

**Submission to the Panel on Environmental Affairs
Fourth Legislative Council (2008 - 2012)
on the subject of "Reduce, Recycle and Proper Waste Management"**

by

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Declaration

The German Chamber of Industry and Commerce through its Econet initiative has been following the policies and initiatives related to environmental protection and sustainability of the Hong Kong SAR government for many years and provided advice and support. In 2007 our office led a delegation of senior EPD staff and stakeholders to Germany to attend the Waste to Energy Trade Fair and visit waste to energy plants in Hamburg and Frankfurt.

Hong Kong, 19 March 2012

Current Waste Situation in Hong Kong

About 52 % of the daily volume of 18,000 tons of waste is being recycled, the remaining approx. 9,000 tpd go to landfills. These landfills are said to be reaching capacity in 2015, this date seems no longer valid, however. In any case, under the given circumstances in Hong Kong, it is obvious that landfilling cannot continue infinitely and therefore other alternatives for the disposal have to be found.

According to the European Waste Hierarchy, waste should be

1. Prevented
2. reused/recycled
3. disposed off

In central Europe (Germany) waste reduction is one of the major issues to reduce the per capita waste production. Moreover, enormous efforts have been undertaken to increase the recycling rate of the municipal solid waste. But to safely prevent landfilling (which is banned in the EU since 2005) there are some 70 Energy from Waste plants treating some 20 Mio tons of municipal solid waste every year.

Increasing the Recycling Rate

Recycling not only requires large recycling plants and appropriate technologies, the recycled products have to be of sufficient quality to be absorbed by the market.

Moreover, it requires the people of Hong Kong to change their behaviour towards waste recycling significantly either voluntarily or by way of legislation to enhance the recycling rate. This should apply to waste paper, packaging, biowaste, glass and metals.

Enforcing recycling through legislation also requires the right infrastructure to be in place. There have to be collection and transport systems as well as recycling plants, which are not readily available, require space and are unlikely to be welcomed by the public.

It cannot be emphasized enough, that there cannot be any achievement without sacrifice. Unpopular political decisions will have to be taken to implement and police such measures for the benefit the society of Hong Kong.

Waste Prevention

The best way to deal with waste is not producing any in the first place. To achieve this, a proper incentive system has to be in place. The luxury of not having a user-pay system in place for the disposal of domestic waste, as is the case in Hong Kong today, must come to an end.

Social Responsibility

There is a clear responsibility for each society to look after its own problems, such as waste problem. Modern society is looking towards sustainable waste management systems, which is of most importance to Hong Kong due to the lack of space.

A successful strategy will not only use one solution but will be flexible and provide alternatives. The issues of responsibilities are:

- Setting out the legal framework for waste reduction and recycling
- Providing the appropriate infrastructure for source separated collection, transport and waste treatment
- Providing waste treatment technology which suit the separated waste fractions most, i.e. residual waste, bio-waste etc.

Modern waste management throughout the world has accepted waste incineration being an efficient and sustainable solution which utilizes the energy available in the waste and reduces the environmental impacts significantly compared to landfilling.

Waste incineration

In Hong Kong's case, the deployment of a IWMMF with a capacity of approx. 3,000 tpd would account for only 30 % of the total municipal solid waste and still requires approx. 6,000 tpd to be disposed on the landfills. To completely prevent landfilling the recycling rate would have to increase by another 2.2 Mio tpy, bringing it up to 83 % in total which is unlikely to be achieved on a short term scale. Therefore, to reduce the landfilling and the negative effects with it, significantly more waste treatment capacity has to be provided (IWMMF phase II and III).

As indicated above, the recycling rate would have to be brought up to more than 80 % if landfilling would be prevented safely with only one IWMMF plant of 3,000 tpd in operation, which would be one of the largest incinerators in the world by capacity.

Waste incineration has undergone a drastic technological change throughout the last 20 years, driven by bad performance and low environmental standards in the early days.

Today, Energy from Waste (EfW) is considered to be a firm part of the European strategy for a sustainable waste management.

The incinerator technology today has improved and is aiming at high energetic efficiency for the maximum recovery of the energy content of the waste. Moreover, there is a significant reduction on greenhouse gases when using the waste in incineration rather than dumping it on landfill sites.

The need for a cleaner environment has generated the most stringent laws on air pollution over the last years, which cause a drastic development towards more efficient air pollution control technology. Today, the environmental impact of an EfW plant falls

back behind other polluting technologies, such as power plants, cement kilns and steel works.

The complete technological process has been optimized to produce high quality residues such as ash which can be used as construction material to substitute valuable natural resources.

Without these strong technological standards EfW plants would not have reached such high level of public acceptance throughout the world.

Conclusion

To reduce the volume of waste in the coming years to a sustainable level none of the known strategies covered here will suffice as a standalone solution. The most viable solution appears to be a combination of all three approaches: avoidance, reduction and recycling. Even in the most optimistic scenario, waste incineration will have to be deployed to deal with unavoidable residual waste. To date, there is no known municipality which has a complete circular economy in place. Under the specific circumstances of Hong Kong landfilling cannot be eliminated completely, however.