



WASTELINE : Winter 2018

The Newsletter of the Hong Kong Waste Management Association
Web Site: www.hongkongwma.org.hk

Focus

Opinion

News

Conference

YMC

Learning

Events

Message from the Editor:
This Newsletter requires your participation. We would like to hear your experiences in implementing good waste management practices in Hong Kong or overseas. If you have an interesting story to tell, please write to me at david.pegg@arup.com

Learning: South Korea Study Tour



Event: HKWMA Spring Cocktail Reception



Website Enhancement and New Look for Website



Opinion Typhoon Mangkhut



Waste Impacts from Typhoon Mangkhut

The waste impacts of Typhoon Mangkhut are still visible many months after the City emerged from one of the most severe and strongest typhoons to strike Hong Kong in a decade.

The typhoon has highlighted that severe weather events can cause significant waste impacts and require authorities to have contingency plans in place to deal with the resulting waste in a responsible and sustainable manner. Whilst the City has improved its resilience against such weather impacts for our transport, power and water supply systems our waste management systems and preparedness remains reactive.

Beaches cross Hong Kong have been deluged with ocean borne waste washed up on our shores that mostly comprised of plastic and other marine litter. Whilst there is no recycling value in this plastic. The Typhoon has provided the visible evidence of hidden waste in our oceans and the unsustainable nature of single use plastic and the environmental damage ocean waste causes. Extensive beach cleanups have resulted by volunteer and governmental organisations but at present the only outlet for this waste is our landfills.

The other visible impact from Typhoon Mangkhut was the large number of trees toppled or needing felling to render them safe. Whilst much of this waste has been displaced in-situ to degrade naturally a significant proportion has unnecessarily been diverted to our landfills due to a lack of alternate uses or outlets for material that has inherent value. The processing of this waste creates significant problems for our current waste collection system since it is bulky and can easily damage or block equipment at transfer stations and puts undue stress on the existing transfer station and landfill network.

In the aftermath of Mangkhut the IWMF would have been the ideal facility to enable energy to be generate from this waste but this facility is still many years away from completion and highlights the need for the city to develop a broad mix of wasting handle and treatment solutions to deal with waste impacts of extreme weather events to reduce the cities reliance on landfill.



Waste Debris Post Typhoon Mangkhut



HKWMA Spring Cocktail Reception, 30 June 2018

The Hong Kong Waste Management Association held its Annual Spring Cocktail Reception at the Hong Kong Club on 30 June 2018 with attendance of more than 100 members and guests whom have interest and support towards the Waste Management Industry in Hong Kong.

The Spring Cocktail provided an opportunity for members to gather and discuss matters influencing the Hong Kong waste management industry as well as looking ahead as to how members can support new waste management initiatives for the benefit of Hong Kong.

In keeping with tradition our keynote speaker, Mr Tobias Huinink representing Alba IWS Ltd who have recently commissioned and commenced operation of the first Waste Electronic and Electrical Equipment Treatment Facility (WEEETRF) in Hong Kong, delivered a presentation on “E-Waste – the global problem – the Hong Kong Solution and Beyond” and specifically how Alba was approaching this challenge to actively engage with closed loop recycling.

The presentation highlighted how closed loop recycling systems created new opportunities to save primary resources and reduce total carbon emissions. The speaker reflected on how policies such as the China National Sword generated not only threat but opportunities for those that embraced the strategy to recover as much as possible and to utilize residue as refuse derived fuel to minimize the impact to landfill. The speaker indicated that this had been one of Alba’s core strategies when tendering for the WEEETRF given Hong Kong having one of the highest rates globally per capita for disposal of WEEE at 21.7kg/capita that annualizes at 70,000 tonnes per year.

The WEEETRF is special in that it is a holistic system that links collection, treatment and end markets. The facility has a sophisticated IT system that enabling tracking of materials throughout the product lifecycle. The plant is licensed to treated regulated materials and has an operating capacity of 30,000tpa that could be increased to 57,000tpa by extending shifts and operating hours and is supported by five regional collection centres.



