



WASTELINE : Edition 1/2023

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

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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

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Small Scale Recycling “Challenges and Opportunities” – The Case of MilMill

We have previously featured the Mil Mill recycling plant in previous editions of Wasteline (Sep 2020) when the facility opened at the Yuen Long Industrial Estate in 2019.

The facility is the only beverage carton pulping facility in Hong Kong and was partially funded by the Recycling Fund and the paper recycling company SSID. The facility has a capacity to process 50tpd for of beverage cartons into paper pulp that is used for production of tissue products and embraces circular economy principles and visitor engagement to promote transparency of the recycling process.

Mil Mill has continued operation since 2019 and has increased from an initial 10tpd capacity to its current 50tpd capacity. Mil Mill has recently featured in the news with respect it lease arrangements and whilst these are matters between the respective parties. The case highlights the challenges faced by small scale recyclers and the sustainability of a locally based recycling industry.

Availability of reasonably priced land with sufficient tenure for operation are often essential factors for small scale recyclers to sustain profitable operation and pay-back on investment for equipment/technology.

Whilst the Recycling Fund is actively promoting investment in the local recycling industry, the Mil Mill Case has highlighted the continued policy support required to the local recycling industry, especially with the provision of land, as well as how funding is to be allocated, especially if Government develop corresponding facilities of larger scale that become direct competitors.

Scarcity of land is a recognised issue across Hong Kong, and whilst housing remains the focus of attention, the provision of new housing brings new sources of waste generation. To ensure goals of zero landfill and enhanced effectiveness of our local recycling industry, the provision of land (beyond that available at Eco-Park) is essential to secure continuity of recycling operators, especially those that can demonstrate a proven legacy of operation.

HKWMA is of the opinion that until Hong Kong has an established and sustainable recycling industry the need for governmental support and intervention will be necessary. There a few local recycling operators and those that remain in operation need to be supported to succeed.





Styro-Foam Recycling

Styro-Foam has been used extensively in the industrial, commercial and food sectors throughout Hong Kong. Significant quantities are disposed each year to landfill or end as litter or marine pollution. Whilst not being heavy in weight they are bulky in volume, resulting in poor logistical and recycling efficiency, and do not degrade readily. The lightness of the product can sometimes break into tiny bits, and easily turn into an abundance of pollution in our environment from litter that is picked up by the wind that pollutes land and water making it easy for wildlife to ingest as they mistake it for bits of food.

Whilst efforts are typically made to re-use the larger styro-foam boxes, especially if un-contaminated, the majority of the estimated annual 26,600 tonnes of styro-foam waste is disposed to landfill.

Food vendors have increasingly moved away from styro-foam lunch boxes in favour of other biodegradable alternatives or bring you own lunch box schemes. Nonetheless, since the onset of Covid the volume of styro-foam boxes seen on Hong Kong streets has increased with vegetables and fresh food deliveries to Hong Kong's fresh food markets using these boxes for improved hygiene purposes.

In recent years a number of small scale recyclers have emerged, with the aim to shred or recycle the styro-foam to plastic pellets that can be exported for use in other manufacturing processes.

The recycling process typically comprises cleaning and removal of contaminants such as tape before being shredding and melting into a paste then turned into pellets. Merging chemical level reprocesses are emerging that would be bale to deal with contaminants.

Given the difficulties associated with recycling styro-foam. The HKWMA is supportive of strategies that limit single use materials, adopt product responsibility or utilise methods that encourage re-use or biodegradable alternatives





Rethink Hong Kong 2022-Waste

6 October 2022

The Rethink HK 2022 was held on 5th and 6th October 2022 at the Hong Kong Convention and Exhibition Centre. Despite the COVID-19 pandemic was not yet over and with increasing number of cases, a total of over 4,700 attendees participated the event and over 1200 organizations represented. It was the Hong Kong's best attended and most ambitious business event for sustainable development. The event was well-planned and organized. Combining forum and expo in one place, with various workshops and presentations from industry leaders, the event provided attendees a comprehensive experience in learning from speakers as well as the showcases from exhibition booths.

