases of building projects by examining their sensitivity and dynamics in relation to uncertainties as well as missing or unknown information.

With over one year research work, the project team has drafted a tentative zero carbon building definition and design strategies for delivering high-rise buildings in Hong Kong towards zero carbon. They have also developed an energy model based on a typical 40-plus-storey public residential building in Hong Kong. The next step is to plan to empirically verify the developed definition and design strategies. 根據議會興建全港首座零碳建築物「零碳天 地」的經驗,向整個業界推廣零碳建築技術, 議會的研究撥款支持一項於2014年春季展 開,為期18個月的研究項目,以探討在香港 推行低碳或零碳高樓大廈的可行性。該項目 由香港大學負責,參與成員包括多位香港和 海外的學術界及業界的成員和合作夥伴。

該項目有四大目標:第一是為香港訂立在 高廈林立的環境下的零碳建築物的定義, 和達到零碳建築的設計策略;第二是開發基 於不同場景的設計方案,令香港的一般高層 大廈達到零碳排放;第三是有系統地探討這 些方案的可行性,包括技術可行性、社會文 化取向、商業生命力、供應鏈設置,以及 法律和規例的合規;最後一個目標是在真實 建築項目中,研究這些方案在不明朗因素、 資料不齊全或未有相關資料的情況下的表現 及敏感度,藉此核實方案。

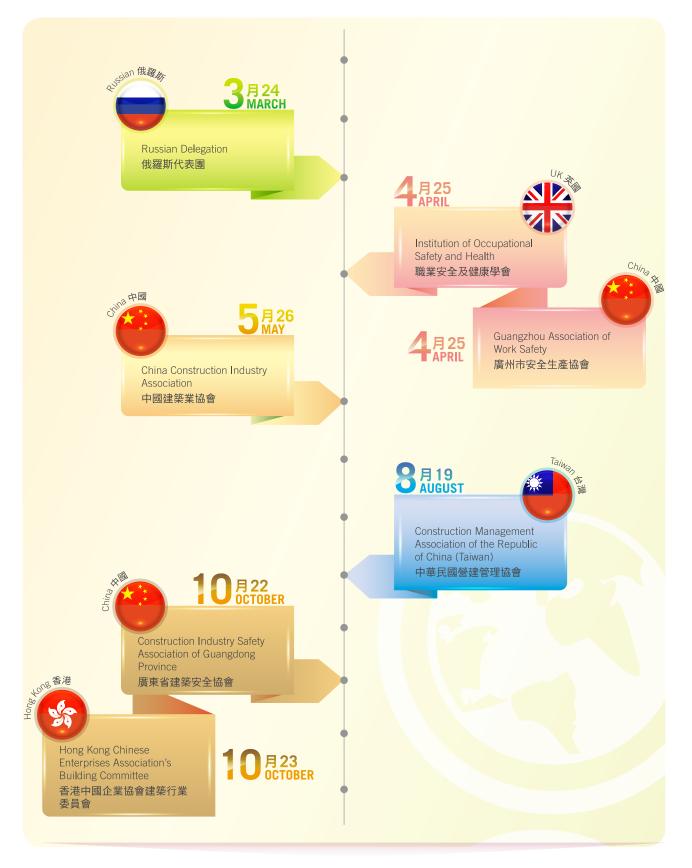
經過一年的研究,項目團隊草擬了一項臨時 零碳建築物定義,以及使香港高樓大廈達到 零碳排放的設計策略。另外,團隊以香港典型 的40層以上公共房屋為基礎,開發一個能源 模型。下一步計劃是以實證核實所制定的定義 和設計策略。 Zero carbon buildings are complex socio-technical systems, and their delivery in dense urban settings is extremely challenging. No research was identified into the systematic feasibility of high-rise zero carbon buildings in urban settings. This project addresses the knowledge gap through adopting the systems approach and innovative products and processes. It is anticipated to help transform the built environment of Hong Kong towards low carbon and sustainability, and also position Hong Kong strategically for leading zero carbon building research and practice.