Members and guests enjoying the chairman’s report and reception



HKWMA Spring Cocktail Reception, 30 June 2018

The design of the facility has carefully assessed the target materials to be recovered relative to the effort to remove target materials and ensuring that any toxic substances that are common with WEEE are not liberated into the environment. Material such as circuit boards are recovered and sent to secondary traders for processors using specialist techniques. On site treatment is conducted through four treatment lines

- TV and Computer Screen processing line
- E-Scrap processing line
- Air conditioner processing line
- Refrigerator and Freezer processing line

The facility also allows for repair and refurbishment with products subsequently donated to community outreach organisations.

The speaker encouraged the audience to utilise the collection service at the hotline number of 2676 8888 for responsible disposal of e-waste since the infrastructure was now in place to support behavioural change. The speaker highlighted that e-waste was an ethical challenge that all countries needed to tackle by taking responsibility for their own waste and many opportunities remained in Hong Kong to recover other waste streams to achieve a closed loop economy and to do more with its waste that dispose to landfill.



Executive Committee Members with Guest of Honor enjoying the reception

Hong Kong's First Integrated E-waste Transformational Facility





Hong Kong Green Industry Annual Reception

9 May 2018

The Annual Reception was an annual event with an aim to gather environmental professionals and stakeholders. It was organized by the Hong Kong Green Strategy Alliance (HKGSA), Hong Kong Environmental Industry Association (HKEnvIA) & Hong Kong Bio- & Eco-Energy Industry Association (HKBEE); coorganized by the Hong Kong Productivity Council (HKPC); and with the Hong Kong Institution of Engineers – Environmental Division, Hong Kong Waste Management Association & Hong Kong Association of Energy Services Companies as supporting organizations.

The reception was held on 29 May 2018, with the attendance of over 150 guests. The Secretary for the Environment, Mr KS Wong was the Guest of Honour, and many high ranking government officials also attended, including 1 permanent secretary, 2 undersecretaries, and 6 government directors. During the address by Secretary KS Wong, he took a very innovative approach by asking all the attended permanent secretary, undersecretaries, and government directors to come on stage to share their views on green innovation, integration and collaboration. That was really an evening with a lot of government's new initiatives as well as enjoyable moments in a most friendly environment.



Group Photo with Organizers and Invited Guests
GoH Mr KS Wong (8th from left, 1st row), Organizers heads Dr WK Lo of HKGSA (9th from left, 1st row), Prof Daniel Cheng of HKEnvIA (7th from left, 1st row), Prof Stephen Lee of HKBEE (8th from left, 2nd row) & Mr Mohamed Butt of HKPC (10th from left, 2nd row)
Young Members Committee



Sino-German Forum: Exploring Solutions in Urban Waste Management

On 6th June 2018, the Sino-German Dialogue Forum on Environment and Climate Change: Exploring Solutions in Urban Solid Waste Management was organized by the German Federal Ministry of Economic Cooperation and Development (BMZ) and the Chinese Ministry of Finance (MoF), Beijing. The Forum was dedicated to the topic of urban solid waste management and related themes such as Circular Economy, the 3R principle (Reduce, Reuse, and Recycle) and Public-Private Partnerships (PPPs).

The forum provided an opportunity for around 250 distinguished participants comprising policymakers, researchers and experts from the finance and business communities to engage in discussion to explore current and emerging policies, financing options, private sector opportunities as well as innovative technology solutions to face the challenges of urban waste management. The conference was opened by five high-level speakers representing the Chinese and German governments with all speakers emphasizing the importance of urban solid waste management to fight climate change and promote environmental protection and good governance. For the People's Republic of China, the pursuit of an "Ecological Civilization" – a vision laid out by the Chinese leadership – is at the heart of its transition towards a more sustainable development model. Bilateral and multilateral agreements play a crucial role in achieving this vision

In China, EPR schemes are receiving increasing attention and are being gradually rolled out in various regions of the country, including Hong Kong. In response, the city has developed a Blueprint for Sustainable Use of Resources, which sets an ambitious MSW reduction target of 0.8 kg per capita per day by 2022 with EPR schemes playing a vital role in achieving these targets and being applied to plastic shopping bags, electronic waste and glass beverage containers, among other products.

