



Charting a Renewable Future

P.3 CEO's Message
行政總裁的話

P.4 Feature Story 特寫

Charting a Renewable Future
締造可再生能源新時代

P.10 News 簡訊

JEC Commits BEC Low Carbon Charter
怡和機器簽署商界環保協會低碳約章

Provision of E&M System for
Sha Tau Kok Temporary Sewage
Treatment Plant
沙頭角臨時污水處理廠機電系統工程

P.12
The Unicorn Integrated Development
Project
泰國The Unicorn 綜合發展項目

Myanmar Asia Royal Hospital
Extension Project
緬甸亞洲皇家醫院擴建項目

Technical Services for
Singapore Asia Square
新加坡亞洲廣場技術服務

Hong Kong Headquarters Launches
BIM Corner
香港總辦事處建築信息模擬專區啟用

Koppers Visits Hong Kong Headquarters
and JDI

Koppers拜訪香港總辦事處及JDI

JEC Apprentice Joins VTC Exchange Tour
怡和機器學徒參加職訓局交流團



P.16 Environmental, Health & Safety
環境、健康與安全

JEC Environmental, Health and
Safety Week 2019
怡和機器2019環保、健康及安全周

P.18 Training & Development
培訓及發展

Key to Wellness
員工健康保健之道

P.20
JEC 2017 Management Trainee
Graduation Ceremony
怡和機器2017年度管理培訓生畢業禮

JEC Scholarships & Certificates of
Completion of Apprenticeship
Presentation Ceremony
怡和機器學徒獎學金暨
學徒畢業證書頒發典禮

P.22 Community Care 關懷社區

JEC Caring Team Explores SuperPark
with Children
怡和機器愛心大使與兒童體驗SuperPark

Volunteer Service for Green Delight
in Estates
綠樂無窮在屋邨義工活動

JEC Thailand Gives Back to the Community
泰國怡和機器樂贈社群

CEO'S MESSAGE 行政總裁的話



Global warming, climate change. We've been hearing these terms for years but they have recently come into focus as we face a global "emergency" and need firm action on all levels. Individuals, companies, governments, global organisations; we all have a role to play. We are all facing increasing pressure to step up our efforts to reduce our impact on the world we live in.

Here at JEC, our role is two-fold. Firstly as an active player in the environmental engineering arena, we are helping corporates and governments deliver sustainable projects to help to reduce our society's impact on the environment. Secondly, our JEC people are coming up with ideas to change the way we behave in the organisation to reduce our corporate impact on the environment. I hope you enjoy reading this issue and learning some more about what we are up to in this space.

我們對「全球暖化」、「氣候變化」這些詞彙早已不感到陌生，隨著地球正面臨危急情況，它們在近年更是備受關注，亟待個人、企業、政府及跨國組織出一分力，採取全方位的果斷行動。面對與日俱增的壓力，我們需要行多一步，盡力減少對環境的破壞。

在這方面，怡和機器擔當雙重角色：作為環境工程的業界一份子，我們協助企業和政府實行可持續發展的項目，減低社會對環境的影響；第二則是由員工共謀獻策，從改變日常營運習慣做起，減低企業對環境的影響。希望大家喜歡今期內容，了解更多我們的工作。

Kevin O'Brien
歐嘉榮



Charting a Renewable Future

締造可再生能源新時代

Climate change is a burning global issue with far-reaching impacts across regions and countries. The development of renewable energy represents the way forward in dealing with the pressing issues related to global climate change, as countries work towards the goal of the United Nations Framework Convention on Climate Change (UNFCCC)'s Paris Agreement - to keep the global average temperature increase below 2°C.

氣候變化是逼在眉睫的全球議題，對各個地區及國家均有深遠的影響。為應對全球氣候變化所帶來的迫切問題，各地政府正努力實現聯合國氣候變化框架公約下的《巴黎協議》——將全球氣溫升幅控制於2°C之內，而可再生能源亦成為了發展關鍵。

As a member of the global community, Hong Kong has responded by launching the Climate Action Plan 2030+ in 2017, which identifies renewable energy as one of the major ways to mitigate carbon emissions and encourages the adoption of potential renewables on a wider and a larger scale. In this spirit, JEC adheres to create a sustainable community through its involvement in various renewables projects.

作為地球的一分子，香港於2017年啟動《香港氣候行動藍圖2030+》，確立可再生能源為減少碳排放的主要方式之一，同時鼓勵更大規模地採用潛在的可再生能源。在此前提下，怡和機器秉持建設可持續發展社區的理念，多年來積極參與各類型的可再生能源項目。



Waste-to-Energy: Unleash the Power Within

轉廢為能 物盡其用

Waste-to-energy, a process whereby the energy content of waste is converted into heat or electricity through the use of various types of technology, is one of the important forms of renewable energy. The Government has been promoting its use on a larger and wider scale in the following areas :

「轉廢為能」是可再生能源的重要形式之一，透過使用各種技術，將廢物的能量轉化為熱能或電力。政府一直提倡從多方面更廣泛地應用轉廢為能：



Converting Water and Sludge

轉換水與污泥

Our daily wastewater treatment processes produce a thick mud-like by-product called sludge. To handle sewage sludge in a proper and sustainable way, advanced technologies is needed to transform waste into energy. In Hong Kong, approximately 1,200 tonnes of sewage sludge which equals to the weight of 7.2 million apples is produced every day, and this is where sludge treatment facility comes about – a single complex that handles sludge reception, sludge incineration, energy recovery and flue gas treatment.