In addition to carrying out this research work, the CIC proactively engages the industry by regularly visiting stakeholders in order to update them on CIC initiatives, as well as exchanging views with them on industry issues. Some stakeholders are also heavily involved in CIC initiatives, such as the collaborative training schemes. 在密集的城市環境推行零碳建築物這一複雜 的社會技術體系極具挑戰性。迄今並沒有 針對在城市環境推行零碳高樓大廈的系統性 可行性研究。此項研究透過採用有系統的 研究和創新的產品和程序,應對這方面的知 識缺口。這將有助香港的建築環境轉型至 低碳和可持續性,並促成香港在零碳建築物 的研究和實踐方面的領導地位。

除了進行這項研究工作外,議會亦藉此主動 邀請業界參與,例如定期到訪持份者,講解 議會的最新措施,以及就各業界事宜與他們 交換意見。部分持份者亦積極參與議會的 項目,如合作培訓計劃。



Exchanges with overseas and local counterparts are as follows: 與海外和本地同業的交流活動如下:





The CIC recruitment attracts staff with a wide variety of specialisations, yet all are **passionate** about building the future of Hong Kong. Experienced hires are crucial, but nevertheless, the CIC also nurtures inexperienced young people with talent and potential, through the Graduate Trainee Program, to train them to take up supervisory roles within the CIC in a few years' time.



The CIC's full-time staff has steadily increased, to over 630. The part-time staff headcount has remained around 200. Approximately 63% of staff are male and 37% female.

Having been rated a "Caring

Organisation" by the Hong Kong Council of Social Services for the fourth consecutive year, and receiving the **"Distinguished Family-Friendly Employer 2013-14 Award"** from the Family Council, the CIC continues its commitment and effort towards fostering a safe, healthy and fulfilling working environment for its staff. The CIC offers fair remuneration, marketbenchmarked employment terms and benefits.

The CIC believes that human capital is the most valuable asset that an organisation has for achieving success. Thus the CIC puts a great deal of emphasis on the **personal and professional development of its staff.** A number of in-house training programs were held in 2014, in the areas of ordinance awareness, professional knowledge and operational skills development, as well as training courses for managerial staff. In particular, the CIC has closely collaborated with the Independent Commission Against Corruption, because the CIC strictly enforces ethical behaviour when discharging official duties. 議會透過不同的招聘活動吸引各熱衷於建設 香港的未來、且具不同專長的員工。雖然 聘請有經驗的人才十分重要,但議會亦致力 透過畢業生學員計劃,培育未有經驗但有資 質和潛力的年輕人,讓他們在數年內能晉升 為議會的管理階層。

議會的全職員工穩定增加,現已超過 630 人, 兼職員工的人數則維持在 200 人左右。男性 員工大約佔 63%,女性員工大約佔 37%。

議會連續第四年獲香港社會服務聯會評為 「同心展關懷」機構,並且獲香港政府家庭議 會頒發「2013 / 14 傑出家庭友善僱主」獎項。 議會將繼續承諾,致力為員工創造一個安全、 健康和充實的工作環境,以及為員工提供公平 的薪酬及按市場基準訂定的僱用條款和福利。

議會相信,人力資源是一間機構取得成功的 最寶貴資產,因此議會非常重視員工的個人 和專業發展。在2014年,議會推行了多項內 部培訓計劃,內容包括學習有關法例、專業 知識和作業技能發展,另外亦提供管理人員 培訓課程。議會尤其著重履行公職時嚴格執 行合乎道德的行為準則,故議會一直與廉政 公署緊密合作。

Overall, average training hours per employee reached 5.25 hours in 2014. 整體而言,在 2014年,每名僱員的平均培訓時數 是 5.25小時。





Teamwork can be demonstrated through the enthusiastic participation of staff in the social events held by the CIC. The annual staff event of 2014 was **Movie Night**. The response was overwhelming – over 700 staff and their family members joined in. The **CIC Annual Dinner 2014** continued to be the highlight of the year – over 590 staff and industry stakeholders gathered together to celebrate the

festive season after a year's hard work. Six outstanding staff

obtained their awards from the Secretary of Development in recognition of their good-natured, enthusiastic and productive contributions to the CIC' s mission. The exciting games and exhilarating performances drove fun and laughter throughout the night. 團隊合作體現於員工積極參加議會主辦的社交 活動。2014年的員工週年活動是電影之夜。 員工反應非常熱烈,參加的員工及家屬超過 700人。2014年議會週年晚

