

TECHNICAL MISSION 2018

TORONTO AND VANCOUVER, CANADA



29 April – 6 May 2018 (Tentative)

Potential Key Areas to Visit (and by no means exhaustive): -

- Advanced Water and Waste water treatment facilities
- Application of hydrogen fuel cells
- Alternative organic food waste conversion
- Waste-to-Power incineration facility
- Application of geo-thermal energy
- Application of hydro energy in Canada
- Meeting with Canadian Government's Drinking Water Regulators and Waterworks Professional Associations

Target Participants:

Engineers, Consultants, Government Officers, Environmentalists and Industry Practitioners

Group Size: 20-25

Regular Fee: HKD 21,000/ person

Apply fee Includes direct flight tickets, 3 stars hotel accommodation, meals, local transportation, tour guides fee and group insurance. Participants shall obtain Electronic Travel Authorization (eTA) your own cost when entering Canada and arrange own general travel insurance. Organizer will allocate hotel accommodation in shared twin rooms based on the sequence of completing payment. In case that a participant cannot be allocated to stay in a shared twin room, a single room will be arranged and a surcharge of HKD 1,200 shall be incurred.

Detail for Registration:

[Online Registration](#). Registration is on first come first serve basis. Enrollment priority will be given to CIWEM members and International Partner Organizations. Once your application is successful, we will contact you shortly for further arrangement. Relevant information on itinerary and arrangement will be released to participants 14 days before departure.

Enquiry:

If you have any question regarding the study mission, please feel free to contact CIWEM HK Committee Mr. Grant Chau at 94866616 or Ms. Adriane Chau at 66288733, or through email, secretary.ciwem@gmail.com

TORONTO (tentative, subject to confirmation)

Day 1 – 3

Dufferin Organics Processing Facility (3 hours)

Using BTATM Hydro-mechanical Pretreatment to separate organic materials from residual wastes before fed into the aerobic tanks for digestion. Biogas is produced as a result used to heat digester tanks and to generate electricity for its plant operation. Moreover, the digestate is used to make high-quality of compost.



Ashbridges Bay Treatment Plant (3 hours)

It is the main sewage treatment in the city of Toronto, and is the second largest such plant in Canada after Montreal's Jean-R Marcotte facility. A high rate biological odour system is used remove 95% H₂S in 20s EBRT.



Blue Cities 2018 Smart Water Management Conference

Theme in 2018

"Smarter" is about making the right decision, given the complex challenges and uncertainty that water leaders are facing. Blue Cities 2018 will identify what those decisions look like, point to clear priorities for action and generate forward-looking solutions.



ORAC (2 hours)

Humber River Hospital uses OCRA to treat food waste in hospital. It a food processing machine, works well with water and recycled plastic Bio Chips to transform the food waste to nutrient rich effluent that can be put into sewer or reuse for irrigation.

Hydrogenics (2 hours)

It is found in 1995 and is the worldwide leader in designing, manufacturing, building and installing hydrogen generation and fuel cells based on water electrolysis and proton exchange membrane (PEM) technology. Application is used on fleet vehicles such as buses, and provide innovative *power-to-gas* solution.



Meeting with Canada Government Officers (To be confirmed)

Come and join us to exchange ideas with Canada Government officers on drinking water, wastewater treatment, and waste to energy facilities, and more.

Ontario Clean Water Agency (To be confirmed)

OCWA is a crown agency of the Province of Ontario, and is committed to ensure all Ontario communities have access to a provider of safe and reliable water and wastewater services. Come and meet with them to share views of drinking water facility.

Biowin Water Modelling (To be confirmed)

It is a wastewater treatment process simulator used in design, upgrade and optimize wastewater treatment plants. A short visit will be made.

VANCOUVER (tentative, subject to confirmation)

Day 4 – 6

Vancouver Delta Landfill (3 hours)

Degradation of landfill gas to heat, electricity, renewable H₂, renewable CO₂ for growing tomatoes, renewable natural gas, and renewable diesel.



The Seymour-Capilano Filtration Plant (3 hours)

The largest water filtration plant in Canada since December 2009, and has the capacity to produce up to 1.8 billion litres per day. The removal of particulates, organic matter and micro-organisms.



The City of Coquitlam UV (To be confirmed)

The plant produces approx. 370 million litres of potable water in average daily. Water from the Coquitlam Reservoir is pre-treated by ozonation system as primary before directed to UV units. As a result no addition chemical is need to added, expect chlorine as a disinfectant to safeguard the water from bacterial regrowth in the water distribution system.



Lulu Island Wastewater Facility (To be confirmed)

It is a secondary process treatment plant with a handling capacity of 155m³/d. The plant uses anaerobic digestion to break down organic materials from wastewater to produce biosolids and methane gas. In the 2014, the extracted Biogas will be purified and added to the Fortis BC natural gas distribution system for use by the public.



Metro Vancouver Waste-To-Waste Facility (To be confirmed)

An incineration plant to turn municipal wastes to electricity power. Each year, about 285,000 t of solid waste is converted into 940,000 tons of steam fed into steam generator converted it to 170,000 MWh of electricity for public boiling water and heating up home.



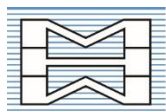
The Olympic Village (To be confirmed)

With the help heat pump, the waste heat is able to draw the thermal heat from the untreated sewage and feeds into a hot water distribution system. Relative to conventional combined electricity and natural gas systems, the sewage heat recovery process has reduced greenhouse gas emissions by 65 percent.

Victoria Island Office (To be confirmed)

Meet with BC Ministry of Environment, BC Water and Waste Association and the BC Ground Water Association.

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Supporting Organizations:

- Association of Engineering Professionals in Society
- Business Environment Council Limited
- Chartered Institute of Housing Asian Pacific Branch
- Department of Civil Engineering, The University of Hong Kong
- Hong Kong Association of Energy Engineers
- Hong Kong Institute of Environmental Protection Officers
- Hong Kong Institute of Qualified Environmental Professionals
- Hong Kong Waste Management Association
- International Association for Hydro-Environment Engineering and Research - Hong Kong Chapter
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