

THE APPROACH - THROW LESS, PAY LESS

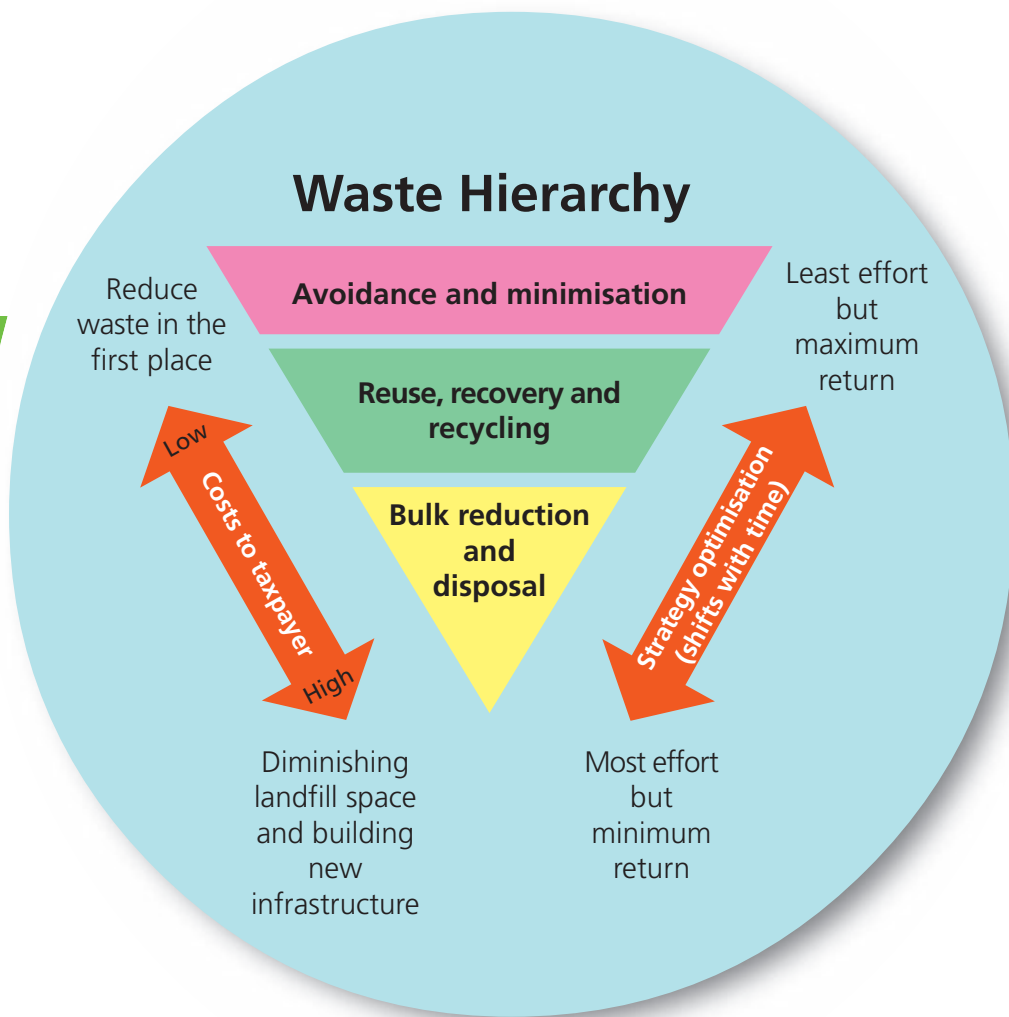
39. “Big Market, Small Government” is what Hong Kong people believe in and what the Government practises. It is only when the market fails that the Government should intervene. The ever increasing trend of MSW over the past decades is a case in point where the free market has failed, and where the true cost of our consumption-led lifestyle, particularly the significant environmental cost, is not reflected to each individual. To rectify the problem effectively, we must put the full cost back to our consumption equation, so that each individual can have the right economic incentive to choose a more sustainable way of living that involves producing less waste and recycling more. In this chapter, the Government lays out its approach to achieve sustainability in MSW management by describing the waste hierarchy and explaining how our proposed policy tools in the hierarchy can provide the incentives to induce changes in our behaviour and attitude towards waste.