污水處理廠日常處理廢水的過程中會產生不少污泥，但我們可借助先進技術，把它們適當地以可持續的方式處理。事實上，香港每天產生近1,200公噸污泥，相當於720萬個蘋果的重量，是以需要一個專責污泥收集、污泥焚化、能量回收及煙氣處理的污泥處理設施。

To this end, Hong Kong established the first self-sustained sludge treatment facility T•PARK (photo 1) in Tsang Tsui near Tuen Mun in 2015. Built with a design capacity of treating 2,000 tonnes sewage

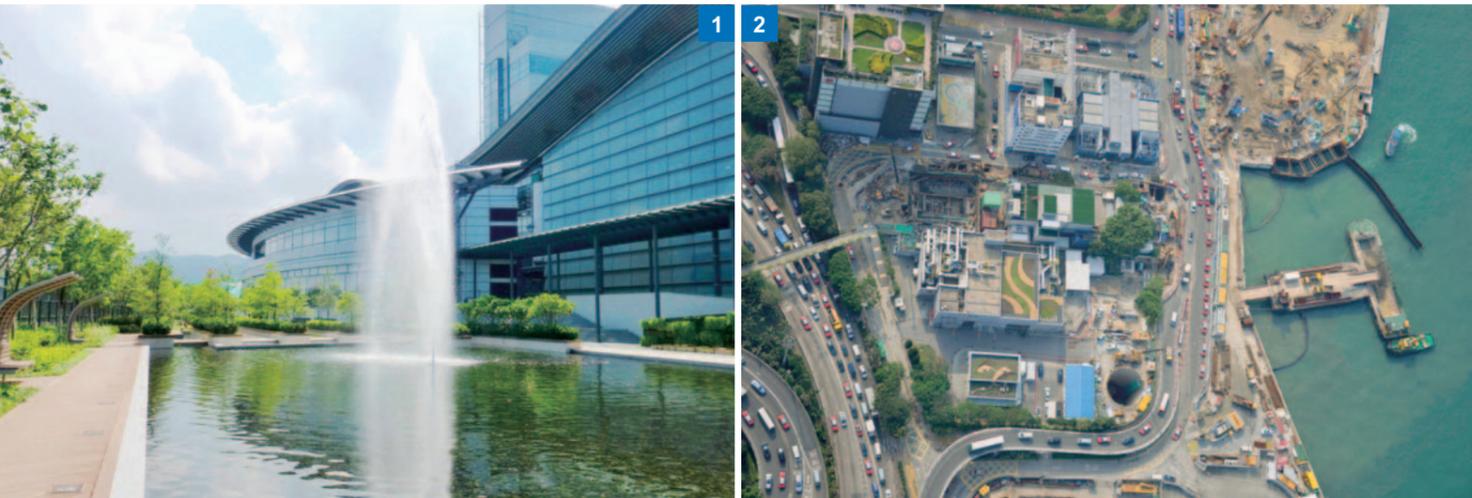
為此，香港於2015年在屯門建立首個自給自足的污泥綜合處理設施T•PARK [源·區] (圖1)，每天能處理高達 2,000公噸污泥。T•PARK

Examples of Climate Actions in Hong Kong

香港應對氣候行動相關例子



Source : Environment Bureau
資料來源：環境局



sludge per day, T·PARK can reduce the volume of sludge by 90% with its advanced incineration system, thus substantially alleviating the loading on landfills. During the incineration process, the heat generated can be recovered for power generation to meet on-site operational, educational and ecological facilities needs. JEC took part in the project by designing and installing one of the main features of the park - the three spa pools operating at hot, ambient and cool temperatures, which showcase the benefits of waste-to-energy technology, as the pools are heated by thermal energy generated from sludge incineration process. JEC also installed the underwater lighting system and water features including the wetland pool, the fountain pool and the jumping jets, as well as an outdoor footbath.

Leverage on its over 40 years of experience in sewage and wastewater treatment, JEC delivers comprehensive solutions for wastewater treatment under the Government's sewerage master plans, improving the quality of effluent so as to create a cleaner and healthier environment for all. JEC has been vastly involved in projects such as the sewage treatment plant (STP) at the Liantang/Heung Yuen Wai Boundary Control Point, the first of its kind in Hong Kong to receive Provisional Platinum rating under BEAM Plus New Building V1.2, as the electrical and mechanical contractor. JEC designed and installed the membrane bioreactor which enables the STP to recycle 50% of the municipal wastewater collected from the site and the re-sited Chuk Yuen Village. This high quality treated water is then reused for irrigation. JEC is also responsible for a range of green features such as photovoltaic panels, deodorisation system and water-saving irrigation system.

To cope with population growth and improve the effluent sewage quality, JEC also took part in the upgrade and extension of treatment capacity of sewage treatment plants in Shatin and Tai Po. Other projects include reclaimed water treatment works at the Shek Wu Hui Sewage Treatment Plant in Sheung Shui, where membrane technology is applied to transform reclaimed water for use in local schools, elderly homes and nearby domestic dwellings for non-potable applications like irrigation, fish ponds and flush water.

[源·區]的先進焚化爐能將污泥的體積下降90%，大大減輕堆填區的負擔。而在焚化過程中，產生的熱力可用於發電，足以維持整個園區營運、教育和生態設施的需要。怡和機器亦有份負責設計和建設T·PARK [源·區]其中一大主要設施——分熱水、溫水和冷水3種不同溫度的水療池，其池水以污泥焚化過程中所產生的熱能加熱，體現轉廢為能技術的優點。與此同時，怡和機器也負責設計、供應和安裝水底照明系統，以及園景區內一系列的水飾裝置，包括濕地生態池、噴泉、跳躍式噴泉和戶外足浴池。

憑藉在污水和廢水處理方面40多年的豐富經驗，怡和機器配合政府的污水收集整體計劃，提供全面的廢水處理方案，提升其質量，創建更潔淨和更健康的環境。怡和機器歷年曾參與各種規模的相關項目，包括成為蓮塘/香園圍口岸污水處理廠的機電工程承辦商，建設香港首個榮獲綠建環評新建建築（1.2版）暫定鉑金級的污水廠項目。怡和機器為污水廠設計及安裝薄膜生物反應器，將從蓮塘/香園圍口岸及竹園村遷置區收集的一半污水處理至再用水規格，重新用作綠化灌溉。此外，怡和機器亦負責一系列綠化設施，例如光伏太陽能板、除臭系統及節水灌溉系統。

為應對人口增長及改善污水水質，怡和機器參與了沙田和大埔污水處理廠的升級與擴建工程。其他項目包括上水石湖墟污水處理廠再生水處理工程，採用薄膜技術改造再生水，供學校、安老院舍及附近住宅用作灌溉、魚塘和沖廁等非飲用水的用途。

In addition, JEC played a part in Harbour Area Treatment Scheme (HATS) Stage 2A (photo 2), a major government initiative to improve the water quality in Victoria Harbour. Works included construction and modification of existing inlet pumping stations at the preliminary treatment works at North Point, Wan Chai East, Central, Sandy Bay Cyberport, Wah Fu, Aberdeen and Ap Lei Chau.