The panel discussions agreed that charges raised through EPR systems are comparatively low considering the immediate effects on the environment. Yet in order to achieve tangible results, government also needs to involve the public and implement large-scale awareness-raising measures. Furthermore, the importance "design for recycling" can foster the creation of closed-loop systems. However, central challenges in the transition towards a circular economy via private sector engagement are the creation of functioning markets for recycled products and reforms in the financing and taxation system to encourage the use of resource-efficient products. Overall, the panelists agreed that both raising awareness about the use of recycled products and components and effective marketing are crucial to fostering their widespread adoption across international markets. The panelists underscored the need to set framework conditions that promote optimal resource allocation throughout the entire lifecycle of waste management facilities.



HKWMA Chairman, Jude Chow, Delivering Presentation on the Role of Private Sector Participation in Solid Waste Management



South Korea Study Tour

12-15 June 2018

A debriefing session for the South Korea Study Trip that was organized from 12th to 15th June 2018 was held on 17 July 2018 at the HKIE Headquarters Conference Room. Four professional speakers from different fields were invited to share their findings from this meaningful trip. The one and a half-hour seminar was well attended by 70 members from the HKIE and HKWMA, as well as other specialists in environmental engineering industry.

Mr. Jude Chow, the Chairman of Hong Kong Waste Management Association, began the seminar by providing a general introduction to the trip. It was mentioned that it was an extremely busy four-day mission, with visits to different waste treatment facilities in South Korea, including Sudokwon Landfill, waste recycling facility, an automated refuse collection site, and a waste sorting facility applying a Radio Frequency Identification (RFID) smart bin system. Meetings with government of South Korea and local specialists were also arranged to discuss policies and share ideas on waste management. A Memorandum of Understanding (MOU) was signed with Sukodwon Landfill Site Management Corporation (SLC) as a means to strengthen the relationship of HKWMA with other counterparts in the Asia Pacific region. Although the schedule was tight, the trip allowed the participants to gain a more thorough understanding on waste management in South Korea, and this could serve as a good sample for the development of waste management strategies for Hong Kong since the two cities are similar.

Ir Harold Insley followed up with a talk that focused on waste recycling and charging in South Korea. Started with the history and background, Ir Insley mentioned that the implementation of waste recycling and charging measures in South Korea was long and full of obstacles. The government spent more than 20 years to build up the waste recycling culture in the society. They had to continuously improve and test new approaches to cope with the failures. Finally, an advance waste collection system based on the charging scheme was successfully launched to the public, which resulted in improving waste recycling and decreasing Municipal Solid Waste (MSW) generation. Ir Insley concluded that Hong Kong had fallen behind on the development on waste recycling and charging, and that a similar measure should be implemented quickly to reduce the ever-increasing waste generation in Hong Kong.



Delegation Members Group Photo



Signing of Cooperation Agreement



South Korea Study Tour Cont'd

12-15 June 2018

Ir Rex Lai then shared his findings for the visit to Sudokwon Landfill Site. He provided a description of Sudokwon Landfill Site by introducing the facilities, its design and the process of landfilling. In this visit, participants were impressed by the Waste to Energy Town, a facility now in operation to convert waste into Solid Refuse Fuel (SRF). More energy generation project would be carried out in this facility to make good use of the waste in the landfill. Apart from the Energy Town, the innovative Dream Park concept for the future development of Sudokwon Landfill was also introduced.

Ir Dr Anthony Ma, as the last speaker of the evening, discussed food waste management in South Korea. He introduced in details of the food waste treatment policy in South Korea, RFID system for food waste collecting and weighing, the automatic food waste collection system, and the food waste treatment facility. Dr. Ma also mentioned that his current research is also on food waste treatment, and this could be adopted as one of the approaches in the Hong Kong market.