> 宴依然是全年的亮點 - 經 過一年辛勤工作,超過 590位員工和業界持份 者聚首一堂,共慶佳 節。六位員工獲發展 局局長頒發傑出員工獎 項,以表揚他們無私奉獻 精神,以及為實踐議會使命作 出的重大貢獻。刺激的遊 戲和精彩的表演使 整晚充滿興奮及 歡樂的氣氛。

Teamwork is also seen in the support the CIC provided to staff in need, including the engagement of the Christian Family Service Centre to provide the **Employee Assistance Scheme**, as well as the education assistance to staff families through the CIC Staff Education Fund for Children. 團隊合作還體現於議會為有需要的員工提供 支援,包括議會參與了基督教家庭服務 中心的僱員支援計劃,並透過「建 造業議會員工子女教育基金」向員 工的家庭提供教育援助。



Engaging our society, our outreach through volunteer and philanthropic activities received positive feedback during the year. Seeds of the building industry spirit of teamwork and craftsmanship were planted widely.

<mark>議會關懷社會。年內,議會透過義務工作和慈</mark>善善活動關懷社會,除獲得正面回饋之外,還廣 泛播下建造業團結及工藝技能的種子。

In August 2014, our staff showed the building industry spirit of teamwork and care with volunteer repair services for the Tung Wah Group of Hospitals Tai Tung Pui Care & Attention Home. We provided repairs and maintenance services to the organisation at the four-storey home which houses

205 elderly people. Two staff with extensive painting and plastering experience, together with one marketing department colleague, refurbished the activity room by removing old paint and repainting. Six staff divided into three teams to repair the furniture, fix the peeling wallpaper, and add a frame to the bedroom door. They used a variety of tools and equipment such as drills, wood glue and carpentry tools. The remaining seven volunteers decorated the doors of the rooms with colourful flowers, grass and butterfly stickers, to create a vibrant environment for the residents.

181 CIC staff and trainees donated blood in a **blood donation activity** held by the Hong Kong Red Cross at the Kowloon Bay Training Centre and Sheung Shui Training Centre. 2014 年 8 月, 議會的員工發揮建造業界的團 隊和關懷精神,為東華三院戴東培護理安老院 提供義務維修服務。議會員工為這間住有 205 位長者的四層高安老院提供了維修和保養服 務。其中兩名具豐富油漆和批盪經驗的員 工跟一位機構傳訊及推廣部門的同事一起 翻新活動室, 剷掉舊的牆漆再髹上新漆。 另六名員工分成三組,利用多種工具和 器材(例如鑽、木膠和木工工具),分別 維修傢俱、修補剝落的牆紙 和加裝睡房門框架。

> 其 餘 七 名 義 工 則以色彩 鮮 的 花 草 蝴 貼紙裝 島 門,為長者 締造生氣 然的環境。

香港紅十字會在九龍灣訓練中心和上水訓練 中心舉行捐血活動,181名議會員工和學員 踴躍捐血。



The CIC was joined by industry stakeholders for various good causes. The charitable racing competition held during the Construction Industry Sports Day and Charity Fun Day raised a total of HK\$ 84,762 for the Construction Charity Fund, from their laughter and sweat. Not only were their costumes exceptional but so also was their enjoyment of the charitable race.



業界的持份者亦參與議會的各項善舉。 在「建造業運動會暨慈善同樂日」 中舉行的慈善賽跑,參加者以笑聲和 汗水,為建造業關懷基金籌得合共 港幣 84,762 元。他們別具一格的 服裝,讓慈善賽跑生色不少。



