Technical Talk: Thermal Treatment of Waste – An Alternate Process

The Hong Chapter invites you to a technical talk about an alternate process of treating waste on **Tuesday 5 June** at the Hong Kong Polytechnic University in Kowloon.

https://www.engineersaustralia.org.au/Event/technical-talk-thermal-treatment-waste-alternate-process?utm_campaign=&utm_medium=email&utm_source=ExactTarget

Dr Alex Cheung, Associate at WSP (Asia) in Sustainable Development and Environment, will discuss an alternate technology that was developed in Hong Kong under the Innovation and Technology Fund (ITF) Project.

In Hong Kong, the disposal of municipal solid waste (MSW) is a serious concern in the area of environmental protection and sustainability. The amount of MSW transported to landfills has increased steadily since 1985. In 2015, over 15,000 tonnes of waste were disposed to landfills every day. The three landfills of Hong Kong will probably be filled up within five years' time based on the current trend if no action is being taken. The Phase 1 of the Integrated Waste Management Facility (IWMF) based on the moving grate incineration will be in operation in 2024 with a capacity of 3,000 tonnes per day.

The co-combustion of municipal solid waste (MSW) is a novel and highly integrated design combining cement manufacturing, thermal processing of MSW and energy/electricity production (termed the Co-Co process). This novel design of the Co-Co process was developed in 2003-2004 and a pilot plant with a capacity of 40 tonnes per day was constructed and commissioned in 2005. The pilot plant was operated for a period of 10 weeks during 2005. Various feed protocols, namely, MSW have received and after removal of recyclables, were tested. Stack emissions were monitored either continuously (gas emission) or periodically (dioxins and heavy metal emissions). Solid residues including bottom ash and fly ash were also sampled and analysed for heavy metals and dioxins periodically. It was found that the levels of dioxins in the stack emissions and fly ash were below normal MSW thermal treatment processes, government environmental and international limits, more than 1,000 times less. Other gases, such CO, NOx, SOx and HCl, were also well below government environmental licence limits as defined by a Best Practical Means (BPM). In addition, the Materials Recovery and Recycling Facility (MRRF) was tested. It demonstrated that different fractions, including metals, plastic and glass, of the MSW could be separated and recovered. The Co-Co process was successfully demonstrated and its emission levels were well below normal MSW thermal treatment processes.

Continuing Professional Development (CPD)
Attending Engineers Australia members will be issued with a certificate acknowledging 1.5 hours of CPD.
A cost of HK$50 will be required for attendees requiring a CPD Certificate who are neither members of Engineers Australia nor members of organisations affiliated with SAG.

Remarks, Registration & Enquiries
If typhoon signal no. 3 (or above) or the rainstorm warning (red or black) is hoisted or announced to be hoisted in effect within two hours prior to the start of the talk, the talk will be cancelled without further notice.

The seminar is free of charge and all participants must be responsible for their own safety and belongings. Please complete the registration form by 4 June 2018. For any queries, please contact Simon FAN on 9351 4963 or via email info@ieausthk.org

About the speaker

Dr Alex Cheung *MIEAust*

Dr Alex Cheung obtained his BSc and PhD from the University of NSW and has worked on various university-industry research projects in Hong Kong and Australia. At present, he is an Associate with WSP (Asia) Ltd. and Honorary Research Associate with School of Chemical and Biomolecular Engineering, The University of Sydney with a focus on waste management / recycling / re-sue.

He is part of the winning team of the International Water Association Global and Asia Pacific Regional Project Innovation Awards in Applied Research. He is the co-author of HKIE Outstanding Paper Award for Young Engineers / Researchers 2017, and awarded first runner-up in HKIE Environmental Paper Award, 2011. Over 100 articles have been published in international peer reviewed journals and conferences with over 3,200 citations.

Date
05 / 06 / 2018 - 06:30 pm to 08:00 pm
Registration Closes
04 / 06 / 2018 05:00 pm
Venue
Hong Kong Polytechnic University
Room BC301
11 Yuk Cho Road
Hung Hom
Kowloon
,
Cost

- Members: Free
- Non Members: Free

Key Speaker(s)
Dr Alex Cheung MIEAust
Host(s)
Engineers Australia Hong Kong Chapter

Event Contact

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