



Submission to Panel on Environmental Affairs
Special meeting on Monday, 26 March 2012, at 10:45 am
in Conference Room 1 of the Legislative Council Complex "Reduce, Recycle and Proper
Waste Management"

22nd March 2012

Dear Honorable Members,

The Hong Kong Government has for years refused to enact laws that mandate the Hong Kong public MUST recycle its waste. Furthermore the Government makes no attempt to collect waste from private establishments and complexes that has been specifically recycled into different containers for collection unless such containers are placed by Government (which they do not); the Government merely relies on managements of private premises and complexes to contact with private contractor recyclers to arrange collection of their recycled waste. The result is that mixed MSW , food waste and construction waste all end up in our landfills.

I attach herewith self explanatory correspondence which (highlighted for ease of reading) explains the current Hong Kong scenario in a nutshell: **"FEHD only provide refuse collection service. For collection of recyclables, their service is only limited to recycling bins provided at public places such as roadside, refuse collection points and public interchange"**

From: alanyu@epd.gov.hk [mailto:alanyu@epd.gov.hk]

Sent: Monday, February 06, 2012 13:47

To: James Middleton

Cc: ytdoeh@fehd.gov.hk; llau@epd.gov.hk

Subject: RE: update ?

Dear Mr. Middleton,

Thank you for your feedback.

For the Kings Park, I will further follow up with the park's management and provide assistance to facilitate properly recycling of waste in the Park.

Regarding your views and suggestions on MSW Charging Consultation and mandatory recycling of waste, I would pass them to our colleagues for consideration.

Regards

Alan Yu

Waste Reduction and EcoPark Group

Environmental Protection Department

Tel. 2872 1711

Fax. 2872 0389

"James Middleton" <dynamco@netvigator.com> 2012/02/02 下午 02:40

To <alanyu@epd.gov.hk> cc <ytdoeh@fehd.gov.hk> Subject RE: update ?

Dear Mr YU

As for Kings Park we watch them with astonishment every weekend as the contents are all emptied together. They do separate the plastic bottles usually but not the glass or paper.

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk



*It is pointless to consult the public as they will not want to pay for anything and bringing in such a convoluted system would merely result in fly tipping or burning in the NT..
This is a pointless delaying measure.*

It is unnecessary to have to burn 3000 tonnes of MSW a day if the law were brought in to force all parties to separate waste at collection areas whether public or private.

Obviously the amount of daily MSW would then decrease by a significant amount or perhaps HK citizens want to remain world champions per kg of MSW generated..

*Regards
James Middleton*

*From: alanyu@epd.gov.hk [mailto:alanyu@epd.gov.hk]
Sent: Thursday, February 02, 2012 14:24
To: James Middleton
Cc: ytdoeh@fehd.gov.hk
Subject: Re: update ?*

*Dear Mr. Middleton,
Thank you for your email of 18 Jan 2012.*

*For the arrangement for collection of source separated waste from Kings Park Rugby ground in Wylie Path Kowloon, we have clarified with FEHD colleagues and they have also confirmed in their reply of 16 Sept 2011 **that their refuse collection vehicle only collected refuse inside the refuse bins but not the recyclables.** Our subsequent discussion with the Park's management also confirmed that proper arrangement was in place for collection and delivery of the recyclables to relevant recyclers. They also confirmed that the dumping of recycling bins' content into rubbish bin were isolated incidents where the material inside the recycling bins were contaminated with other wastes and non-recyclable items. To this end, they would strengthen the education of the park users to prevent similar incidents.*

*Regarding your suggestion on mandatory recycling of MSW, we are currently consulting the public on the introduction of charging as an economic means to reduce the generation of municipal solid waste (MSW). **Among others, the public is also consulted on whether the Government should introduce legislation to mandate the separation of waste at source** (details in Sections 7.7 -7.9 and 7.14 of the consultation document) . Members of the public are welcome to give their views before the consultation period ends on April 10 2012. For details, please visit the dedicated website below which the consultation document has been uploaded:*

http://www.epd.gov.hk/epd/msw_consult/english.html

We will take note of your view on mandatory source separation as expressed in your message in the public consultation. *If you would like to offer additional views on mandatory source separation and/or MSW charging, please send your submission to us through the following channels:*

*By Post: Environmental Protection Department
Waste Management Policy Division
Room 4522, 45th Floor, Revenue Tower
5 Gloucester Road, Wanchai
Hong Kong
By Email: mswcharging@epd.gov.hk
By facsimile: 2318 1877*

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

**Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk**



Thank you for your support on waste reduction and recycling.

Alan Yu
Waste Reduction and EcoPark Group
Environmental Protection Department
Tel. 2872 1711
Fax. 2872 0389

"James Middleton" <dynamco@netvigator.com> 2012/01/18 上午 09:01
To <alanyu@epd.gov.hk>, <ytdoeh@fehd.gov.hk>, "EPD HKG" <enquiry@epd.gov.hk>
cc
Subject
update ?
Dear Sir

The Government is pushing for incineration whilst ½ of HK's municipal waste is not being recycled.

The current scenario below remains unanswered.

Government must make recycling of MSW mandatory with high penalties for fly tipping as a result of the imposition of mandatory legislation.

What action has been taken since the comments below ?

"However, we had referred your concern on recyclables collection to Environmental Protection Department for necessary action"

James Middleton
Chairman

HYPERLINK "<http://www.cleartheair.org.hk>"www.cleartheair.org.hk

From: HYPERLINK "<mailto:alanyu@epd.gov.hk>"alanyu@epd.gov.hk
[<mailto:alanyu@epd.gov.hk>]

Sent: Monday, September 19, 2011 15:32

To: HYPERLINK "<mailto:dynamco@netvigator.com>"dynamco@netvigator.com

Cc: HYPERLINK "<mailto:ytdoeh@fehd.gov.hk>"ytdoeh@fehd.gov.hk

Subject: RE: FEHD Trash collection - no glass / plastic / paper recycling

Dear Mr. Middleton,

I refer to your email of 3.9.2011 addressed to FEHD which was subsequently referred to this department.