Transforming Food and Animal Waste 轉化廚餘及動物廢料

Food waste is one of the most imminent waste problems in Hong Kong. The Government has been proactively exploring food waste recycling to reduce the amount being disposed of in landfills. It plans to build a network of five or six Organic Resources Recovery Centres (ORRC) with a total recycling capacity of about 1,300-1,500 tonnes per day to recycle source-separated organic waste generated from mostly food waste into renewable energy, such as biogas and electricity.

O·PARK1 (ORRC phase 1), the first organic resources recovery centre, located at Siu Ho Wan in North Lantau, adopts anaerobic digestion technology to convert food waste into biogas for electricity generation, while the residue from the process can be used as compost for landscaping and agricultural use. The centre has been in full operation since July 2018 and is capable of handling 200 tonnes of food waste per day.

Recently, JEC with its joint venture partners was awarded the contract from Environmental Protection Department to design, build and operate O·PARK2 (ORRC phase 2, photos 3 and 4). The centre will locate at Sha Ling in North District and will be able to treat 300 tonnes of food waste daily and produce biogas. In addition to providing electricity and heat for the facilities in O·PARK2, the surplus biogas will be used for production of town gas or electricity to be fed into the power grids of the power companies. Furthermore, O·PARK2 will produce about 10,000 tonnes of compost annually, of which some will be reserved for use by government departments, farmers and members of the public for free. With the commissioning of O·PARK2 in 2022, the decrease in use of fossil fuels for electricity generation together with the reduced amount of organic waste being sent to landfills will prevent the emission of some 67,000 tonnes of greenhouse gases, and reduce the amount of food waste to be disposed of at landfills by about 110,000 tonnes annually.

此外，怡和機器亦有參與淨化海港計劃第二期甲（圖2），此計劃是政府為改善維多利亞港水質而展開的工程，工程範圍包括建造及修改北角、灣仔東、中環、沙灣、數碼港、華富、香港仔和鴨脷洲現有的初級處理廠水口泵房。

廚餘是香港另一個刻不容緩的廢料問題。政府近年積極開拓廚餘回收範疇，減少棄置於堆填區的數量。目前，政府計劃設置5至6個有機資源回收中心，專門回收由廚餘轉化為可再生能源如沼氣和電力時，所產生的源頭分類有機廢物，總回收量可達每日1,300至1,500公噸。

香港首個有機資源回收中心（O·PARK1）位於北大嶼山小蠔灣，採用厭氧分解技術轉化廚餘為沼氣發電，至於過程中產生的殘留物則會用作園景美化的堆肥和農業用途。中心自2018年7月起全面投入運作，每天可處理200公噸廚餘。

最近，怡和機器以合夥聯營方式獲得環境保護署的合約，負責機資源回收中心第二期（O·PARK2，圖3及圖4）的設計、建造和營運。O·PARK2位於北區沙嶺，預期每天可處理300公噸廚餘，並會產生生物氣，作為可再生能源，除供應該中心的電力及熱能需要外，剩餘的生物氣將用作生產煤氣，或經發電後把電力輸送至電力公司的電網。另外，O·PARK2每年會產生約10,000公噸堆肥，部分堆肥將預留給政府部門、農友和市民免費使用。隨著O·PARK2在2022年啟用後，可減少使用化石燃料發電，加上減少棄置於堆填區的有機廢物，預計每年可避免排放約67,000公噸的溫室氣體，以及每年可減少約110,000公噸運往堆填區棄置的廚餘。



JEC's technical expertise also includes animal waste treatment, another example of turning waste into usable products. Originally designed for the equestrian events of the 2008 Olympic Games, the Animal Waste Composting Plant at Ngau Tam Mei converts animal waste into high quality organic fertiliser for local farms. JEC designed, built and operates the facility to carry out different stages of the composting process before the compost is being transferred to bunkers to complete the maturation process. The facilities have been upgraded to increase treatment capacity of up to 40 tonnes per day and enable the co-composting of horse waste with other types of organic waste, including pig waste and yard waste.

此外，怡和機器之項目亦包括動物廢料處理。牛潭尾動物廢料堆肥廠原本為2008年奧運會騎術項目而設，用作將動物廢料轉化成供本地農場使用的優質有機肥料。怡和機器設計、建造及營運有關設施，在肥料轉移到燃料庫完成發酵過程之前，執行堆肥過程的不同階段。設施現已升級至每天處理容量達40公噸，除馬糞外，其他有機廢料亦會用作堆肥，包括豬糞和庭院廢物。

Capturing Landfill Gas 沼氣應用

The municipal solid waste (MSW) that generates from domestic, commercial and industrial activities is a source of energy to be exploited. In 2017, the amount of MSW generated in Hong Kong reached 5.66 million tonnes, of which 32% was recycled and the rest went to landfills, meaning that the average quantity of solid waste disposed of each day at landfills was 1.45 kg per capita.