THE WASTE HIERARCHY

40. The waste hierarchy is our framework for actions. The waste hierarchy has been the guiding principle for managing MSW worldwide since first introduced in 1975³. The Government’s strategy is to adopt a three-tiered approach in the waste hierarchy, which involves, in descending order of priority:

- Avoidance and minimisation;
- Reuse, recovery and recycling; and
- Bulk reduction and disposal.

³ The EU’s Waste Framework Directive of 1975 introduced the term waste hierarchy as European waste policy. In 1989, it was formalised into a hierarchy of management options in the European Commission’s Community Strategy for Waste Management and further endorsed in the Commission’s review of this strategy in 1996.



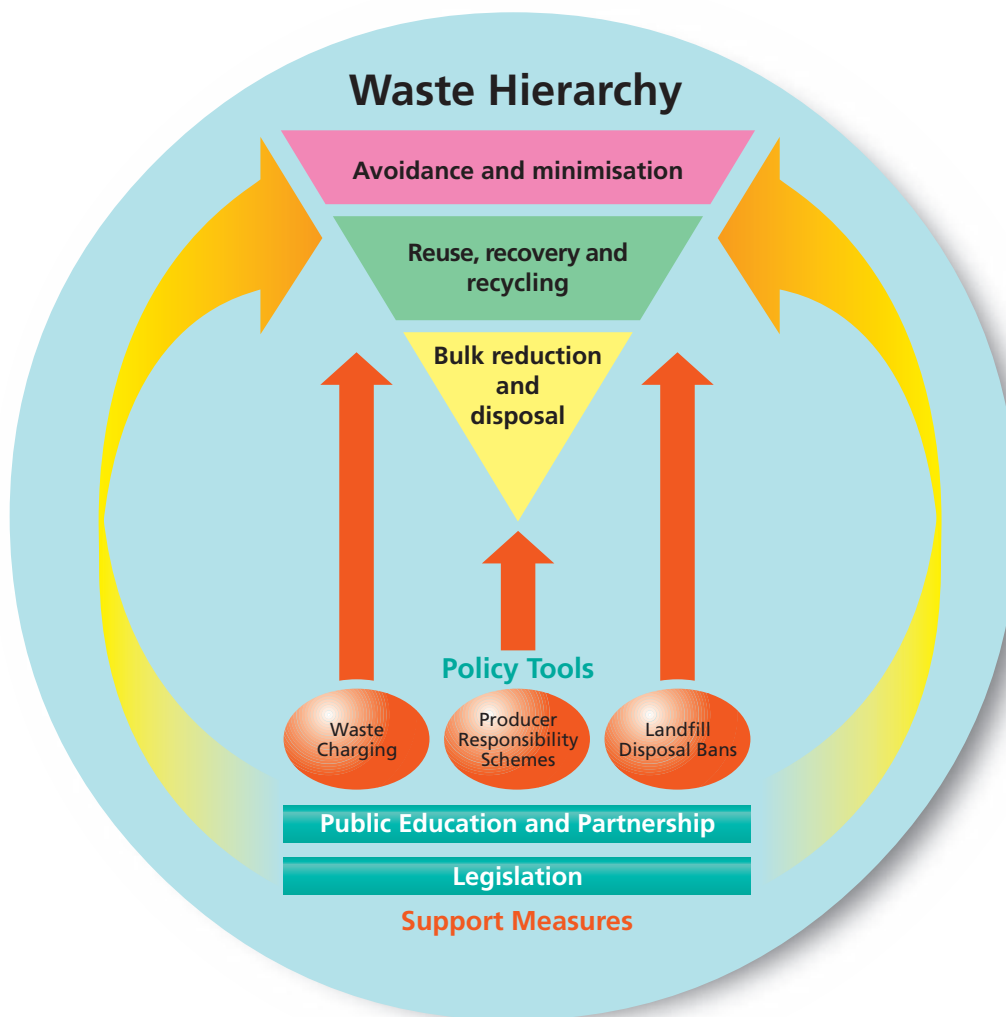
The Waste Hierarchy Model

41. **The three-tiered approach is adopted to achieve sustainable MSW management.** The first priority - avoidance and minimisation - is to address the problem at source and to encourage people to reduce waste generation as much as possible. If it is not feasible to avoid generating waste in the first place, the waste generated should be minimised as much as possible, through avenues such as appropriate product design or minimal packaging.
42. The next priority is to maximise the reuse, recovery and recycling of suitable recyclable materials. To make recycling work efficiently, robust sorting, collection and distribution systems must be in place. Equally important are the market outlets for the recycled materials. In fact, the recycling industry is a key element in a "circular economy", whereby recyclable materials generated in economic activities are returned to the consumption loop as a result of reuse, recovery and recycling. Through the loop of a "circular economy", we could achieve the most efficient use of resources and materials, while producing as little waste as possible.

- 43.** Once the possibilities of waste avoidance, minimisation and recycling have been exhausted, we must properly treat and reduce the volume of residual waste through appropriate treatment technologies. It is a commonly accepted principle that all waste should be properly treated prior to disposal at landfills to prevent long-term liabilities. The direct disposal of untreated MSW causes leachate and landfill gas (LFG) emission, and would result in long-term environmental burden.
- 44.** In economic terms, waste avoidance, reduction and recovery generate high return with relatively less investment. The Government has been working hard on these areas to achieve the most with our limited resources, and will continue to do so.