As indicated in their message below, **FEHD only provide refuse collection service. For collection of recyclables, their service is only limited to recycling bins provided at public places such as roadside, refuse collection points and public interchange.** Nevertheless, there are many recyclers in Hong Kong providing collection service for a wide range of recyclables including waste papers, metal, plastic, used cooking oil, etc. A non-exhaustive ? list of recyclers can be found in the "Hong Kong Collector/Recycler Directory" posted on our website below. You may contact the recyclers near your premises for arrangement of collection service.

HYPERLINK

https://www.wastereduction.gov.hk/apps/vicinity_result.jsp?collection_type=collector&material_type=all&district_id=0[https://www.wastereduction.gov.hk/apps/vicinity_result.jsp?collection_t](https://www.wastereduction.gov.hk/apps/vicinity_result.jsp?collection_type=collector&material_t)

https://www.wastereduction.gov.hk/apps/vicinity_result.jsp?collection_type=collector&material

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk



[_type=all&district_id=0" type=all&district_id=0](#)

You may wish to know that our department has launched a programme of "Source Separation of Commercial and Industrial Waste" which aims to promote recycling of waste at commercial & industrial (C&I) premises. Under the programme, technical advice and support would be provided to our members such as the appropriate location for installation of waste separation facilities and other matters relating to waste recycling. In recognition of the commitment made by participating buildings, EPD will promote the Programme and its participants' contribution through various media and organise forums and certificate presentation ceremonies regularly. Members with outstanding performance in source separation will be presented with awards and commendation certificates in the annual prize presentation ceremony. They may also be named as model members and invited to share their experience at EPD promotional activities, website and related publications.

You are cordially invited to join the programme. Details of the programme can be found in our website below:

<https://www.wastereduction.gov.hk/en/workplace/index.htm>

If you have any questions on the above, please feel free to contact me at 2872 1711. Thank you for your support on waste reduction and recycling.

Alan Yu

Waste Reduction and EcoPark Group Environmental Protection Department Tel. 2872 1711
Fax. 2872 0389

Our ref: (10) in FEHD YT(EH) 80/1599/11

Dear Mr. James Middleton:

Thank you for your email dated 3.9.2011 to the Director of Food and Environmental Hygiene concerning trash collection at King's Park Rugby Ground at Wylie Path.

Our Department provides refuse collection to the Kings Park Playground, but collection of recyclables in private area is out of our jurisdiction. Our refuse collection vehicle only collects refuse inside the refuse bins at the Kings Park Playground.

However, we had referred your concern on recyclables collection to Environmental Protection Department for necessary action.

We will monitor the situation and take appropriate action to maintain environmental hygiene. Should you have any queries, please feel free to contact our Health Inspector (Cleansing) Mr. KC LIU at 2302 1315. LAI Yau-yu for Director of Food and Environmental Hygiene

From: James Middleton HYPERLINK

"mailto:[mailto:dynamco@netvigator.com]"[mailto:dynamco@netvigator.com]

Sent: Saturday, September 03, 2011 10:25

To: HYPERLINK "mailto:dfehoffice@fehd.gov.hk"dfehoffice@fehd.gov.hk'

Subject: FEHD Trash collection - no glass / plastic / paper recycling

Dear Sir,

I bring your attention to the FEHD collection of trash at Kings Park Rugby ground in Wylie Path Kowloon

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk



(and no doubt everywhere else in Hong Kong).

The HK Rugby Union staff religiously collects different kinds of refuse in specific containers, glass, paper and plastic bottles are all separated.

The FEHD trucks come to collect the trash which is then religiously dumped all together into the same truck for disposal.

This defeats the whole idea of separation of materials that could be recycled. I welcome your reply on this important matter.

Kind regards,

James Middleton Chairman HYPERLINK

["http://www.cleartheair.org.hk/"](http://www.cleartheair.org.hk/) www.cleartheair.org.hk

SCMP

Make an effort to support recycling

LEADER

Sep 03, 2011

The ushering in of a recycling culture in Hong Kong is, naturally, regarded as primarily the responsibility of the government. But there are choices we can all make which will help.

Ensuring that the paper we buy has been recycled is as necessary as separating waste, conserving and pressuring companies to package products responsibly. While paper constitutes about one-fifth of what is thrown into our fast-shrinking landfills, we have limited say over where it comes from. Where we can make a difference, though, is with tissue and toilet paper.

Companies decide whether office supplies, packaging, bills, brochures and books are made of recycled pulp. What we buy is quite another matter, though, and it is on the supermarket or pharmacy shelf that we have that power.

The problem is that most of what is stocked proclaims itself to be made of virgin fibre and producers and retailers make a point of advertising that. With health scares on the mainland about bacteria in tissue produced from recycled paper, it seems natural to turn to products that sound as if they are the safest, even if they are not the most environmentally responsible.

We should expect most tissues to be made of recycled fibre as they are usually thrown away after a single use. The world's ever-growing demand means that some of the fibres used are not always from plantation forests. Producing products from recycled paper creates 75 per cent less air pollution and 30 per cent less water pollution, green groups contend. Making the switch is as easy as reading the fine print on packaging.

Certainly, seeking out the recycled brands available might involve changing and looking in out-of-the-way places. But it will be well worth the effort, if this helps change mindsets. While we wait for the government to move household recycling beyond plastic bags, we can take the process into our own hands.

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk



New York City Experience

Please see below self explanatory articles regarding New York City which is **specifically excluding Mass Burn incineration** from its current tender.

http://www.upi.com/Business_News/Energy-Resources/2012/03/09/Energy-potential-for-New-York-Citys-trash/UPI-19481331316496/?spt=hs&or=er

Published: March. 9, 2012 at 1:08 PM

NEW YORK, March 9 (UPI) -- New York City aims to convert its garbage into energy.