The Hong Kong Waste Management Association has taken an unprecedented role this year as it was invited to co-organise the afternoon session on the 2nd day. Five of the Executive Committee (ExCo) members including our Chairman Ir Norman Cheng attended as the speakers of the session. Over 100 attendees joined in person, and in fact that was a good sign for the waste industry as more people care about it. Norman gave a warm opening welcome speech introducing the idea of rethinking waste to be resources; Our past chairman Mr. Victor Li facilitated the panel discussions after on topics on circularity and resource management; ExCo member Mr. Nigel Mattravers shared experience and thoughts on the MRF and SMRF and other necessary infrastructure for recreating valuable resources; and former chairman Mr. Frank Wan our former chairman facilitated another panel discussion related to city's carbon ambitions to net zero. Prof. Dan Tsang ended the session with closing remark highlighting the aspiration to develop the future with resource circulation and long term decarbonization.

As the event was fruitful and with lots of good feedback, HKWMA considered there will be positive impact to the association on its participation and therefore accepted the invitation to be co-organiser again for next year. See you in ReThink HK 2023!





29th Annual General Meeting

26 September 2022

The **29th Annual General Meeting** (AGM) was conducted in-person on 26 September 2022 at the United Services Recreation Club. This was the first face to face event hosted by HKWMA since pre-covid and there was a significant turn out with over 60 members attending in person to enjoy re-connecting with friends and business partners.

The Chairman, Norman Cheng, commenced the meeting by welcoming the guest of honour Mr Tse Chin-Wan, Secretary of Environment and Ecology. Formal proceeding commenced with approval of the previous AGM minutes and a summary of events conducted by HKWMA during the last year. HKWMA had conducted online seminars on MSW Charging, Circular Economy and Net Zero as well as showcased new recycling technologies such as Breer that convert food waste to craft beer. The YMC successfully arranged site visits to New Life Plastics at Eco-Park and Y-Park.

HKWMA remained active influencing waste issues locally and provided opinion papers of Single Use Plastics and Use of Street-side Three Colour Bins.

The Chairman was optimistic that more activities could be possible in the year ahead and encouraged members to engage with **Re-Think 2022** which the HKWMA was co-organising the waste sessions.

The Chairman reported a slight decrease in membership to 245 members, although indicated he was targeting more student membership in the year ahead and would spearhead career seminars and mentorship programmes to attract young talent to join the HKWMA.

The Chairman reported a deficit in finances due to waiving of the annual membership fee and limited income due to covid restrictions. Nonetheless, the overall balance remained healthy and members approved the financial report.

In accordance with the HKWMA Charter, Exco members standing down this session comprised Rex Lai, Kenny Wong, Gary Barnicott and Kenny Lok. The Chairman expressed his appreciation for their service and requested members to show support for those members standing for election and/or re-election. Gary Barnicott, Kitty Lee, Kenny Lok and Kenny Wong being duly elected as HKWMA ExCo members.





29th Annual General Meeting Cont'd

26 September 2022

After the formal proceedings, The Chairman invited the guest of honour Mr Tse Chin-Wan, Secretary of Environment and Ecology to deliver his key address to members. The address focused on the government's ongoing commitments to environmental governance as well as their aspiration to strive for carbon neutrality by 2050, with an interim target of 50% reduction in carbon emissions by 2035.

The secretary outlined existing and proposed strategies that were actively being pursued by Government as well as the progress made to date and made specific reference to the highlights below:

- Landfill currently contributes to 8% of carbon emissions and the Waste Blueprint for Hong Kong 2035 has set clear targets of zero landfill by that date,
- Government have continued to implement air quality improvement to tackle smog and an 80% improvement is now evidenced since the Year 2005 baseline levels,
- Electric vehicle adoption is supporting emissions reduction and with 50% of new vehicles sold last year being EV's, the challenge is to keep pace with charging infrastructure and Government is playing their part with a programme to retro-fit housing estates with EV chargers,
- Measures to further improve nearshore water and bathing quality
- Streamlining of the EIA process is under review to enable projects to be implemented faster,
- MSW Charging will be launched during Year 2023 and an increased network provision of community recycling stations and community green stations will be implemented in response to increased levels of recycling that are envisaged upon MSW charging implementation.

The secretary presented a broad vision for enhanced environmental and waste management and appealed to all members to support initiatives that reduce single use plastic, enhance recycling and recovery and reduce waste overall.





YMC Visit to New Life Plastics

18 June 2022

HKWMA arranged a technical visit to New Life Plastics and Y. Park on the 18th June 2022. We were particularly pleased to be the first tour group to visit New Life Plastics (NLP).