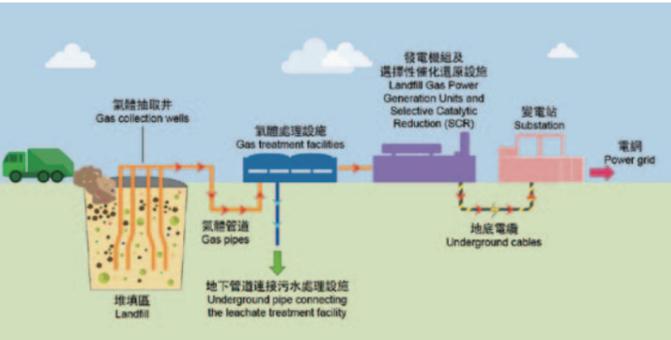
從最常見的家居、商業及工業活動所產生的都市固體廢物，亦屬於可開發能源之一。在2017年，香港產生的都市固體廢物達566萬公噸，其中32%可循環再用，其餘則送往堆填區，意味着每天人均棄置於堆填區的固體廢物達1.45公斤。

These solid waste contains organic portions, which, when decomposed, produces carbon dioxide, methane and various other organic compounds and gaseous products with tremendous potential as a power source. These landfill gas offers multi-purpose usage such as generating electricity for on-site infrastructure use, powering treatment facilities for the waste water from landfill, and providing off-site town gas production.

有機固體廢物分解時會產生二氧化碳、甲烷、有機化合物及氣體（即沼氣）。這些沼氣具有龐大潛能，能夠轉化作多元用途，如供電予堆填區的基礎設施、廢水處理設施，以及其他地區的天然氣生產。

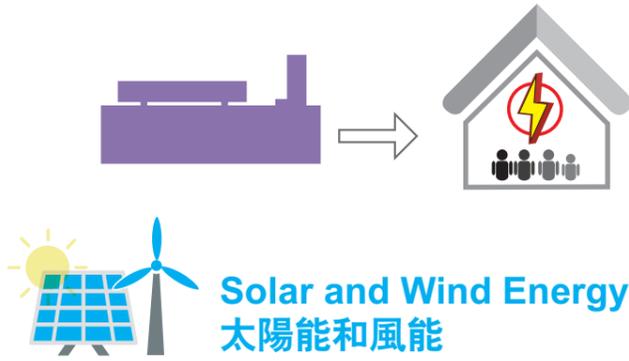
Currently, the three strategic landfills in Hong Kong namely West New Territories (WENT) Landfill, South East New Territories (SENT) Landfill and North East New Territories (NENT) Landfill have been utilising landfill gas for energy production. With the largest landfill gas power generation project at WENT Landfill (photo 5) in the pipeline, JEC builds and operates a facility to convert waste landfill gas to electrical energy for CLP Power Hong Kong Limited. Once completed, the facility will generate 10MW of electricity at full capacity.

目前，香港三大堆填區——新界西堆填區、新界東南堆填區及新界東北堆填區，均以沼氣作生產能源。其中，新界西堆填區正開展全港最大規模的堆填沼氣發電項目（圖5），並由怡和機器為中華電力有限公司興建及營運沼氣發電機組，可提供達10兆瓦的總輸出。



JEC will also set up supervisory control and data acquisition systems so that the facility can be operated remotely from CLP's nearby Black Point power station. Upon completion, un-utilised LFG can be put to good use for powering over 17,000 four-person households for one year.

此外，怡和機器並設立數據採集和監控系統，用於發電機組附近的龍鼓灘發電廠，遙距控制機組的運作。當發電機組投入運作後，剩餘的沼氣可獲充分利用，可為超過17,000個4人家庭提供一年電力所需。



Powering over **17,000** four-person households for one year.

沼氣發電機組能為超過**17,000**個四人家庭提供一年的電力。

Photovoltaic (PV) and wind turbine technologies are set to become two major clean sources of renewable energy with abundant supply. In 2018, CLP Power Hong Kong Limited and the Hongkong Electric Company Limited put forth low carbon lifestyle by promoting the Solar Energy Feed-in Tariff (FiT) Scheme to purchase renewable energy from energy producers such as local households, private companies, NGOs and schools, with an aim to encourage residential and business customers to install a solar and/or wind power renewable energy system on their premises and connect to the electricity grid to earn FiT payments. In this regard, JEC offers a wide range of photovoltaic systems, wind turbines as well as solar-wind turbine hybrid systems that fit for daily application in various building types. Past projects include design, supply and installation of PV system for Chek Lap Kok Fire Station reduces around 15,244 kg of carbon dioxide emissions per year; as well as individual and integrated PV systems for Trade and Industry Tower in Kai Tak Development Area, the first government building in the area for demonstrating green city concept and energy conservation.

光伏和風力渦輪機技術將會成為兩大源源不絕的可再生能源。香港兩間電力供應商中華電力有限公司及香港電燈有限公司於2018年進一步推廣低碳生活方式，推出再生能源上網電價計劃，向本地家庭、私人公司、非政府機構和學校等能源生產者購買再生能源，鼓勵住宅和商業客戶在其建築物安裝太陽能或風能再生能源系統，並連接到電網，藉此賺取補貼。在這方面，怡和機器曾為各種類型的建築物，提供及安裝一系列日常適用的太陽能裝置、風力渦輪機，以及太陽能—風力渦輪機混合裝置，包括為赤鱘角消防局設計、供應和安裝光伏系統，每年減少15,244公斤的碳排放量；以及啟德發展區的工業貿易大樓，為區內首幢政府建築物裝置光伏系統，示範綠色城市及節省能源之理念。



Combat climate change is an ongoing journey that takes collaborative efforts among individuals, corporations, the government to chart the course. With creating a sustainable world in mind, JEC is ready to provide comprehensive solution with its technical expertise as communities take measures in making a better world for generations to come.

應對氣候變化是一個持續的旅程，需要個人、企業、政府和國家協力攜手規劃。為創建可持續發展的世界，怡和機器將繼續積極憑藉其專業技術，提供全方位方案，為下一代締造更美好的居住環境。

JEC Commits BEC Low Carbon Charter 怡和機器簽署商界環保協會低碳約章

Together with 30 leading companies across Hong Kong's property and construction industries, JEC recently signed up Business Environment Council's (BEC) Low Carbon Charter, a call in response to the goals of the United Nations Framework Convention on Climate Change (UNFCCC)'s Paris Agreement. Signatories are required to set decarbonisation targets, implement actions to achieve individual targets, report progress regularly and encourage their peers to join the decarbonisation journey.