New York Mayor Michael Bloomberg has called for bids from private companies to build a pilot "state-of-the-art conversion technology facility."

The city seeks bids that use anaerobic digestion, gasification, hydrolysis or similar technologies to "cleanly convert" waste into energy. Conventional "mass burn" waste -to-energy or conventional refuse-derived fuel technologies won't be considered.

The facility must be in New York City or within 80 miles of the city, Bloomberg said.

Read more:

http://www.upi.com/Business_News/Energy-Resources/2012/03/09/Energy-potential-for-New-York-Citys-trash/UPI-19481331316496/#ixzz1pkCeMRBQ

http://www.waste-management-world.com/index/display/article-display/1374289642/articles/waste-management-world/waste-to-energy/2012/03/New_York_Seeks_Waste_to_Energy_Proposals.html

New York Seeks Waste to Energy Proposals



Image Credit: [Shutterstock/Songquan Deng](#)

07 March 2012

New York City mayor, Michael Bloomberg **has launched a Request for Proposals to build a waste to energy facility.**

Private sector firms have been asked to submit plans for a pilot facility **using reliable, cost-effective, sustainable and environmentally sound waste to energy technology**, which will help the City meet its goal of doubling the amount of waste diverted from landfills, as Bloomberg committed to doing in his State of the City speech.

According to the request the facility must be located in New York City or within 80

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

**Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk**



miles of the city and begin by processing a maximum of 450 tonnes of waste per day - the City currently processes approximately 10,000 tonnes of waste per day.

The City will not provide any capital funding for the proposed facility and will pay a per tonne fee to the operator of the facility.

Furthermore, the proposal is seeking the cleanest and most modern waste to energy technologies, and specifically excludes conventional incineration or "mass burn" proposals.

"New Yorkers generate more than 10,000 tonnes of solid waste every day and too much of it ends up in landfills. Using less, and recycling more are the most effective ways to address the problem, but this project will help us determine if some of that waste can be converted to safe, clean energy to meet the City's growing power needs," explained Mayor Bloomberg.

Companies wishing to submit a proposal will be required to provide detailed environmental data, including extensive emissions performance data and greenhouse gas reduction data. The Department of Health and Mental Hygiene will evaluate all emissions data.

Environmental justice

According to a statement from the Mayor's office, the selection of a clean conversion technology facility will follow the environmental justice approach established in the City's Comprehensive Solid Waste Management Plan, by ensuring borough equity in the siting of solid waste infrastructure.

As such, the City said that proposals must include a Public Participation Plan with "meaningful opportunities" for public involvement throughout the planning, approval, implementation, construction, testing and operation phases of the facility.

Proposals also must include information regarding the location of municipal and solid waste management facilities and pollution sources in the vicinity of the site.

The City said that siting, construction and operation of the conversion facility will undergo extensive environmental and community oversight, including a City Environmental Quality Review and State Environmental Quality Review, as well as approvals from the State Department of Environmental Conservation.

Waste reduction plan and PlaNYC

New York's Department of Sanitation currently collects more than 3 million tonnes of

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk



waste per year from residences and institutions and spends more than \$300 million to export - primarily via truck traffic - the waste to landfills and facilities outside the of the city.

Furthermore, the City said that residential and institutional solid waste creates 728,000 metric tonnes of greenhouse gas emissions annually, much of which is attributable to methane generation from landfills that receive its waste.

According to the mayor the new Waste Reduction Plan will double the amount of waste the City diverts from landfills from 15% to 30% by 2017.

The Plan contains a variety of initiatives to increase waste diversion, with two-thirds of these gains to come from increased waste reduction, reuse, composting and recycling initiatives, including the future expansion of the City's kurbside recycling program to additional plastics, expanding the number of public space recycling bins on City streets and providing new locations for residents to compost food waste.

Proposals to build and operate the conversion facility are due by June 5, 2012. If the initial pilot is successful, **the facility will be expanded to process 900 tonnes of waste per day.** (*note: HK EPD Elvis Au says this quantity is impossible whereas Plasma companies all tell us it is not a problem*)

The City will evaluate proposals based on the company's experience with the proposed technology, the quality of their technical proposal and environmental compliance data and the commitment to environmental justice and community outreach plans.

Grinder Boosts Efficiency at New York Organic Waste AD Project

A renewable energy pilot project in New York is to convert food waste, wastewater sludge, fats, oil and grease into energy.

<http://www.waste-management-world.com/index/from-the-wires/wire-news-display/1624787415.html>

THE CITY OF THE FUTURE; NEW USES FOR OLD TRASH

JACQUELINE NELSON Canadian Business March 19, 2012

For people in cities like New York and Tokyo, disposing of trash is an interactive experience. **London is the latest to announce smart recycling receptacles that display news and offer free Wi-Fi.** But advances in waste management extend far beyond gimmicks. Researchers are testing ways to turn garbage-an expensive burden-into an asset as fuel, and employing robotics to deal with its growing volumes. Here are three types of waste being tamed and harnessed by new tech.

By the calculations of Food Cycle Science, a company based in Cornwall, Ont., the average person disposes of 475 pounds of food waste each year. That smelly mass can be toxic to the

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

**Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk**



environment and often emits methane, a more potent greenhouse gas than CO₂. Food Cycle's solution first reduces food-waste volume by 90%, then turns the rest into a compost-like material. Using technology licensed from Korea, the company can take up to 3,300 pounds of food waste, dehydrate it, and turn it into a thick, dry substance that can improve soil quality in less than a day. **The technology comes at a time when more and more North American jurisdictions are banning food waste from their landfills. When Nanaimo, B.C., took this step in 2005, it diverted 6,000 tonnes of food and other compostables.**

Another solution for organic garbage originates in space technology. After scientists at NASA investigated ways to turn space-station garbage into energy, the University of North Dakota and a Vermont bioenergy company built on their research to develop a "gasifier" system that turns waste into a clean synthetic gas. That gas, in turn, can produce electricity and heat. Last year, Green Mountain Coffee Roasters, a provider of coffee products to major chains, volunteered its production waste as the first big test of the technology. If successful, additional Green Mountain sites will adopt the system. Since gasification can handle some plastic packaging as well as paper, cloth and coffee residues, many other types of companies could get clean power from their garbage.