The tour commenced with a discussion on the challenges of the plastic recycling industry in Hong Kong. Currently there is no specific policy on source separation for household and office wastes; therefore, they mostly end up in landfills.

The Waste Disposal (Charging for Municipal Solid Waste) (Amendment) has been passed by the Legislative Council in August 2021 but is still at the preparatory period. So today, any so-called recyclable material is largely reliant on its intrinsic value to pull it from the waste stream. This intrinsic value, via largely informal collection systems leads to these recyclables being baled and exported for recycling. All recyclables need to be taken from their respective waste streams at source before contamination and processed in state-of-the-art recycling facilities. NLP seeks to provide a solution to this issue, for post-consumer PET and HDPE recycling in Hong Kong.

The delegates visited the NLP plastic recycling plant. The plant processes post-consumer PET and HDPE into raw materials which can be sold and used in the re-manufacturing of PET and HDPE products. The plant incorporates a numbers of green initiatives – from photovoltaic panels for electricity generation through to heat capture and a closed water system. The plant has a viewing gallery to enable tours to be undertaken and to explain how plastic waste which would normally go to landfill can be converted into valuable raw materials to be used in the recycled plastics manufacturing sector.





YMC Visit to Y-Park

18 June 2022

The tour at Y. Park commenced with a discussion on the challenges of yard waste management in Hong Kong. In the past few years, Hong Kong generated an average of about 180 tonnes of yard waste every day, mainly from construction works and clearance works relating to routine vegetation maintenance. In addition, tree clearance operations due to emergency events such as super typhoons also add to the amount of yard waste generated.

Y. Park turns yard waste into various recyclable products, including processed wood logs, wood chips and sawdust etc. They can be used to produce mulch for planting and gardening, compost, bulking agent for composting, biochar feedstock, and substrate for mushroom cultivation etc.

The handling capacity of Y. Park is about 30 tonnes per day in the first year, and will gradually increase to an average of around 60 tonnes per day. Y. Park has been equipped with various plant and equipment such as wood shredders, wood cutting machine, drying and sterilization units, and thereby be capable of converting sorted and suitable yard waste into recyclable products with various applications.

The delegates also visited The Resources Exhibition Centre, where it displays various forms and application of local recycled trees, wood processing methods and exhibits upcycled wooden products made by local wood artists. The tour ended with an enjoyable workshop to experience upcycling of recyclable products into art works.





Waste Management and the Policy Address

19 October 2022

The Chief Executive's 2022 Policy address was entitled 'Charting a Brighter Tomorrow for Hong Kong' and was delivered on 19 October 2022.

The Policy address had a strong focus on livelihood issues and closer examination of the Policy Address (paragraph 110) identifies specific areas where the HKWMA and its members could seek to benefit and exert influence to enhance waste management in our community.

The HKWMA has long advocated that waste reduction, separation and recycling are essential components to any sustainable waste management framework and that supporting collection and treatment infrastructure needs to be in place to gain community confidence that recycling and separation efforts are yielding positive outcomes. The policy address has reinforced these principles and outlined measures to seek to implement source separation of recyclables in major housing estates and food waste collection in public rental housing. HKWMA is supportive of these measures but mindful that the public has a high expectation on transparency of material flows and auditable pathways to demonstrate how source separated materials are effectively and responsibly recycled.

Waste reduction is the primary focus of any waste strategy and we support further producer responsibility initiatives for regulating plastic products and plastic tableware. HKWMA has been a vocal advocate of MSW Charging as one of the most significant policies to impact behavioural change to reduce waste and enhance recycling. The timeframe for implementation of MSW Charging within the policy address should be more definitive since each year of delay reduces the available time to achieve the zero landfill goal by 2035 and we would encourage acceleration of implementation.

The commitment to build two MSW Waste to Energy facilities will result in a substantive diversion of waste away from landfill, with the two proposed WtE facilities providing a diversion impact of almost 50% of the current MSW disposal to landfill. We would advocate the provision of IBA recycling and CCUS within the design of these facilities to further reduce residual waste to landfill and to decarbonise emissions.

The policy address provides a multitude of opportunities for HKWMA members to embrace and stand ready to Support Hong Kong in achievement of these policy initiatives.