Our trainees, the **future builders**, shared their passion and energy by volunteering to support Hong Kong's annual signature event, the Hong Kong International Dragon Boat Races (the Races). Celebrating the traditional Dragon Boat Festival, the Races held by the Hong Kong China Dragon Boat Association (the Association) attracted thousands of racers and spectators. The Association has invited us to support them for the **past six** years. Our trainees provided on-site support, transporting supplies and helping competitors to embark and disembark on the dragon boats. 議會的學員是未來的建造棟樑。各學員發揮激 情和能量,義務支持香港每年一度的國際盛事 「香港國際龍舟邀請賽」(龍舟賽)。中國香港 龍舟總會(總會)為紀念傳統的端午節而舉辦 的龍舟賽,吸引了數千名參賽健兒和觀眾的參 與。在過去六年,總會均邀請議會給予支持。 議會的學員在現場提供支援、運送物資和協助 參賽者上落龍舟。 The **business partners of the CIC** also worked together on good causes. The ZCB eco-cafe operator, Kelly and Moss, collaborated with the charitable organisation, Table for Two, to donate HK\$ 2 for each sale of the signature dishes, Greek Salad, Quinoa and Beetroot Salad, and German Potato Salad. In 2014, a total of 417 salads were sold.

議會的合作夥伴亦共襄善舉。零碳天地的 環保咖啡館 Kelly and Moss 跟慈善機構 「同營膳」合作,每售出一客招牌菜希臘 沙律、藜麥紅菜頭沙律或德國薯仔沙律, 便會捐出港幣二元,2014 年總共出售 417 客沙律。





Education can transform the fate of a person and the CIC believes that this applies to the environment as well. Education through experience can have more impact. The CIC, through its wholly-funded ZCB – the first zero carbon building in Hong Kong – continues its mission to demonstrate how to lead an eco-friendly and low-carbon life. The ZCB received a total of about 16,159 guided tour visitors including 35 overseas delegations, such as:

教育可以改變一個人的命運,議會相信這同 樣適用於環境。透過親身體驗,成效更大。 議會透過全資興建全港首座零碳建築物 「零碳天地」繼續履行示範如何以環保和低碳 的方式生活的使命。零碳天地共接待過大約 16,159名導賞團訪客,其中包括35個外國 代表團,例如:



Encouraging the public to enjoy the low-carbon environment of the **ZCB park** was another focus of our outreach efforts. A series of low carbon events were held. Low carbon weddings on Valentine's Day started off the year, attracting participation of 16 couple-to-be to vow for low carbon family. These couples are keen on leading a low carbon living. The CIC's outreach efforts reached Macau, as ZCB representatives participated in the Macao International Environmental Co-operation Forum and Exhibition 2014. The ZCB's year was concluded with a series of **eco craft-making workshops** and an **unplugged concert** pulling in an **audience of over 4,000** to enjoy the fresh air and a great time in the landscape area. 鼓勵市民享受低碳環境的零碳公園是議會 另一項外展宣傳重點。議會舉辦了一系列的 低碳活動,由在情人節舉行的低碳婚禮打響 頭炮,並吸引了16對準新人參加。他們都 熱衷於低碳生活,並宣誓建立低碳家庭。 另外,議會的外展宣傳活動亦推廣至澳門: 零碳天地的代表參與「2014年澳門國際環保 合作發展論壇及展覽」。年底舉行的環保手藝 工作坊,以及一場「不插電」演唱會,吸引 超過4,000名市民參與,在環境優美的地方 享受清新空氣和快樂時光。





Visitors who took the opportunity to tour the ZCB exhibition area were amazed by the eco-home. The eco-home was revamped during the year to demonstrate how to incorporate sustainability into interior design, bringing comfort and ecofriendliness to the home. The newlyrevamped eco-home integrates the concepts of energy, comfort, water, materials and a lifestyle of health and sustainability. Due to the hot and humid weather, people of Hong Kong are heavily dependent on energy for air conditioning in summer and for hot water in winter for comfort. The ZCB eco-home suggests an alternative, making life more energy efficient with innovative design and technology:

- **Trickle vent** brings fresh air into home interior during transition seasons.
- Chilled peltier headboard peltier cooling technology cools the bed area instead of cooling the entire room. The headboard can cool the surrounding air by 3°C, without creating a draught or discomfort. Then energy is saved by setting the air conditioning to 25 26°C instead of 22°C.
- Exhale fan special rotating plates create a vortex to take in air at the centre and circulate the air in a cyclonic manner to create a comfortable indoor environment.
- Automated internal solar shading minimises solar heat penetration, reducing room temperature and the need for air-conditioning.