In Canada, **construction and demolition waste** accounts for about a quarter of the non-hazardous waste in landfills. In the U.S., that number is closer to half. Reducing those amounts through recycling is costly, requiring teams of workers to pluck out the good, reusable stuff from the bad.

Finnish company ZenRobotics wants to replace those workers with robots. These aren't typical assembly-line machines, although they do work over conveyor belts running waste. Rather, they use advanced artificial intelligence and sensors to "think" about the material that passes by. They identify some pieces by shine, and when their gripper arms bump into a piece on the line, sensors trigger a "painavoidance" like reflex that moves the robot out of the way.

Applying AI technology to recycling has been tested before, but without much success. The ZenRobotics arm has performed relatively well in trials to date, correctly identifying half the construction waste that travels by it. Naturally, improving its accuracy is a priority. Still, unlike humans, the machines can run 24 hours a day and perform a picking cycle in a couple of seconds, whereas a person takes seven to 12 seconds.

Please find attached herewith and below relevant information from New York City which mandates public recycling at source with accessible links underlined.

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk



NYC Recycling Law

http://www.nyc.gov/html/nycwasteless/html/laws/local_recycling.shtml

See: [recycling in nyc](#)

UPDATE: The [New York City Council](#) ~~EXIT~~ passed 11 Local Laws in 2010 to update and expand the NYC Recycling Law. See [Amendments](#) for more info.

Law: [NYC Administrative Code](#) ~~EXIT~~ (Search for Title 16: Sanitation, Chapter 3: Solid Waste Recycling) [PDF version](#)

Rules: [Rules of the City of New York](#) ~~EXIT~~ (Search for Title 16: Department of Sanitation, Chapter 1: Collection) [PDF version](#)

Summary: The New York City Recycling Law, originally enacted in 1989 as Local Law 19, established the overarching "policy of the city to promote the recovery of materials from the New York City solid waste stream for the purpose of recycling such materials and returning them to the economy". This Law mandates recycling in NYC by residents, agencies, institutions, and businesses, including the designation of what materials are to be considered recyclable, the recovery of those materials, tonnages of recyclable materials that must be recycled annually, and responsibilities of each relevant party. The Rules were developed by DSNY to detail the requirements, operations, implementation and enforcement of mandated recycling including [residential](#), [agency and institutional](#), [commercial](#), [yard waste](#), and [street events](#).

Amendments: The NYC Recycling Law established by Local Law 19 of 1989 has been amended several times. The eleven relevant Local Laws passed in 2010 are:

[Local Law 40 of 2010](#) ~~EXIT~~ updates the overall recycling goals for DSNY-managed waste, and defines data calculation methodologies and reporting requirements related to tracking progress towards those goals.

[Local Law 34 of 2010](#) ~~EXIT~~ updates DSNY's public outreach and education requirements, residential building owner requirements, establishes fines for residential violations based on building size, and fines for impermissibly placed publicly accessible [textile drop-off bins](#).

[Local Law 35 of 2010](#) ~~EXIT~~ allows for the designation of rigid plastic containers as recyclable if the commissioner determines that the cost is reasonable after the [recycling processing facility](#) at South Brooklyn Marine Terminal is built.

[Local Law 36 of 2010](#) ~~EXIT~~ and [Local Law 41 of 2010](#) ~~EXIT~~ require City Agencies and Public and Private Schools, respectively, to designate recycling or sustainability
8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk



coordinators; to maintain labeled recycling containers in their buildings; and to submit waste prevention, reuse, and recycling plans, and annual implementation reports to DSNY.

Local Law 37 of 2010 **EXIT** updates the Yard Waste Composting Law to require collection from NYC Agencies and Housing Authority residential buildings, and annual reporting by composting facilities.

Local Law 38 of 2010 **EXIT** establishes Public Space Recycling requirements including the placement of recycling bins for designated materials, and city-approved textile drop-off bins.

Local Law 33 of 2010 **EXIT** requires DSNY to establish a pilot voluntary paint stewardship program.

Local Law 39 of 2010 **EXIT** establishes Hazardous Waste Collection requirements including events and drop-off sites, and annual reporting of materials collected.

Local Law 32 of 2010 **EXIT** updates the Commercial Recycling Law to require DSNY to complete a study of commercial recycling in the City.

Local Law 42 of 2010 **EXIT** requires the completion of a study on the feasibility of food waste composting in the City.

Previous local legislation affecting recycling:

Local Law 50 of 2007 **EXIT** increased the penalties for those who use a vehicle to unlawfully remove or transport recyclables intended for pickup by the DSNY or a licensed hauler; and mandated reporting requirements for those who receive DSNY refuse collection, but choose to receive private collection of recyclables.

Local Law 40 of 2006 **EXIT** fleshes out the Yard Waste Composting Law.

Local Law 11 of 2002 **EXIT** temporarily suspended the recycling of glass, plastic, and beverage cartons starting July 1, 2002 through March 2004, due to budgetary constraints resulting from the September 11, 2001 tragedy. Local Law 50 of 2003 **EXIT** reinstated the recycling of designated plastic containers and beverage cartons on July 1, 2003; temporarily implemented alternate-week recycling collection; returned glass recycling and weekly recycling collection on April 1, 2004; and temporarily suspended yard waste collection starting July 1, 2003 to be returned no later than June 30, 2004.

Local Law 59 of 1998 **EXIT** established the weekly collection of designated recyclable materials to all local service delivery districts citywide by April 15, 2000.

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

**Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk**



Local Law 87 of 1993 fleshes out the Commercial Recycling Law.