The night ended with participants of the seminar asking the speakers many meaningful questions related to the study mission, and how some of the solutions could be applied to Hong Kong.



Delegation Members Reporting Study Tour Findings at HKIE



ASCE Conference on Green Material Resources

26 June 2018

HKWMA was one of the supporting organizations of the “Green Material Resources for Sustainable Construction Industry” Symposium held on 26 June 2018 at the Hong Kong Polytechnic University. This one-day symposium was co-organized by American Society of Civil Engineers (ASCE) - Hong Kong Chapter, the Hong Kong Polytechnic University, and the University of Hong Kong. This event provided an effective platform for industry professionals and academic researchers to share knowledge and experience in green construction materials and their applications.

There were eight speakers that contributed to this symposium, and they covered speaker backgrounds in academia, governmental departments, and engineering companies. Professor Kaimin SHIH at the University of Hong Kong is currently the Vice-Chairperson of HKWMA and was one of the speakers in this symposium. He emphasized the importance of characterizing mineral phases for producing safe and reliable green construction materials derived from waste. Mr. David PEGG at Ove Arup & Partners Hong Kong Ltd. is currently a member of HKWMA’s [Executive Committee](#) and is also a speaker in this symposium. In his talk, he provided successful examples of how to beneficially use organic waste materials to construct a more sustainable bio-loop in an urban environment.

The other speakers included Professor C. S. POON and Dr. Zhen LENG at the Hong Kong Polytechnic University, Professor Christopher LEUNG at Hong Kong University of Science and Technology, Ir. Peter MOK from Fill Management Division of Civil Engineering and Development Department, Dr. Ivan SHAM from Nano & Advanced Materials Institute, and Mr. Dixon CHAN from Tiostone Environmental Ltd. They shared a wide range of interesting examples such as eco-friendly paving blocks, challenges for managing a huge volume of inert construction waste, the use of recycled PET fibers as a low-cost and green constituent for waterproofing cementitious composites, and the application of wall blocks, repaired mortar, and recycled aggregates for the construction industry. Each talk was followed by a Q&A section to interact with the audiences fully.



Presentation of Urban Bio-Loop Concepts



WEEE Park Site Visit

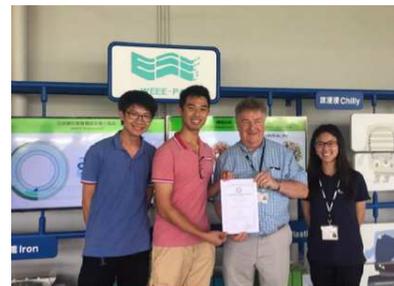
14 July 2018

The YMC organized a technical visit to the WEEE Park on 14 July 2018.

There are about 70,000 tonnes of waste from electrical and electronic equipment (WEEE) generated in Hong Kong annually and most of reusable materials are exported. To promote sustainable use of resources, the Government implemented producer responsibility scheme, and WEEE PARK is an essential infrastructure to support the scheme.

WEEE PARK is the first Waste Electrical and Electronic Equipment Treatment and Recycling Facility in Hong Kong. WEEE PARK provides e-waste collection application to public and a large collection network such as Regional Collection Centers and Collection Satellites support its collection service. The electrical devices in good condition would be sent to a refurbishment workshop to repair into refurbished devices for donation to families in need. Otherwise, the e-waste would send to different treatment processes line, refrigerator processing, air-conditioner processing, dismantling and material sorting, CRT and flat screen detoxification. The e-waste would be dismantled different parts for recycling, and become reusable materials. The detoxification process would extract the hazardous components and sent separately for proper treatment.

On the day of visit, HKWMA members were given a presentation of introduction and facility design in visitor center by general manger. Then members visit the exhibition area and the facility; refurbishment workshop, massive e-waste storage and treatment process line. All participants had a great visit at WEEE PARK.