Effective since 2016, the Paris Agreement marks the collective efforts from more than 190 countries towards climate mitigation, adaptation and finance. To meet the goals of the Agreement, a 49% to 72% reduction in absolute carbon emissions by 2050 is needed globally. For Hong Kong, decarbonising the property and construction industries is critical towards its low-carbon transition and long-term decarbonisation roadmap, as currently over 90% of electricity consumption and more than 60% of greenhouse gas emissions are attributed to buildings; while construction processes and materials account for 15% to 20% of buildings' lifecycle carbon footprint.

怡和機器與30間香港房地產及建築界領頭公司，早前簽署由商界環保協會發起的低碳約章。該約章為香港首個回應聯合國氣候變化框架公約下的《巴黎協定》而制定的約章，推動企業共同達成應對氣候變化的目標。簽署公司必須採取行動，依循協定的減碳方向，制定及實踐漸進式減碳目標，定期公佈進程，並鼓勵同業攜手響應。



《巴黎協定》於2016年由190多國所訂立，旨在緩減氣候變化的影響、提高適應氣候變化的能力，以及為相關工作提供資金。根據協定，全球需於2050年前，達成減少49%至72%的絕對碳排放量的目標。目前在香港，建築物消耗了約90%總電量，佔超過60%溫室氣體總排放量；而樓宇建造過程及建築材料，亦佔建築物生命週期的15%至20%碳足跡。故此，房地產和建築界別的減碳工作對香港的長遠低碳轉型可謂至關重要。



▲ JEC Executive Director and Chief Operating Officer Penn Yeung (second row, first from left) represented the company to sign the Low Carbon Charter on 19 March. 怡和機器執行董事兼營運總監楊志強（第二排左一）於3月19日代表公司簽署低碳約章。

Provision of E&M System for Sha Tau Kok Temporary Sewage Treatment Plant 沙頭角臨時污水處理廠機電系統工程

JEC Hong Kong secured the contract to design and install E&M systems for the Temporary Sewage Treatment Plant in Sha Tau Kok. This is part of the works for Expansion of Sha Tau Kok Sewage Treatment Works Phase 1.

To tackle the challenges of short construction period and limited site area, the project adopts Moving Bed Biofilm Reactor (MBBR) technology and Modular Integrated Construction (MiC) technology. MBBR is an advanced wastewater treatment technology renowned for its compactness and high treatment efficiency, using specialised plastic carriers to create a surface on which microorganisms treating the wastewater are grown.

Besides, MiC technology is applied during the construction of steel processing tanks in the plant. Integrated modules of steel tank are manufactured in the factory before transporting to construction site for installation, which substantially reduce the adverse impacts of weather conditions, labour resources and site constraints, in turn significantly improve construction efficiency and site safety.

The project has commenced in March this year and is expected to be completed in May 2020. The plant will have a treatment capacity of 2,500 m³/day and will become the largest MBBR plant in Hong Kong upon its completion.

香港怡和機器最近獲得沙頭角臨時污水處理廠的機電系統設計及安裝合約，此項目為現有的沙頭角污水處理廠第一期擴建工程範圍之一。

項目團隊因應施工期短促及工地範圍有限的挑戰，採用了移動床生物膜反應器（MBBR）技術及組裝合成建築法。MBBR是一項先進的污水處理技術，不僅佔用較少空間，也能透過微生物在特殊塑膠填料上附着生長所形成的生物膜，懸浮在反應器的污水中，以更高效率降解污染物。

而組裝合成建築法則用以搭建鋼製的污水處理缸，其組裝合成組件在送抵工地進行裝嵌前，已於廠房完成預製，大大減少天氣狀況、人手安排及場地限制對建築過程可能產生的影響，提升施工效率和工地安全。

項目已於今年3月展開，預計於2020年5月完成。落成後廠房的每日處理量達2,500 立方米，將成為香港最大型的MBBR污水處理設施。



Architectural rendering of Sha Tau Kok STW redevelopment
沙頭角污水處理廠重建設計概念圖



The Unicorn Integrated Development Project 泰國The Unicorn 綜合發展項目

JEC Thailand was awarded contracts for the supply, installation, testing and commissioning of mechanical system, sanitary and fire protection systems for The Unicorn project.

The Unicorn is a 51-storey luxurious mixed-use development located next to BTS Phayathai Station, Bangkok. Occupying a total area of 120,000 sqm, it comprises 5-star hotel, office space, serviced apartments, shopping mall, 900 parking spaces as well as skywalk connecting the BTS station.



The project incorporates green building technology in its design and operation system and targets to achieve Gold rating of Leadership in Energy and Environmental Design (LEED) for Core & Shell. It is expected to be completed in August 2021.

國怡和機器獲得The Unicorn項目合約，負責供應、安裝、測試和調試機械系統及衛生和消防系統。

泰 The Unicorn為豪華綜合發展項目，毗鄰曼谷空鐵路帕亞泰站，佔地120,000平方米，樓高51層，設有五星級酒店、寫字樓、服務式公寓、購物中心、900個車位，以及連接鐵路站的行人天橋。

此項目之設計及營運系統將結合綠色建築科技，以獲取能源與環境設計先鋒評級（LEED）——核心及外殼金級認證為目標。工程預計於2021年8月完成。



Myanmar Asia Royal Hospital Extension Project 緬甸亞洲皇家醫院擴建項目

JEC Myanmar secured contracts to supply, install, test and commission fire protection, air conditioning, ventilation and building management systems for the third extension building of Asia Royal Hospital, one of the best hospitals in Myanmar.