HK ENB - Lack of Foresight and Failure to recognise new Technology

The decision to move to Mass Burn by the EPD was made in 2005.

The incumbents are seeking funding just now.

They expect the project to take 7 years to completion.

That means the mass burn technology on start-up will be 14 years older than when the mass burn decision was made in 2005.

The Shek Kwu Chau island decision means that eventually other islands, probably the south Cheung Chau proposed man-made island will become a further landfill for the ash.

Government's own figures in its EIA documents showed an expected 22 - 23% bottom ash per mass-burn day. **That means the landfills will continue to be required and to expand.** When we add the dioxin /furans laden toxic 6% fly ash that must be treated as well as the bottom ash approx 29 - 30% of the MSW items incinerated will remain in the form of ash per day. This immediately defeats the Govt statement that 'our landfills are becoming full' as this mass burn system demands continued landfilling ad infinitum.

The lack of RRR in Hong Kong is diabolical and laws should be enacted to enforce the public's mandatory recycling and collection thereof by Govt.

Landfill Mining

It is ludicrous to spend more taxpayer funds on extending landfills when the easily assembled installation of plasma gasification plants at each landfill site can mine the existing landfills and create space in the landfills, reduce methane and CO2 emissions whilst generating electricity or producing jet fuel from the resultant gasifier syngas.

The only waste generated by the plasma system is plasmarok that can be re-used as road aggregate. The resultant syngas caused by the molecular disintegration of MSW in a gasifier can be converted to bio jet fuel or used to run electricity generating turbines. Instead of building a white elephant dioxin spewing regional polluting mass burn monstrosity which will cost serious money to operate this Government could start within a short period of time to reverse our landfill situation by placing plasma gasification plants directly alongside them. This inadequate Administration is playing with our public money in a stupid manner and it needs to be stopped by the Finance Committee from doing so. The increased pollution from a 130 meter high stack will flood pollutants over Hong Kong and this region and is a guaranteed way to ensure people die from pollution.

Dioxins / Furans

<http://ukwin.org.uk/resources/health/dioxins-and-other-harmful-incinerator-emissions/>

Dioxins and other harmful incinerator emissions

The information below is adapted from: Dearden, J. C., Proof of Evidence submitted on behalf of Residents Against Incineration (RAIN) regarding proposals at Ince Marshes, Ellesmere Port, Cheshire (2008)

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk



Dioxins are a family of 75 polychlorinated dibenzo-p-dioxins (PCDDs). **This compound is one of the most toxic chemicals known, and is a known human carcinogen and endocrine disruptor.** Similar chemicals are polychlorinated dibenzofurans (PCDFs), of which there are 135. Other related compounds are polychlorinated biphenyls (PCBs), of which there are 209, many of which are known [Mukerjee 1998] to be endocrine disrupters. Yet others are polybrominated diphenyl ethers (PBDEs), of which there are 209, and polybrominated biphenyls (PBBs) of which there are also 209. PBDEs and PBBs are used as flame-retardants for electrical goods, clothing and furniture. They are known to be endocrine disruptors and to cause developmental neurobehavioural defects [Mikula & Svobodová 2006, Eriksson et al 2006]. **The principal cause of their presence in the environment is widely accepted to be incineration** [D'Silva et al 2004].

All these compounds are hydrophobic (lipophilic) and therefore tend to accumulate in adipose tissue in the body. They are also chemically very stable and are therefore resistant to metabolic attack, and therefore to excretion, since chemicals need to be reasonably soluble in water in order to be readily excreted.

PCBs, PBBs and PBDEs can be present in waste materials. Dioxins (PCDDs and PCDFs) are not normally present in waste, **but are formed when chlorine-containing organic substances (e.g. PVC) are burned.** If combustion takes place at temperatures of about 850°C, any dioxins already formed are destroyed, **but can re-form again post-combustion. Cunliffe and Williams [2007] found that “formation of PCDD/PCDF on flyash deposits in the post-combustion plant of incinerators can result in the release of significant amounts of PCDD/PCDF to the flue gas stream”.** Littarru [2006] has shown that about 57% of emitted dioxins (in terms of TCDD equivalents) are in the flue gases, with about 43% sorbed on the fly-ash.

As recently as 1997 Douben [1997] of H.M. Inspectorate of Pollution stated that **“MSW incinerators are the dominant source of PCDD/F emissions to atmosphere and are responsible for up to 80% of the inventory”.** It is now acknowledged that dioxin emissions from incinerators have fallen considerably in recent years. However, there remain a number of areas of concern.

Dioxin emission levels from incinerators are measured once or twice a year by external assessors who have to give prior notice of their visits. It is thus likely that operators ensure that a plant is running under optimal conditions for a visit. **If much more frequent or continuous measurements are made, the total dioxin emissions are found to be very much higher than those calculated from biannual measurements.** De Fré and Wevers [1998] found that emissions measured using the European standard method EN 1948 over a 6-hour period were 30 to 50 times lower than the average over a two-week continuous period. Reinmann et al [2006] showed that use of continuous dioxin sampling enabled operators to reduce dioxin emissions by a factor of 10, through careful control of operating conditions. **True dioxin emissions from the proposed Ince incinerator, which would be subjected only to biannual checks, are thus likely to be very much higher than claimed.**

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk



Incinerators do not, for various reasons, run under optimal conditions all the time. Grosso et al [2007] found that even under steady-state conditions total dioxin release varied between 1.5 and 45 μg TEQ per tonne of waste burned, depending on whether activated carbon was used and how fly-ash was collected. Sam-Cwan et al [2007] investigated the post-combustion re-synthesis of dioxins, and found that levels at waste heat boiler outlets were 10.8 – 13.6 times higher than at the furnace outlets, whilst water spray cooling was very effective at removing dioxins. Peel's Environmental Statement [2007] states: "Each energy recovery boiler includes an economiser to cool the flue gas to temperatures suitable for the air emission control equipment". It thus appears that the Peel process would significantly increase dioxin levels in the flue gases prior to treatment, and consequently would make reduction of dioxin levels more difficult.