趁機遊覽零碳天地展覽區的遊人都對 「綠色家居」讚嘆不已。「綠色家居」在年 內重新建設,以示範如何將可持續發展融入 室內設計,令家居更 舒適、更環保。新的 「綠色家居」將能源、 舒適度、水、材料、健康 和可持續生活方式等概念共冶一 爐。在天氣炎熱潮濕的香港,市民在 夏天開冷氣消暑,在冬天則以熱水取暖, 全都需要消耗能源。零碳天地「綠色家居」 以創新的設計和科技,建議另一種更節能的 生活方式:

- 氣槽 在季節交替期間將新鮮空氣引
 帶入屋內。
- 製冷床頭板系統 珀爾帖製冷技術只涼 化睡床位置而非整個睡房。床頭板可以將 四週的空氣降低攝氏3度,但不會造成乾 燥或不適。繼而將空調溫度設定在攝氏25 度至26度而非攝氏22度,便可節省能源。
- 送氣扇 特製旋轉扇葉能產生渦流, 在中央抽入空氣,再以氣旋方式循環空氣 以營造舒適的室內環境。
- 自動室內遮陽設施 減少太陽熱力滲入
 w室內,藉此降低室溫和減少使用空調。

An individual' s personal carbon footprint can also be reduced by minimising usage of fresh potable water. To encourage efficient water use, the eco-home has a closed-loop water cycle. Features for minimising water use include:

減少使用新鮮食水亦可以減低個人的碳足跡。「綠色家居」 採用閉環式再循環系統,以鼓勵有效使用食水。減少用水 的設施包括:

- Greywater diverter waste water drained from baths, showers, wash basins and the washing machine is redirected to a greywater treatment tank, from where it can be used for flushing toilets and irrigation.
- **Vacuum toilet** with a flushing flow rate of 1.2L per flush, it is 80% more water-efficient than a conventional toilet.
- Porcelain-instantaneous water heating faucet the world' s smallest heaters installed in the faucet and hot shower provide instantaneous hot water. They are much more efficient than a conventional electric water heater.
- Energy and water-efficient front load washing machine with Grade 1 Energy Label and Grade 1 Water Efficiency Label to reduce water and energy consumption.



- 灰水分流器 將浴缸、淋浴間、洗手盆和
 洗衣機的廢水引導至灰水處理缸,這些水
 可用來沖廁和澆花。
- 真空坐廁 每次沖水的用水量是1.2
 公升,較傳統坐廁節水百分之八十。
- 即熱瓷質水龍頭 水龍頭和花灑內裝有全 球體積最小的加熱器,可即時供應熱水, 遠較傳統電熱水器節省用水。
- 前置式節能省水洗衣機 符合一級節能標
 籤和一級用水效益標籤,可減少耗用水和
 能源。



- Green blades veneer made from banana tree trunks which are rapidly renewable, maturing to full size every nine months.
- **Bamboo flooring** durable, and bamboo is rapidly renewable.
- False ceiling boards and partition wall boards made from PalmEco Board, 100% fibre recovered from post-industrial recycled agricultural waste.

The eco-home uses sustainable and rapidly renewable materials:

「綠色家居」採用可持續及能迅速再生的 物料:

- 錄色薄板 以香蕉樹幹製成的薄板。
 香蕉樹幹能迅速再生,只需九個月便能
 完全成熟。
- 竹地板 竹除了耐用之外,還能迅速 再生。
- 假天花和間房板 用棕櫚環保板製造,
 纖維是百分百利用工業生產後的回收農業
 廢料製造。

"LOHAS" is a marketing concept for healthy and sustainable lifestyles. The eco-home adopts a closed-loop living style. Aspects include:

「樂活」是健康及可持續生活方式的市場推廣概念。 「綠色家居」採用自給自足的生活方式,當中包括:

- **Hydroponic home farming** growing your own food with no pesticides and with no transportation required, thus reducing carbon footprint.
- Food waste digester with probiotics and microorganisms at 60°C, composts food waste into fertiliser for home growing, eliminating the need to transport food waste to landfill and reducing greenhouse gases released into the atmosphere.
- Energy generating exercise equipment generates up to 50W of power for appliances, and the energy can be stored for later use.
- Induction cooktop 70% more efficient than a conventional stove.
- **Combination steam oven** European Union energy label class A for more efficient cooking.