Young Members Committee with representatives of ALBA IWS Ltd



Group Photo of Young Members Committee at WEEE Park Visitor Centre



Pyrolysis Forum 8 August 2018



Pyrolysis Forum

Kevin Hull, Director of Magnum Group International Inc., Canada, presented their patent-pending thermolysis technology which includes a combination of steam, direct heat, indirect heat, and fast pyrolysis treatment. It was mentioned that the application of this technology ensures a complete penetration of the feedstock, decomposition and separation into recoverable components, mainly synthetic gas, oil and carbon by the application of a unique condensing system.

Thermolysis takes place when a carbon-based substance is subjected to a very high temperature in the absence of oxygen. Without the oxygen, combustion cannot take place and instead the substance is broken down into its constituent elements: gas, oil and carbon. It was described that the system could take agriculture waste, waste tires, sewage sludge, wood, plastics as waste input, and utilizing their advance thermolysis process, waste could be converted into bio-oil, bio-char, synthetic gas, carbon black, and activated carbon of high quality. Mr. Hull also explained that their system has the following characteristics:

- This system is pressure neutral. This lends itself to a much safer operation than high pressure or high vacuum operation.
- The system uses steam injection which more effectively permeates the biomass and helps keep the system from being shut down due to fouling.
- This operation is not batch but a continuous process. In the gasification world it is always better to be able to continue the process repeatedly to insure or even improve results.

Different payback scenarios and financial calculations were shown from using different feedstocks and Mr. Hull indicated that no matter the type of wastes to be treated, all pointed towards a positive net income, and the technology could be used as a means to combat climate change.

The night ended with participants passionately discussing with the speaker regarding the application of the thermolysis process, and the output that could be generated from the system. The seminar was well attended by 80 participants.



In the News

Food Smart Partnership Programme

Hong Kong is well known as a food paradise but we are facing an imminent waste problem with more than 3,600 tonnes of food waste being disposed of at landfills every day. From this quantity of food waste approximately 1,280 tonnes is generated from commercial and industrial (C&I) sources such as restaurants, central kitchens, food production and processing and hotels.

The HKWMA has actively supported the Food Smart Partnership Programme (FSPP) that aims to create a common platform for all types of F&B services and its stakeholders (including hotels, property managements, governments, non-government organizations, education institutes, C&I associations, recycling industries etc.), to solve problems together through experience sharing, joint actions, promotions and collaborative development. FSPP will provide support to the F&B industry with guides and resources, including but not limited to, food waste prevention, surplus food donation, food waste separation, collection & recycling, as well as showcase of innovative technologies and practices on food waste avoidance, separation, collection and recycling. FSPP also educates staff and customers to encourage behavioural changes and to promote the green image and enhance competitiveness of the F&B trade. On 24 August 2018 the Secretary for Environment facilitated a ceremony for the FSPP that was jointly organised by the Hong Kong Productivity Council, the Association for Hong Kong Catering Services Management Ltd, Association of Restaurant Managers, Chamber of Food & Beverage Industry of Hong Kong, Estates' Restaurants (Hong Kong) Merchant Association, Hong Kong Federation of Restaurants & Related Trades and The Association for Institution of Dining Art are jointly organizing a “Food Smart Partnership Programme” (FSPP).

New Look HKWMA Website

The HKWMA have launched a new website and social media page. Please browse and explore our new site.

Social Media



<http://www.hongkongwma.org/hk/>



<https://www.linkedin.com/company/hkwma>



HONG KONG
WASTE MANAGEMENT ASSOCIATION
香港廢物管理學會





In the News

Producer Responsibility Scheme on Waste Electrical and Electronic Equipment (WPRS)

About 70,000 tonnes of waste electrical and electronic equipment ("WEEE") are generated in Hong Kong annually, most of which are exported to other places for reuse or recovery of valuable materials.