Incinerators have to be shut down on occasion, both for routine maintenance and because of operating problems. **It has been observed that during shutdown and startup, the levels of dioxins and other pollutants can be much higher than under optimal operation.** Tejima et al [2007] tested the dioxin stack emissions of an MSW incinerator under conditions of startup, steady state and shutdown. They found concentrations of WHO-TEQ dioxin of 36 – 709 $\mu\text{g.m}^{-3}$ during startup, 2.3 $\mu\text{g.m}^{-3}$ during steady state operation, and 2.5 – 49 $\mu\text{g.m}^{-3}$ during shutdown. **They estimated that 41% of the total annual emissions could be attributed to the startup period,** assuming three startups per year. L.-C. Wang et al [2007] found that a single startup could contribute **about 60% of the PCDD/F emissions for one whole year of normal operations;** hence, assuming three startups per year, **64% of total annual emissions could come from startup.** H.C. Wang et al [2007] found that during startup the PCDD/F removal efficiency was only 42% with selective catalytic reduction, compared with > 99% during normal operation.

It is clear from the above that levels of pollutants emitted from incinerators can vary greatly, and can exceed the statutory limits placed upon their emission. (It must be noted here that those limits are generally based on what is achievable and measurable, rather than what is safe [House of Commons 2001]). In 2001 Greenpeace carried out a review of the performance of municipal waste incinerators in the U.K. [Greenpeace 2001]. **They found that for the ten incinerators that they reviewed, there were 546 self-reported limit exceedances in the two years 1999 and 2000, covering HCl, SO₂, NO_x, CO and particulates.** It is noted that there were no reported exceedances of limits for dioxins or other substances that are not continuously measured. The Greenpeace report says that "it is difficult to accept that this is truly the case. High levels of pollutants in the gases often indicate a malfunction in the system or poor combustion of waste. For example, high levels of carbon monoxide would indicate poor combustion conditions under which increased production of dioxins, particles of incomplete combustion and other pollutants might be expected. Similarly, high levels of hydrogen chloride may be the result of large amounts of chlorine in the system, which again would provide improved conditions for dioxin formation. These peaks in production of dioxins and other hazardous substances are unlikely to be recorded by sampling undertaken only for a few hours, twice a year". **A Defra report [2004] stated that "there were 56 incidents of emissions outside permitted limits at the 14 incinerators accepting MSW in the**

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk



UK in 2003...Three quarters of the incidents related to increased emissions of carbon monoxide and hydrogen chloride, which would not be expected to result in any significant environmental impacts (but see Greenpeace comments above). There were four incidents of dioxins and furans above permitted levels, and one incident of cadmium emissions above permitted levels”.

Another reason for variable levels of pollutant emissions is lack of adequate control by the plant operators. The Greenpeace report states that “**no incinerator currently operating in England is able to meet the legal requirements of its license** (sic)”, and points out that despite the 546 exceedances, only one prosecution (of Sheffield City Council in 1999) was brought by the Environment Agency in the period 1999-2000.

Incineration produces two forms of solid residue – fly-ash, which is fine particulate matter carried with flue gases, and bottom ash, which falls from the fire-grate. They constitute, between them, about **one quarter to one third of the total pre-combustion weight of waste.**

Fly-ash is known to sorb chemicals from the flue gases. **As pointed out earlier, around half of emitted dioxins are sorbed on fly-ash [Littarru 2006].** Fly-ash is also responsible for the so-called dioxin memory effect [Cunliffe & Williams 2007], **whereby slow de novo synthesis of dioxins occurs on the surface of the fly-ash; the dioxins then slowly desorb into the flue gases** [Weber et al 2002] for prolonged periods after the implementation of beneficial changes to the incineration process. **There is recent evidence [Jiang et al 2007] that fly-ash from larger incinerators (which Ince would be) has higher content of volatile components and higher leaching toxicity. Fly-ash is classed as hazardous waste, and has to be disposed of to landfill. There is concern that, because of its dust-like nature, less than extremely stringent handling could disperse dioxins and other pollutants such as metals sorbed on the fly-ash into the atmosphere around the RRP. Recent figures for the metal content of fly-ash from the Eastcroft (Nottingham) incinerator are: zinc 0.3%, lead 0.1%, copper 0.05%, manganese 0.05%, 0.01% chromium, 0.01% cadmium, 0.01% vanadium. For an estimated fly-ash production of 49,000 tonnes per annum (tpa), this means 147 tpa of zinc, 49 tpa of lead, 24.5 tpa of copper and of manganese, and 4.9 tpa of chromium, cadmium and vanadium. We are concerned that in the main body of Peel’s Environmental Statement there is an indication that some fly-ash could be used in construction. This is in our view irresponsible.**

Bottom ash contains similar proportions of heavy metals (except cadmium, which is lower than in fly-ash). Under the List of Wastes (England) Regulations 2005, incinerator bottom ash is classed as non-hazardous. However, the Environment Agency recently confirmed, in a letter to Mr. Alan Watson [Watson 2008], **that 12 out of 96 bottom ash samples that they tested met the criteria for hazardous waste, and the EA website [Environment Agency 2006] now states that zinc oxide has been given an ecotoxic classification (H14 by R50/53, very toxic to aquatic organisms and may cause long-term effects in the aquatic environment).** This probably means that all of Peel’s bottom ash (estimated in their

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk



Environmental Statement to be 36,000 tonnes per annum) would have to be disposed of as hazardous waste, and should not be used for block-making or indeed for any other purpose. If the testing of Peel's bottom ash showed the presence of chemicals meant that it was classified as hazardous waste, this would impact significantly on the economics of the operation. It should be noted that The Netherlands will soon require a higher immobilisation efficiency of bottom ash treatment [Xiao et al 2008].

All of the above suggest that the dioxin emissions from the proposed Ince incinerator would be many times those claimed in Peel's Environmental Statement.