Located at Baho Road, Sanchaung Township of Yangon with a total area of 16,000 sqm, this 11-storey building includes 60 wards, inpatient and outpatient treatment facilities, parking spaces and a penthouse where chillers are installed.

The project is expected to be completed in December this year.

緬 甸怡和機器獲得當地最頂尖醫院之一亞洲皇家醫院之合約，為其第三座大樓擴建工程供應、安裝、測試和調試消防、空調、通風及樓宇管理系統。



擴建大樓位於仰光三橋區Baho路，佔地16,000平方米，樓高11層。項目落成後將設有60間病房、住院及門診治療設備、停車場以及配備製冷機組的閣樓機房。

項目預計於今年12月完成。



Technical Services for Singapore Asia Square 新加坡亞洲廣場技術服務

Located at Marina Bay, CBD of Singapore, Asia Square is a grade A commercial building with tenants mostly from large-scale multinational corporations. As its technical services provider since 2011, JEC Singapore has been providing superior building management services for clients. Being entrusted with whole responsibility for the building services, JEC Singapore has further secured technical services contract for 3 years from 2019 to 2022.

Apart from technical services, JEC Singapore also provides fire safety management services to the owner, advisory services and event support to tenants.

新 加坡怡和機器自2011年起，成為新加坡濱海灣核心商業區的甲級商廈亞洲廣場之樓宇管理服務供應商，為進駐其中的多間大型跨國企業租戶提供優質服務，多年來備受客戶信賴，並於早前獲續簽3年服務合約至2022年。

除技術服務外，新加坡怡和機器也分別為業主及租戶提供消防安全管理和顧問服務，同時為租戶活動提供支援。



Hong Kong Office BIM Corner Launches 香港辦事處建築信息模擬專區啟用

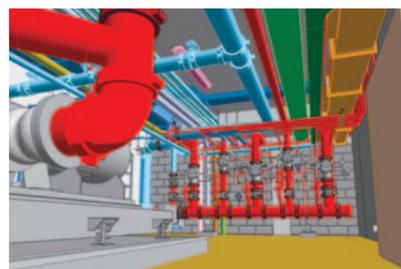
The project teams of JEC has recently welcomed the opening of Building Information Modeling (BIM) Corner at Hong Kong Head Office. With wider adoption of the BIM technology to enhance productivity, built quality, environmental performance and site safety, the Corner centralises BIM resources and fosters sharing of knowledge and experience among different project teams.

The initiative further enables JEC to be well-positioned for the Government's commitment to the adoption of BIM technology in capital works projects. Starting from 2018, capital works projects with project estimates more than HK\$30 million shall use BIM technology, so as to enhance the design, construction, project management, asset management and improving the overall productivity.



怡和機器最近於香港總辦事處成立建築信息模擬 (BIM) 專區。隨着業界廣泛採用此科技，以提高生產力、建造質素、環保效益和改善工地安全，新成立的專區有助整合不同工程團隊的相關資源，同時促進工程人員間交流知識及經驗。

此外，因應政府自2018年起，任何預算超過3,000萬港元的基本工程項目，其設計和建造必須採用BIM技術之政策，BIM專區的成立亦有助怡和機器抓緊發展趨勢，提升設計、建築、項目管理及資產管理，從而提高整體生產力。



Koppers Visits Hong Kong Headquarters and JDI Koppers拜訪香港總辦事處及JDI

The senior executives of Koppers Performance Chemicals, a key business partner of JDI recently paid a visit to their office in The Philippines as well as JEC headquarters in Hong Kong. Koppers has a long-standing relationship with Jardines as the owner of Solignum, a wood preservative brand that JDI has been marketing in The Philippines since 1955.

In Manila, the delegation had meetings with trade partners such as Wilcon Home Depot and Matimco, as well as discussion on the upcoming celebration of 65-year partnership between the two Groups; while in Hong Kong, they met with Chief Executive Kevin O'Brien and shared Koppers' business plan across the Asian region.

怡和機器旗下JDI之主要業務夥伴Koppers Performance Chemicals的管理層早前到訪JDI菲律賓辦事處和集團香港總部。怡和集團早於1955年開始代理Koppers旗下護木品牌Solignum在菲律賓的銷售業務，多年來關係深厚。

訪問團於馬尼拉會見了Wilcon Home Depot及Matimco等業界夥伴，以及商討雙方合作65周年誌慶的籌備工作；其後在香港與行政總裁歐嘉榮會面，分享Koppers於亞洲區的發展計劃。



▲ (From left) Koppers Regional Director Malcolm Farmer, JDI President Edwin Hernandez, Kevin O'Brien, Koppers President Douglas Fenwick & Director of subsidiary Protim Solignum Stuart Jepson.
(左起) Koppers 區域董事Malcolm Farmer、JDI總裁Edwin Hernandez、歐嘉榮、Koppers 總裁Douglas Fenwick及Koppers子公司Protim Solignum董事Stuart Jepson。

JEC Apprentice Joins VTC Exchange Tour 怡和機器學徒參加職訓局交流團

Li Chun Yin, Apprentice from Maintenance and Renovation team of JEC Hong Kong, was selected by VTC for a 7-day exchange tour to Guangzhou along with 19 apprentices from other trades in April.

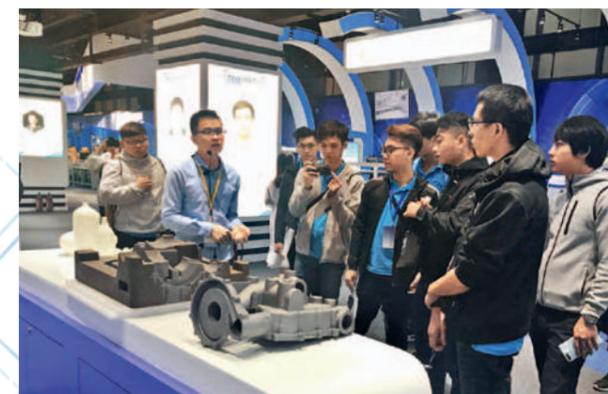
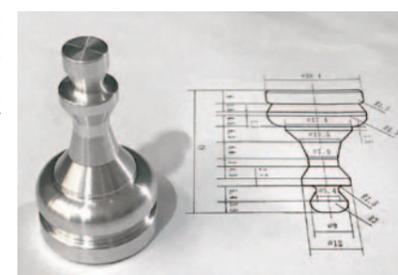
Hosted by Guangzhou Electronical Technician College, the group enjoyed the opportunity to explore latest automotive and electronics & communications technologies in the Greater Bay Area. The apprentices shared their learning experience with their employers and families during a sharing session on 10 June.