All of the above concepts can be used in daily life, to varying extents, which can have a great positive impact on the environment.

The way we use resources determines our impact on the environment. The CIC started with procurement sourcing. The CIC is committed to **green purchasing**, encouraging its staff members to consider environmental concerns when making procurement decisions. For example, staff should buy paper which complies with environmentally-friendly requirements, such as recycled paper.

The procurement requirements include, as far as applicable: products with greater energy efficiency; products that have improved recyclability, high recycled content, reduced packaging, and greater durability; services or products that discharge fewer irritating or toxic substances during installation or use, as well as services that utilise clean technology and/or clean fuels.



- 家 居水耕栽培 自己耕種食物,不用 農藥、無需運輸,可減少碳足跡。
- 廚餘消化器 將益生菌和微生物保持 在攝氏 60 度,將廚餘堆肥供家居耕種 用途。廚餘無需運往堆填區,從而減少 溫室氣體的排放。
- 健身器材發電 可產生高達 50 瓦特的 電力供電器使用,或儲存備用。
- 電磁爐 效率較傳統煮食爐高百分之 七十。
- 混合式蒸爐 符合歐盟甲級能源標籤, 煮食效益更高。

以上的所有概念均可不同程度地應用於日常 生活,可以對環境產生很大的正面影響。

對環境造成什麼影響取決於如何運用資源。 議會從採購著手,透過推行<mark>綠色採購</mark>,鼓勵員 工採購時考慮對環境的影響,像員工應該購買 符合環保規定的紙張,如再造紙。

採購的其他要求還包括:盡可能採購能源 效益較高、回收再用性較高、含大量可再用 成份、較少包裝及更耐用的產品;採購服務 或產品如清潔技術或清潔燃料等,在安裝或 使用時排出較少刺激性或有毒物質。



Energy conservation is one of the goals of **CIC renovation projects**. High efficiency air-conditioning systems were installed for new offices and classrooms, as well as staircases, at the Aberdeen Training and Trade Testing Centre (ATTC) and Kowloon Bay Training Centre (KBC). Such air-conditioners are with energy saving design and do not contain chemicals that cause ozone depletion.

Sensor activated faucets and automatic hands-free sensor control systems were installed in the renovated toilets of the ATTC, the KBC, and the Sheung Wan Service Centre. The sensor on the hand washing faucet is solar powered. It has battery backup, and it is double infrared sensor activated for pre-set or hot and cold water operation. The sensor activiated faucet complies with the requirement on water saving in accordance with California' s Green Building Code. 節省能源是議會進行裝修工程時的目標之一。 香港仔工藝測試及訓練中心和九龍灣訓練中心 的新辦事處、課室和樓梯均安裝了高能源效益 的空調系統。這類冷氣機採用節能設計,不含 耗損臭氧層的化學物質。

香港仔工藝測試及訓練中心、九龍灣訓練中心 和上環服務中心的翻新洗手間安裝**感應器啟動 水龍頭和自動感應控制系統**。洗水盆水龍頭的 感應器利用太陽能供電,另有後備電池。水龍 頭以雙紅外線感應器啟動預定或冷熱水操作。 感應器啟動式水龍頭符合加州綠色建築標準的 節約用水規定。

An **eco-friendly toilet** was set up in Wai Lok Street Training Ground. The green toilet is equipped with waterless urinals. No water supply is required for flushing. Instead, a special cartridge collects uric sediment, meaning an odour-free restroom with clean pipes. Such green features reduce usage of water in toilet flushing by 90%, which equals a reduction in sewage disposal of over 70%.

偉樂街訓練場設有環保洗手間。這個綠色洗手間裝有無水尿斗, 無需用水沖廁,而是以特製尿盒收集尿液,令管道保持乾淨,使 洗手間不會有氣味。這類綠色特徵可減少沖廁用水百分之九十, 相當於減少污水排放超過百分之七十。





As lighting is one of the major consumers of electricity, motion sensing control system and LED Lighting panels were also installed in our three training centres in Kowloon Bay, Kwai Chung and Sheung Shui. Light and motion detection controls help save electricity wasted by idle lighting.