The WPRS is set to be fully implemented in 2018. Starting from 1 August 2018, suppliers of air-conditioners, refrigerators, washing machines, televisions, computers, printers, scanners and monitors (collectively referred to as regulated electrical equipment, or "REE") must have been registered the EPD before distributing REE. Registered suppliers must also fulfill other statutory obligations, including the submission of returns to EPD and payment of recycling levies, as well as providing recycling labels when distributing REE. At the same time, a seller must have a removal service plan endorsed by EPD for selling REE. When a seller sells REE and if requested by the consumer, the seller should arrange for the consumer a free removal service to dispose of the same class of equipment abandoned by the consumer in accordance with the endorsed plan. The seller must also provide recycling labels to consumers purchasing REE, and a receipt containing the prescribed wording on the recycling levies. Besides, the disposal licensing control, import and export permit control and landfill disposal ban in respect of abandoned REE will commence on 31 December 2018. By then, any person who is engaged in the storage, treatment, reprocessing or recycling of abandoned REE must obtain a

waste disposal license; a permit will be required for the import and export of abandoned REE; and abandoned REE will no longer be accepted for disposal at the landfills and other designated waste disposal facilities (e.g. refuse transfer stations).

The Waste Electrical and Electronic Equipment Treatment and Recycling Facility (WEEE-PARK), which was developed to underpin the WPRS, has commenced full operation in March 2018. WEEE-PARK has adopted advanced technologies and equipment for treating WEEE and turning the waste into reusable materials such as plastics and metals through a series of detoxification, dismantling and recycling processes.

For details of the WPRS, please visit weee.gov.hk.





Events for your Diary

Recently Completed Events

| | | |
|---------------------|--|--|
| 6 Jun 2018 | Sino-German Dialogue Forum on Environment and Climate Change: "Exploring Solutions in Urban Solid Waste Management" | KfW ,Chinese Ministry of Finance |
| 6 Jun 2018 | BOCHK Corporate Environmental Leadership Awards 2018 | Bank of China (Hong Kong), Federation of Hong Kong Industries (FHKI) |
| 23 May 2018 | BEC EnviroSeries Conference "The Greater Bay Area – Leveraging Opportunities for Hong Kong in the Transition towards Sustainability" | Business Environment Council Limited |
| 5 May 2018 | How does our Environmental Industry seize the Opportunities brought by the Belt-and Road and the Guangdong-Hong Kong-Macao Bay Area | Hong Kong Green Strategie Alliance (HKGSA) |
| 29 Apr-6 May 2018 | Technical Mission to Toronto and Vancouver, Canada | Chartered Institution of Water and Environmental management (CIWEM HK) |
| 27 Apr 2018 | Developing Intelligent Resource Preservation Strategies for Hong Kong - Challenges for Innovation and Sustainability | HKIE Environmental Division  |
| 16 Apr- 11 Jun 2018 | 2018 Hong Kong Awards for Environmental Excellence | Hong Kong Green Building Council, the Hong Kong Awards for Environmental Excellence (HKAEE) |
| 26 Mar 2018 | BEAM Plus New Buildings Training and Examination Program | BEAM Society Limited  |
| 24 Feb 2018 | Joint Soccer Competition | HKIE Environmental Division, Asian Institute of Intelligent Buildings; sponsored by Jardine Engineering Corporation (JEC), CLP and Socam Development |
| 17-19 Dec 2018 | 3rd International Conference on Biological Waste as Resource 2018 (BWR2018) | Education University of Hong Kong  |
| 5-7 Nov 2018 | 16th World Conference of Associated research Centers for the Urban Underground Space" (ACUUS 2018) | HKIE Geotechnical Division, the Hong Kong Geotechnical Society (HKGES) and the Associated Research Centers for the Urban Underground Space (ACUUS) |

Forthcoming Events

| Date | Event | Organisation |
|-------------|---|-----------------------------|
| 30 Apr 2019 | Environmental Innovation, Opportunities and Challenges in Hong Kong | HKIE Environmental Division |
| | | |

HKWMA Gives Its Opinion

HKWMA submitted written comments to Legco on the Waste Disposal (Charging for Municipal Solid Waste) (Amendment) Bill 2018

Soccer Competition, February 2018

Members of the HKWMA participated in an inter divisional football competition.