香港怡和機器保養及維修部學徒李俊言獲職業訓練局挑選，與其他19名來自不同行業的學徒，於今年4月參加為期7天的廣州交流團。

學徒獲廣州市機電技師學院安排，考察大灣區汽車及電子通訊業的最新科研發展。一眾學徒在6月10日舉行的分享會上，與僱主及家人分享了他們的學習成果。



▲ Apart from visiting digital teaching centre, participants also learned through practices. Li Chun Yi is second from left, upper photo.
交流團參觀數碼教學中心，並親身體驗小配件製作和工廠生產自動化模型等實習活動。上圖左二為李俊言。



▲ The group visited vehicle manufacturer. 交流團參觀汽車製造公司。



▲ The group made 3D printed models at Guangdong Province 3D Printing Technology & Innovation Centre. 交流團在廣東3D打印技術應用創新中心製作3D打印模型。

JEC Environmental, Health and Safety Week 2019

怡和機器2019環保、健康及安全周

The annual Group-wide JEC Environmental, Health and Safety Week (EHS Week) was held during 8 to 12 July across Hong Kong and regional offices. Riding on the theme Innovate for Safety, a series of activities were organised to drive continuous improvement in safety performance and foster a sustainable safety culture through innovation.

集團本年度的環保、健康及安全周以「安全·創新」為主題，於7月8至12日在香港及區域辦事處舉行，透過一系列活動提升安全表現，並鼓勵員工應用創新意念，推動安全文化的持續發展。

Safety Experience Training 安全體驗培訓



Management Workshop 管理層工作坊



Green Workshops 環保工作坊



Management Project Site Visit 管理層工地探訪



Subcontractor Meeting 分判商聚會



Trainings and Talks 培訓及講座





Key to Wellness 員工健康保健之道



People are the most important asset of JEC and it is one of the company's goals to provide them with the best resources. To do so, JEC has recently launched the employee health and wellness programme – Key2Wellness with support from the Jardine Matheson Group.

Designed to help staff leading healthier lives, the Key2Wellness programme provides easy access to a range of resources and activities relating to health in all aspects, including physical, mental health and even financial wellness.

員 工是企業最重要的資產。為此，怡和機器一直致力為員工優化相關資源，最近亦在怡和集團的支持下，推出員工健康及保健計劃——Key2Wellness。

Key2Wellness計劃是為員工建立更健康的生活方式而設，提供一連串涵蓋身體、精神乃至財務健康等息息相關的資源及活動。

One of the initiatives was to provide complimentary health screening for staff. The simple tests and examination provide results on a few key health factors so that alerts can prompt early treatment where necessary. In addition, through compiling the consolidated test results of all participating employees, the company will be able to identify the more common health issues requiring attention, enabling us to better design our health programmes in the future.

Apart from physical fitness, mental health is another focus of the programme. Very often, we are busy watching out for what's just ahead of us that we don't take time to enjoy where we are, causing stress and emotional difficulties at times. A lunch and learn session was held to promote awareness on this topic, during which a clinical psychologist from Kwai Chung Hospital shared tips on how to identify when we need help with our mental health and how to communicate with those who are experiencing emotional difficulties. The awareness will aid early detection of symptoms so that proper assistance can be sought.

What's more, this Key2Wellness programme covers financial wellness. Briefing sessions on Tax Deductible MPF Voluntary Contributions and Voluntary Health Insurance Scheme had been arranged, for staff to better understand the new tax-related initiatives in Hong Kong.

A healthy workforce is critical in delivering quality work to customers, therefore, JEC strives to make a positive impact on the wellness of its employees in broad aspects.

Key2Wellness計劃包括員工免費健康檢查，透過簡單測試與檢查，進行關鍵健康風險評估，提醒員工在有需要時及早接受治療。此外，透過整合員工的檢查結果，有助公司識別出員工較常見而需要關注的健康問題，可更妥善地設計日後的健康計劃。

除身體健康外，精神健康亦是計劃的另一重點。很多時候，我們為眼前的事情而忙碌，甚少享受當下，並日積月累，形成壓力和情緒困擾。有見及此，怡和機器邀請葵涌醫院的臨床心理學家舉辦午餐講座，與員工分享有關方面的知識，包括何時需要尋求支援，以及如何與受情緒困擾的人溝通，以便及早發現症狀，得到最適切的協助。

此外，在財務健康方面，集團安排了有關強積金可扣稅自願性供款及自願醫保計劃的簡介會，讓員工更了解香港最新的稅務措施。

怡和機器相信健康的員工團隊是為客戶提供優質服務之本，並將繼續為員工全方位健康創造正面影響。



JEC 2017 Management Trainee Graduation Ceremony 怡和機器2017年度管理培訓生畢業禮

The 2017 JEC Management Trainees have recently completed their 2-year training programme. To commemorate the occasion, a graduation ceremony was held for the 8 graduates on 1 August with the presence of senior management, their engineering supervisors and tutors. The graduates shared their exposures in project management with different project teams as well as company events, reflecting on the invaluable lessons they have learned throughout the journey to becoming an all-rounded professional engineer.