It should also be noted that there are high levels of dioxins on Frodsham Marshes, arising, it is believed, from the former I.C.I. chemical plant (now IneosChlor) at Runcorn [Vale Royal 2002].

<http://ukwin.org.uk/resources/health/dioxins-and-other-harmful-incinerator-emissions/>

Environment Agency Wales takes action

<http://www.bbc.co.uk/news/uk-wales-south-west-wales-12073314>

24 December 2010 Last updated at 12:38 GMT

Neath waste plant closed over emissions

- [Residents to keep 'smells' diary](#)
- [Foul smells blamed on incinerator](#)

A waste incinerator has been voluntarily shut down after breaching its limit for emissions.

Environment Agency Wales said it was taking legal action against the council-owned plant at Crymlyn Burrows in Neath Port Talbot.

Officers said it had failed five out of 10 dioxin emissions tests since the summer although breaches were not at levels to cause health problems.

The plant's operators said they were working to address the issue.

The plant, which opened in 2002, processes household waste for recycling and incineration from Neath Port Talbot and Bridgend.

It is operated by Neath Port Talbot (Recycling) Ltd - a wholly-owned subsidiary of the council. The agency has issued an enforcement notice that will require the operators to take steps by a set date to improve emissions from the site. The incinerator has been voluntarily shut down until mid January as investigations continue.

“We set the permit limits to protect people”

Steve Brown Environment Agency Wales

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk



The agency said Public Health Wales had confirmed the breaches were not at a level to cause health problems to local people. But the agency's area manager Steve Brown said: "This situation has gone on too long. "Out of the 10 dioxin results received since the summer, five of these have been over the permitted limit and this is unacceptable." Public Health Wales have reassured us that the levels of these breaches do not pose a risk for local people but are concerned if the situation was to continue.

"We set the permit limits to protect people and the environment and this is why we, as regulators of the site, have escalated our action." The company have done everything we have asked of them so far, but we will not stop our action until the site is back into compliance with its permit."

Will Watson, a director of Neath Port Talbot (Recycling) Ltd, said: "We took a decision to temporarily close the plant for planned maintenance work two weeks early in light of the recent dioxin results." He said the plant was addressing the failed test results but they had to be put in context. "The level of emissions which we have recorded are still well below the levels which are permitted for other industries by the Environment Agency for dioxin emissions," he added.

http://icelandreview.com/icelandreview/search/news/Default.asp?ew_0_a_id=373796

The news this week is making my head spin. As it turns out the dioxin emissions from Funi in Ísafjörður was nothing compared to the emissions in the Westman Islands and Kirkjubæjarklaustur, which measured 84 and 95 times over the authorized limit in 2007, respectively.

As if that wasn't outrageous enough, the waste burning station in Kirkjubæjarklaustur is located in the same building as the town's elementary school. Is the potential hazard of dioxin pollution being downplayed—apparently, not much is known about the effects of such pollution—or are we looking at an Erin Brockovich scenario here? Now medical examinations will be conducted on people living in these areas. Just to be on the safe side, they say. Dioxin in people is mostly caused by consumption of the chemical, not inhalation.

According to national broadcaster RÚV, possible consequences of dioxin pollution are cancer, liver damage, impotence and development problems in fetuses and children. Just minor ailments...

The worst part is that people already knew in 2007 that these waste burning stations were emitting far more dioxin than allowed, yet nothing was done. The public wasn't even informed of the risks. Why? This environmental catastrophe could have been prevented.

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk



In an interview on RÚV's radio station Rás 2 on Wednesday, Environment Minister Svandís Svavarsdóttir (who took office in 2009), explained that she didn't have the authority to shut down the polluting waste burning stations.

Apparently, this whole story has been an administrative blunder from the start.

As I've understood it, everyone but the municipalities who operate the waste burning stations and/or whose financial interests lie in their continued operation lack the authority to close them down and the local authorities prioritized the municipality's financial interests above public health.

They were informed of the risks and given advice on how to avoid them but chose to turn a deaf ear, a decision which has blown up in their faces. To quote Alanis Morissette: "It's the good advice that you just didn't take. Who would have thought... it figures. [...] Isn't it ironic?" But Svavarsdóttir is set on vacuuming under the rug.

She has notified the municipalities in question of her wish that they shut down or at least significantly reduce the operations of the waste burning stations until further testing has been conducted.

There is also a bill pending, stating that those who cause damage to the environment take responsibility for it, an independent commission will investigate who was responsible in the dioxin pollution affair and the minister has called for a clause on the public's right to information and a healthy environment be included in the Icelandic Constitution.

Our constitution is so obviously flawed... who said we didn't need a new one?

Right now the Constitutional Assembly elects are fighting for their rightful authority to review the constitution. Fingers crossed. **Unlike many of her predecessors, Svavarsdóttir seems to actually care about the environment.** Some of the previous environment ministers would think along the lines of: "Our country is so clean that it's safe to pollute some more."

I kid you not. This blunder can all be traced back to the time when Iceland asked for an exemption from a European directive adapted in 2003, one which includes strict guidelines on pollution and which Icelandic authorities took part in fighting for. The irony of the ordeal would be hilarious if it hadn't been so tragic.

I can only hope that Icelanders—all Icelanders—take this as a wakeup call and realize that if they want Iceland to remain pure and clean, they have to contribute. If it isn't already too late. Eygló Svala Arnarsdóttir – eyglo@icelandreview.com

Hong Kong is jumping the gun

Imperial College UK Incinerator study expected in 2014
the proposed Shek Kwu Chau unit is bigger than any UK incinerator

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk



<http://www.tribunemagazine.co.uk/2011/06/inquiry-is-ordered-into-incinerators-and-health-hazards-they-may-pose/>

Inquiry is ordered into incinerators and health hazards they may pose

by Mark Metcalf, Tribune Magazine
June 8th, 2011

A team from Imperial College, London, has been commissioned to carry out the inquiry by the Health Protection Agency after fears were raised about the health risks of incinerators, particularly for young children.