- 45. Domestic waste commands special attention.** Based on 2004 figures, each of us generates 1.35 kg of waste a day that requires disposal, out of which about 1.0 kg, or 74%, arises from the domestic source. Surveys show that only 14% of domestic waste is recovered, in sharp contrast to the recovery rate of 60% to 70% for commercial and industrial waste. This striking difference results from commercial and industrial waste being generally less diverse and less contaminated than domestic waste, thus more readily separable for recycling programmes. Also, commercial and industrial waste producers are required to pay for collecting and transporting their waste to landfills, thus having the economic incentive to reduce their waste.
- 46.** Clearly, domestic waste has the greatest potential for improvement in terms of recovery and recycling, and this is exactly where we shall devote our attention and enhance our efforts. With the very low recovery rate for domestic waste, we must take ownership of the problem, and take actions at a personal level.

THE ROLE OF POLICY TOOLS AND SUPPORT MEASURES

- 47.** Effective policy tools in the waste hierarchy are those that induce appropriate actions and achieve outcomes that further the overall objective of the Policy Framework. In MSW management, the policy tools we propose are meant to encourage waste avoidance and minimisation; waste separation and sorting; reuse and recycling; and bulk reduction and treatment. Each of our proposed policy tools works hand in hand, and aims to generate a knock-on effect that is more than the simple sum of all tools. The proposed policy tools, if implemented, will be supported by both legislation and sustained education programmes to ensure public buy-in and general compliance.



The right tools and measures for the right job

48. The proposed MSW management strategy involves:

Proposed Policy Tools	Waste charging - provides a significant effect on changing behaviour and puts in place the "polluter-pays" principle
	PRs - put the onus on the producers and users of products (i.e. the community) to share the responsibility for all the economic, social and environmental impacts of a product throughout its lifecycle
	Landfill disposal bans - divert MSW away from premium and expensive landfill space
Support Measures	Public education and Partnership - soft measures to raise awareness, increase understanding, and foster partnerships with the community and businesses
	Legislation - necessary to ensure compliance and penalise those who engage in environmentally harmful behaviour and practices.