The Hong Kong Special Administrative Region
of the People's Republic of China

**The Chief Executive's
2022 Policy Address**

2022.10.19



Hong Kong Winners from International Exhibition of Inventions, 13 April 2022

NAMI: Gold Medal for Rubberised Asphalt



Gold Medal

- *Nanotechnology-Driven Recycled Rubber for Asphalt Pavement with Artificial Intelligence*

The nanotechnology-driven recycled rubber together with AI allows recycling of more waste rubber but consumes less energy in paving process, and also enhances pavement performance while achieving accurate performance prediction of road by AI.



HK Poly U Silver Medal for Carbon Negative Climate Smart Biochar Partition Blocks

According to Global Alliance for Buildings and Construction, approximately 40% of energy-related CO₂ emissions result from construction and building activities. Cement manufacture (i.e., the most consumed construction material worldwide) accounts for ~8% of total anthropogenic CO₂ emissions. To achieve ambitious carbon neutrality goals on a global scale, it is imperative to take unprecedented actions for innovating the cement composite design and promoting carbon-negative construction materials.

Biochar, a carbon-rich material made from the partial combustion of biomass wastes, is an emerging material of interest as it can remediate pollutants and serve as a negative carbon emission technology, as highlighted by the Intergovernmental Panel on Climate Change (IPCC). Envisaging biochar's profound potential, Ir Prof. Dan Tsang, Department of Civil and Environmental Engineering, The Hong Kong Polytechnic University (PolyU), led a research team to develop the world's first carbon-negative biochar partition block and paving block. This locally developed technology supports a circular economy by upcycling yard wastes, with the potential to offset tens of thousands of tons of CO₂ each year. Biochar partition blocks and paving blocks developed by Ir Prof. Dan Tsang's team are essentially precast concrete blocks with biochar from yard waste, recycled aggregate, GGBS, and coal ash, etc. Instead of ending up in a landfill, valorising waste into biochar partition blocks and paving blocks demonstrates a new strategy for the circular economy. Meanwhile, biochar in the blocks stores atmospheric CO₂ to combat climate change. Besides saving the planet, the biochar partition and paving blocks also perform better than conventional competitors in terms of physical properties. It is lighter in weight than regular partition blocks and paving blocks meaning less emission in transportation, but it is more robust in compressive strength. With lower thermal conductivity, biochar partition blocks offer better thermal insulation, saving the energy consumed in air conditioning. Biochar partition blocks are more effective in absorbing noise than regular concrete blocks thanks to porous structure of biochar. Mildew will also be a thing of the past because of the moisture-regulating property of biochar. Ir Prof. Dan Tsang's research team aspires to foster knowledge transfer to the engineering discipline to combat pollution of all kinds and promote urban sustainability.





Food Smart Conference and Expo, 14 November 2022

The Food Smart Conference and Expo for the Food and Beverage Trade (FSPP) was successfully concluded at the HKCEC on 14 November 2022. Prof. Dan Tsang from the Hong Kong Polytechnic University (PolyU) shared his insights and latest findings on “**Food waste upcycling for achieving carbon neutrality**”.

Owing to the growing demand for energy and resources, valorizing food waste into renewable energy *via* biorefinery approaches provides a sustainable alternative to fossil fuels. Anaerobic digestion (AD) is a widely adopted technology to convert organic waste into CH₄-rich biogas for electricity generation, the resulting food waste digestate (FWD) remains largely under-utilized in the industry. Sustainable management and recycling of the nutrient-rich FWD is highly desirable for fully closing the resource loop and actualizing the circular economy. In Hong Kong, O•Park 1 utilizes the AD process to recycle source-separated food waste with a designed daily capacity of 200 tons, the generated FWD is currently dewatered and composted for landscaping and agricultural applications.

Prof. Dan Tsang’s research team customized carbon-negative technology of hydrothermal carbonization (HTC), which emerges to valorize FWD into hydro char without energy-intensive pre-drying process and avoid disposal issues. By adjusting the HTC conditions, the produced hydro char can be tailored for different applications, such as energy applications as a solid fuel, soil amendment for a healthy and clean soil environment, and AD additive for boosting biogas production performance. Moreover, engineered hydro char can accelerate the attainment and harness the synergy of at least 11 of the 17 United Nations Sustainable Development Goals throughout the cradle-to-grave life cycle. Our new approach presents a technically feasible and carbon-efficient strategy to improve energy and nutrient recovery towards a sustainable Energy-Water-Carbon nexus.