怡和機器於8月1日為2017年度管理培訓生舉行畢業典禮，紀念他們完成為期兩年的培訓計劃。8名畢業生在管理層、培訓生工程主管和導師的見證下，分享見習期間參與不同業務部門的項目管理，以至參加各類型公司活動之所見所聞和寶貴經驗，向成為全面而專業的工程師繼續邁進。



▲ Electrical & Mechanical Contracting
機電合約工程部



▲ Building Equipment & Products
屋宇設備及產品部



▲ Maintenance & Renovation
保養及維修部

JEC Scholarships & Certificates of Completion of Apprenticeship Presentation Ceremony 怡和機器學徒獎學金暨學徒畢業證書頒發典禮



JEC held the Scholarships & Certificates of Completion of Apprenticeship presentation ceremony on 14 June. This year, 8 apprentices received Certificate of Completion of Apprenticeship issued by the Office of the Director of Apprenticeship. A total of 6 apprentices were also awarded with a 12-month JEC Scholarship and Outstanding Performance Award. During the ceremony, Cheung Chi Wing (right photo), representative of the graduate apprentice thanked JEC for the opportunity and shared about his career aspiration, encouraging his fellows to have a 'pay more, gain more' mindset as they develop their careers.

怡和機器的學徒獎學金暨學徒畢業證書頒發典禮於6月14日圓滿舉行，向本年度8位畢業生頒發由學徒事務署發出的畢業證書。此外，6位學徒亦分別獲得為期12個月的獎學金及傑出表現獎。畢業學徒代表張志榮（右圖）於典禮上感謝公司的栽培，並分享他的工作動力，勉勵學員「多一分付出，多一分收穫」。



JEC Caring Team Explores SuperPark with Children

怡和機器愛心大使與兒童體驗SuperPark

On 27 July, JEC's Caring Team brought an extraordinary summer activity to 28 children from the Hong Kong Children and Youth Services. The children were accompanied by 5 volunteers to challenge the new indoor activity park SuperPark. The group tried different amusement facilities such as pedal car, kid's freestyle trampoline, ninja track and super hoop, filling the place with joy and laughter.

7月27日，怡和機器愛心大使為28位香港青少年服務處的小朋友帶來不一樣的暑期活動。小朋友們在5位義工的帶領下，前往室內活動樂園SuperPark體驗各項遊樂設施，包括迷你賽車、兒童彈床樂園、忍者障礙陣和投籃挑戰站等。現場歡笑聲不斷，一眾大小朋友玩得樂也融融。



Volunteer Service for Green Delight in Estates

綠樂無窮在屋邨義工活動

JEC Caring Team volunteered in the Green Living Fun Day of Green Delight in Estates on 25 May in Sha Kok Estate, Shatin. The Fun Day featured a range of activities including green workshops, game stalls and talks on waste reduction. JEC volunteers helped with the Green Living Barter for people to share their surplus with others.

Green Delight in Estates is a long-term community environmental programme hosted by The Hong Kong Housing Authority since 2005. This programme aims to raise the environmental awareness and instil a culture of protecting and improving the environment among residents in public housing estates in Hong Kong.



5月25日，怡和機器愛心大使前往沙田沙角邨，參與綠樂無窮在屋邨綠活同樂日。當日活動非常豐富，包括環保工作坊、攤位遊戲及減廢講座。怡和機器義工們主力負責以物易物墟，協助居民交換家中的閒置用品，實踐物盡其用。

綠樂無窮在屋邨是香港房屋委員會自2005年起開展的持續社區環保教育計劃，旨在提升全港公共屋邨居民的環保意識和培育保護環境的文化。

JEC Thailand Gives Back to the Community 泰國怡和機器樂贈社群

Blood Donation Campaign 捐血活動

JEC Thailand and Thai Red Cross Society co-organised a public blood donation activity on 10 May, more than 90 staff members and the public answered the call.

泰國辦事處與紅十字會於5月10日合辦公眾捐血活動，獲超過90名泰國員工及公眾支持參與。



Goods Donation 物資捐贈計劃

A goods donation project was launched in early 2019 to help people in need with Huai Sing Temple in Mae Hong Son Province, Thailand being selected as the first beneficiary. Continued efforts will be made through quarterly donations to different places across the country.

泰國怡和機器於2019年初發起物資捐贈計劃，透過每季收集及捐贈物資到不同地方，讓有需要人士受惠。第一批物資已捐贈予位於滄宏順府的Huai Sing寺廟。



The Jardine Engineering Corporation, Limited

Hong Kong Headquarters

5/F, Tower A, Manulife Financial Centre, 223-231 Wai Yip Street,
Kwun Tong, Kowloon, Hong Kong
Tel 852 2807 1717 | Fax 852 2887 9090
Email jec@jec.com | www.jec.com

Mainland China

Room 2513-2514 Shenhua Commercial Building, No. 2018 Jiabin Road, Shenzhen 518005, PRC
Tel 86 755 8238 3928 | Fax 86 755 8238 3938 | Email jecchina@jec.com

Macau

Alameda Dr. Carlos D'Assumpcao, No. 180, Edf. Tong Nam Ah Centre Com 18/U-V, Macau
Tel 853 2825 3077 | Fax 853 2825 3076 | Email jecmacau@jec.com

Myanmar

Building (A), Room (A-203), 2/F, Malikha Condo Thingangyun TSP,
Yangon, The Republic of the Union of Myanmar
Tel 95 9 761496198 | Email jecmyanmar@jec.com

The Philippines

G/F Jardine Building, 2901, JM Compound, Faraday Street Corner,
Osmeña Highway, 1234 Makati City, The Philippines
Tel 632 843 6020 | Fax 632 844 2235 | Email jecphilippines@jec.com

Singapore

96 Mandai Estate, Singapore 729927
Tel 65 6362 0660 | Fax 65 6362 0770 | Email jecsingapore@jec.com

Thailand

SPE Tower 16th-17th Floor, 252 Phaholyothin Road, Samseannai, Phayathai, Bangkok 10400
Tel 66 2 079 5999 | Fax 66 2 615 2991-4 | Email jecthailand@jec.com

THE JARDINE ENGINEERING CORPORATION, LIMITED