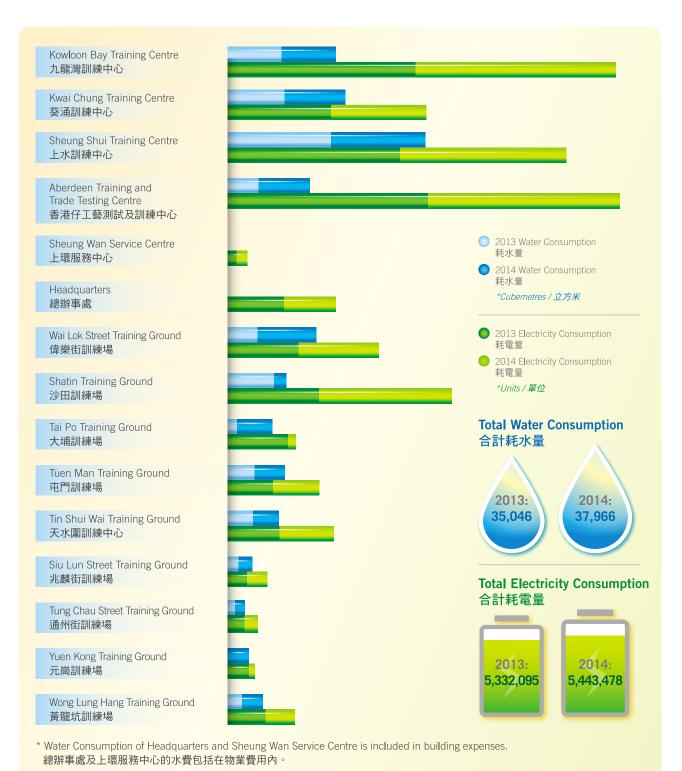
Maintaining air quality is essential for health of staff and visitors. Both the CIC Headquarters and the ZCB were awarded a "good" rating for the Indoor Air Quality Award from the Environmental Protection Department. The ZCB' s rating was further upgraded to "excellent" in 2015. The CIC also joined the Quality Water Recognition Scheme for Buildings (QWRSB), which is run by the Water Supplies Department. Our Sheung Shui Training Centre, KBC, and ATTC attained the QWRSB Gold Certificate.

照明系統是消耗最多電力的設備之一,因此 議會位於九龍灣、葵涌和上水的三個訓練中 心均安裝有活動傳感控制系統和發光二極管 燈盤。光線和活動傳感探測控制有助節省因 不必要照明而浪廢的電力。

保持空氣質素對員工和訪客的健康至為重要。 議會總辦事處和零碳天地獲環境保護署頒發室 內空氣質素檢定證書,被評為「良好級」。 2015年,零碳天地進一步獲評為「卓越級」。 另外,議會加入了水務署的「大廈優質食水 認可計劃」。議會的上水訓練中心、九龍灣 訓練中心和香港仔工藝測試及訓練中心獲頒發 大廈優質食水認可計劃金證書。



With the exception of the two new training grounds and the ZCB, which were separately metered, CIC electricity and water consumption for the year was: 除兩個新的訓練場和零碳天地(另外計算)外,議會在年度內的耗電量和 耗水量如下:



The ZCB, through the **Combined Cooling Heating and Power (CCHP) system** and three types of photovoltaic panels (polycrystalline, BIPV and CIGS) generated 164MWh electricity from renewable sources in 2014. This is equivalent to a reduction of 115 tonnes of carbon emissions. Eco-office practices further reduced energy consumption. These included replacement of desktop personal computers with laptops; upgrade to high volume, low speed ventilation fans; provision of a switch off function for all audio and video equipment to reduce standby power consumption; streamlined operation of ventilation fans for plant rooms and utilities; optimisation of indoor, outdoor and emergency lighting schedules; as well as optimisation of the outdoor landscape area watering schedule.

From Figure 1 below, the implementation of the above measures resulted in an energy saving of 19MWh for July to December 2014 compared with the same period in 2013. This is equivalent to a carbon footprint reduction of 13 tonnes.