Dozens of incinerators have been built around the country as Britain struggles to cope with its mounting refuse problems. But campaigners have become concerned that the price is being paid with poor health among babies and infants in the localities where such amenities are sited.

One such activist is Michael Ryan, who lives in Shrewsbury, and who lost his only daughter at 14 weeks – and then suffered further personal tragedies when his teenage son and his mother both died, too. **All lived downwind of an incinerator.**

Mr Ryan began a painstaking piece of research into the subject of health – and deaths – of people living in close proximity to incinerators. The results from London are startling. In 12 of the capital's 625 wards, there were no infant deaths between 2002 and 2008. But Southwark, which has two incinerators close by, had the highest rate with 7.2 infant deaths per 1,000 live births in that period.

Critics say it's not microscopic particles from incinerators that kill babies and young children, but poverty. And while it is true that some people living close to incinerators are at the lower end of the social scale, **Mr Ryan's research reveals that death rates in more affluent middle class areas are higher if there is an incinerator nearby. Affluent Chingford Green ward in Waltham Forest has the second highest average number of child deaths in London. It happens to be close to Britain's largest incinerator.**

"If it's all about poverty, then how come the levels of infant mortality in countryside areas, where wages have always been below average, aren't high?" asks Mr Ryan.

Now, to cries of "at last" from Mr Ryan, HPA head Justin McCracken has said that following discussions with Professor Paul Elliott, head of the Small Area Health Statistics Unit at Imperial College, it has been **"concluded that an epidemiological study of birth outcomes around municipal waste incinerators would produce reliable results. Work is now progressing in developing a detailed proposal for what will be a complex study."**

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk



In 2004, a study in Japan found a “peak decline in risk with distance from the municipal solid waste incinerators for infant deaths and infant deaths with all congenital malformations combined”.

<http://www.enfieldindependent.co.uk/news/localnews/9077282.print/>

Enfield **INDEPENDENT**

Public health effect of Edmonton incinerator could be part of new study

8:44am Friday 10th June 2011

NEWS of a possible new scientific study examining potential health risks from incinerators has been welcomed by campaigners. Concerns have been raised in recent years about the possible effects of the Edmonton incinerator complex on surrounding areas, although the Health Protection Agency (HPA) has always insisted there is no evidence that it is harmful to residents.

Now the agency has said it is in talks with Imperial College London about a major new study as part of its efforts to continually review public health advice. Fears were first sparked about the complex in Edmonton several years ago after it was noticed that Chingford Green ward, in neighbouring Waltham Forest, had a statistically abnormally high level of infant mortality.

There is usually a correlation between baby deaths and an area's level of deprivation, but figures in 2007 showed that the relatively wealthy ward had the second highest death rate in the whole of London. Researcher and campaigner Michael Ryan, who uses the example of Chingford in his argument that there is a link, said he hoped the device in Edmonton would be included in the new study.

He says that figures from 2002 to 2008 show there were an average of 9.7 infants deaths per 1,000 babies in Chingford Green ward - the highest rate in the borough.

The HPA says that emissions from incinerators make up only a fraction of one per cent of pollution in the UK, with industry and traffic accounting for more than 50 per cent. spokeswoman added: "The HPA's position is that well run and regulated modern municipal waste incinerators are not a significant risk to public health. "However, we recognise that there are real public concerns about this issue and will take every possible step to reassure people that the position is as we have outlined. "HPA also continually seeks to review and extend the evidence base on which it bases its advice.

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shauckiwan, Hong Kong

**Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk**



"For these reasons we are in discussions with researchers at Imperial College London about a potential study into birth outcomes around municipal waste incinerators and a detailed proposal for what would be a complex study is being drawn up."

Meanwhile the North London Waste Authority (NLWA), which manages rubbish disposal in the region, is currently planning a major overhaul of its complex in Edmonton.

In September, NLWA chair and Waltham Forest councillor Clyde Loakes said the incinerator would be replaced altogether under the plans, although the organisation later backtracked and said no firm decision had been made. © Copyright 2001-2011 Newsquest Media Group

From: Hansell, Anna L [mailto:a.hansell@imperial.ac.uk]
Sent: 30 January, 2012 19:05
To: 'dynamco@netvigator.com'; 'chair@cleartheair.org.hk'
Cc: Andrew Tristem; 'Frances Pollitt'; 'Kelly, Frank'; Elliott, Paul
Subject: FW: Incinerator study

Dear Mr Middleton

Thank you for your enquiry on behalf of 'Clear The Air' in Hong Kong.
The English Health Protection Agency announced last week that they have approved funding for a Small Area Health Statistics Unit study to investigate whether there is any potential link between municipal waste incinerators and reproductive health - see <http://www.hpa.org.uk/NewsCentre/NationalPressReleases/2012PressReleases/120124Incineratorstudystatement/>

This is for a two year study starting in April 2012. Results will be made publicly available once accepted for publication in a peer-reviewed journal.

Best wishes
Anna Hansell

(Dr) Anna Hansell MB BChir MA MRCP MSc PhD FFPH
Clinical Senior Lecturer
Assistant Director, Small Area Health Statistics Unit (SAHSU)
MRC-HPA Centre for Environment and Health
Department of Epidemiology and Biostatistics
School of Public Health
Faculty of Medicine
Imperial College London
St Mary's Campus, Norfolk Place
LONDON W2 1PG

Phone: +44 (0)20 7594 3344
Fax: +44 (0)20 7594 0768
Email: a.hansell@imperial.ac.uk

8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk



Yours faithfully,

James Middleton

Chairman
Clear the Air NGO and Charity



8/F Eastwood Centre - 5, A Kung Ngam Village Road - Shaukeiwan, Hong Kong

Tel: (+852) 26930136 Fax: (+852) 26027153 Email: chair@cleartheair.org.hk
www.cleartheair.org.hk