Inspiring New Talent, Chairman Meets Students

10 October 2022

The ongoing success of the waste management sector is reliant on inspiring new talent to join the industry and for them to be inspired by the impactful difference a career in waste management will offer.

Our chairman Ir. Norman Cheng and vice chairman Prof. Dan Tsang gave career sharing for engineering students in The Hong Kong Polytechnic University on 10th Oct 2022.

They shared insight into the Hong Kong waste management and environmental industry; and indicated it has become more prominent and is calling for a wide spectrum of talents with forward looking management approach to integrate innovative and advanced technologies. The sharing also introduced the HKWMA student membership and Young Members Chapter and encouraged interested students to join this professional network. We are particularly grateful to welcome over 100 of new student members to join us!





香港廢物管理學會
Hong Kong
Waste Management
Association

HKWMA STUDENT CHAPTER RECRUITMENT OF STUDENT MEMBERS

About Us

The Hong Kong Waste Management Association (HKWMA) Student Chapter organizes the local tertiary students who are enthusiastic about waste management and its profession. The Student Chapter are led by the Young Members Chapter of HKWMA and will set up in different tertiary institutions. Student members can enjoy wide range of activities such as individual club, seminar and job shadowing. Student Chapter also provides a great platform for young members to engage activities related to waste management on campus.

Learn more about HKWMA in our website
<http://www.hkwma.org.hk/en/about-us/>

OBJECTIVES AND BENEFITS

1. Increase student members' awareness of waste management profession. Gain exposure to waste management field in Hong Kong.
2. Enjoy a range of activities that are of benefit to the student members. Join activities organized by HKWMA.
3. Promote HKWMA to students of tertiary institutions and establish images. Network with HKWMA and professionals in the Hong Kong's waste management industry.
4. Promote waste reduction activities on campus and/or in community. Enjoy free student membership.

Technical visits



Job Shadowing, Mentorship programme, Career Talk



Other activities that are of benefit to the student members

Should you have any queries or require any further information please do not hesitate to contact our Young Committee Membership@hkwma.org.hk

JOIN US NOW



Events for Your Diary

Discussion Forum, Role and opportunity of Waste Management in Decarbonisation, 9 March 2023

Our AGM and Spring Cocktail Reception have long been considered as promising platforms for ideas exchange and collaboration.

With the gradual relaxation of restrictions on social activities, HKWMA is pleased to organise a new style of social gathering / discussion platform and cordially invite our members to join. With the serving of food and beverage, members can explore and discuss a comprehensive picture of policy, roadmap, strategies and actions of Hong Kong Waste Management Industry in a more relaxed atmosphere.

- Venue: Capo Sai Yin Pun, 49 Bonham Road, Western District ([LINK](#)) 9 March 2023 (Thursday) 19:00 - 21:00
- Number of participants: Max 30.
- Fee: HK\$100 (Once your registration is accepted, a confirmation email with payment details will be sent to participants.)

CPD certificates will be delivered via email to the participants after the event. For any queries, feel free to email to ymc@hongkongwma.org.hk.

Decarbonisation Tour to Japan, 14-18 March 2023

HKWMA is pleased to invite you to a 5-day De-Carbonization Tour in Japan from 14 to 18 March 2023. The event is jointly organised by the Federation of Hong Kong Industries (FHKI), Environmental Industries Council and the HKWMA.

The objective of the tour is to study the decarbonisation and engineering technologies applied in Japan by means of visiting of food waste plant and recycling facilities, attending Decarbonisation Expo and exchange experience with relevant Japanese Government Officials, Professionals and Business Representatives. This tour also aims at promoting international cooperation, cultural exchange and obtain mutual understanding of the decarbonisation developments and challenges.

Main activities of the tour include:

- Visit to Ginza 6 Waste Source Separation and Charging;
- Visit to De-carbonisation Expo and Business Matching;
- Visit to Kawasaki Biomass Electric Power Limited;
- Visit to Food Waste Plant - Alfo Company Limited;
- Meeting with Trade Association Japan Expanded Polystyrene Association (JEPSA); and
- Business matching / networking event with eco industry companies in Japan.

For detailed itinerary, tour packages and fee summary, please refer to [LINK](#). The registration deadline is **10 Feb 2023** and for enquires and registration, please contact Ms. Justina Lam at 2732 3101 by phone or justina.lam@fhki.org.hk by email.