在 2014 年,零碳天地透過製冷、產熱及發 電的三聯供系統和三種不同的太陽能光伏板 (多晶硅、光伏建築一體化系統和圓筒形銅銦 鎵硒),利用可再生源生產 164 MWh 電力, 相當於減少 115 噸碳排放量。各項環保辦公 措施亦進一步減少能源消耗量,這些措施包 括以手提電腦取代桌面電腦;升級使用高風 量、低速通風扇;為所有視聽器材設置關機 功能,以減少備用狀態的耗電量;提升機房 和公用設施的通風扇效率;優化室內、室外 和緊急照明系統時間表;以及優化室外觀景 區的澆水時間表。

以下表 1 顯示,實施上述措施後,與 2013 年同期相比,2014 年 7 月至 12 月節省了 19MWh 的電力,相當於減少 13 噸碳排放。



Monthly Energy Consumption 每月耗電量

Ceiling fans are an effective and energy efficient component of the ZCB' s active strategies, which, in combination with the core passive strategy of natural cross ventilation, ensure free cooling for 40-50% of the year at the ZCB. The building' s high-volume lowspeed fans were upgraded to a newer generation, to further enhance energy efficiency and occupant comfort, and reduce carbon emissions. A 30% energy saving is achieved compared to the previous fans. The 'Essence' ceiling fan has a gearless direct drive motor which provides high torque at very low speeds. It received the Best Product for Energy Efficiency award from the US Green Building Council in 2014. 吊扇是零碳天地主動節能策略的高效構件, 結合天然對流通風的核心被動式策略,可無 需耗電而肩負起降溫百分之四十到五十。 零碳建築物的高風量低速通風扇已更新為 較新一代,能進一步加強節能,除令室內 更舒適外,還可減少碳排放。跟以前的風 扇比較,可節省百分之三十的用電量。 「Essence」吊扇採用無齒輪式直接驅動 馬達,以極低速產生高沿軸轉動。此吊扇 於 2014 年獲美國綠建築協會頒發「最佳 節能產品」。

The ZCB continued to be recognised locally and internationally with its achievement in the low-carbon technology showcase and applications. Awards won in 2014 included:

零碳天地憑著低碳技術的創新和應用,不斷在本地和國際上 受到認同,屢獲殊榮。年內獲獎包括:

- MIPIM Asia 2013 (Best Innovative Green Building Award Bronze Award)
- Australian Institute of Quantity Surveyors 2013 International Project of the Year
- Quality Building Award 2014 Grand Award (new building, non-residential)
- 2013 Hong Kong Awards of Environmental Excellence Merit Award
- World Architecture News.com Sustainable Building Awards 2014 – Highly Commended Award

MIPIM Asia 大獎 2013(最佳創新綠色建築 - 銅獎)

mipima

awai

- 澳洲工料測量師學會 2013 年度國際 項目
- 2014 年度優質建築大獎 優質建築大獎 (新項目,非住宅項目)
- 2013 年度香港環保卓越計劃 優異獎
- 世界建築新聞可持續發展建築大獎 2014 –
 高度推薦獎項





The **beauty and wonder of nature** should always be treasured. The CIC's eco-footprint is seen in Mai Po. The CIC supported the Walk for Nature 2014 held by the WWF Hong Kong in November 2014. Through our staff and their families' participation, the call to conserve nature and the environment was ingrained in everybody's heart. The event marked a memorable conclusion for the CIC's **greening and low carbon journey of 2014**.

我們應該時刻珍惜大自然的美麗和奇妙。 議會的環保足跡亦見於米埔。議會支持世界 自然基金會香港分會於 2014 年 11 月舉行的 「步走大自然 2014」。透過議會員工及員工 家屬的參與,保育大自然和環境的呼聲深深 印在每個人的心間。這項活動為議會 2014 年 緣化和低碳之旅畫上了完美的句號。





This table provides a summary of key categories and aspects of information covered by our *Sustainability Report* 2014. The categories and key aspects are extracted from the Global Reporting Initiative's G4 Sustainability Reporting Guidelines for Non-Governmental Organisations Sector Disclosures. The disclosures are based on significance of the areas for the perspectives of the CIC. 下表提供議會可持續發展報告 2014 涵蓋的 主要範疇及層面。這些主要的範疇及層面節 錄自全球報告倡議組織出版的非政府機構 G4 Sustainability Reporting Guidelines 的披露 指引。議會就相關的主要範圍作出披露。



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