Table 4. Proposed Policy tools and support measures

WASTE CHARGING

49. MSW management is not free. There are several sound reasons for why waste charging is vital to putting in place an integrated approach to waste management. Hong Kong citizens do not pay directly for the costs of collecting, handling and disposing of the waste they generate. The annual cost of MSW management, nearly \$1.2 billion, comes out of the public purse. Therefore, there are no economic incentives for anyone to reduce the volume of waste, or to reuse or recycle waste.
50. To establish a clear linkage between consumption and the environmental costs entailed, we propose to impose a direct and explicit charge on each individual for the amount of waste one discards. In other words, the full cost of managing MSW would be placed squarely on those people who generate MSW in the first place. This is fully consistent with the “polluter-pays” principle, which the public generally support. International experience has shown that where waste charges are in operation, the waste volume decreases and the rate of avoidance, as well as recycling, goes up.
51. **Waste charging is a direct tool to change behaviour.** A consumption-led lifestyle where out-of-fashion products, whether new or used, are casually thrown away, imposes a huge burden on the waste management infrastructure and is clearly unsustainable. By imposing a direct charge on MSW, people are compelled to rethink their consumption and disposal behaviour and become more conscious about the adverse environmental consequences. They are not only in control of how much they pay for disposing of their waste by exercising a choice on purchasing, but more importantly, to play a part in reducing waste and protecting the environmental well being of Hong Kong.
52. We can pay less by throwing less. Separation of waste at source is pivotal in the Government’s strategy to reduce the amount of waste requiring treatment and disposal. By imposing a direct charge on MSW, households are given an economic incentive to separate those recyclable materials from the waste stream, thus lowering the MSW charge they need to pay. Less waste being produced translates into lower long-term waste management costs and less need for landfills and other waste management facilities. The potential of environmental returns is likely to be multi-fold, and the benefits go to both the Government and the community.

PRODUCER RESPONSIBILITY

- 53. A shared responsibility shall be imposed amongst manufacturers, handlers and end-users.** Each product has economic, social and environmental impacts at different stages of its lifecycle. We must hold the producers and the users of products responsible for the products they produce and consume. The Government proposes to establish a framework for introducing PRSs for specific products, with priority given to those that have significant impacts on waste disposal, in either how they are produced, packaged, consumed or after the end of their lifespan.
- 54.** PRSs place the obligation for managing certain products on the producers, distributors or sellers of the products. A well-designed PRS spurs producers to design products that generate less waste, or that can be reused or recycled. Extended PRSs extend the concept further to a shared responsibility for all the economic, social and environmental impacts of a product throughout its lifecycle among consumers, the industries and the distributors that are involved in that product. We want not only the commercial and the industrial sectors to rethink the way they approach a product from design to disposal, but also consumers to make wise decisions on purchasing, reuse and disposal of products.
- 55. PRSs play a key role in sustaining a dynamic local recycling industry.** In a “circular economy”, waste generated as a result of economic activities is returned to the consumption loop. Recycling not only slows down the rate of depletion of natural resources, but also reduces the pollution from manufacturing activities. Over the years, we have made significant headway in recycling. As much as 2.3 million tonnes of MSW are recovered as recyclable materials annually. Yet, 90% of these materials are exported for recycling, working against the proximity principle and subjecting ourselves to volatile global demand. By establishing a long-term, stable and local source stream of recyclable products and materials through PRSs, the Government hopes to develop and sustain the local recycling industry that puts the concept of a “circular economy” in practice.

LANDFILL DISPOSAL BANS

- 56. Landfill disposal bans protect our precious landfills.** Biodegradable wastes like kitchen and restaurant waste are known to create LFG and leachate. LFG is malodorous and potentially suffocating, flammable and

explosive. Leachate is highly polluting and, if not properly controlled, may seriously contaminate water bodies through infiltration or direct discharge of leachate. The decomposition of biodegradable waste is a slow and non-homogenous process. This results in differential settlement of the landfill surface that may lead to slope instability problems for many years. In fact, the total cost of maintaining some 300 ha of closed landfill sites to address their environmental problems amounts to \$62 million per year. We must save our precious landfill capacity and reserve it for inert or unavoidable waste. A ban on biodegradable waste, proposed to be introduced in the longer term, allows landfills to last longer and makes them less of a long-term environmental burden. Such ban is also in line with overseas practices such as the EU Landfill Directive, which lays down progressively lower limits on the biodegradable content of landfilled waste.



Modern Landfills are lined to prevent contamination of ground water through infiltration of leachate

57. Landfill disposal bans have sound economic reasons. They not only ease the pressure on landfill space, but also ensure a stable and long-term source of recyclable materials for the recycling industry or the second-hand goods market. They will focus on products that can easily be separated from the main waste stream and have a recycling value or proper treatment outlets. Other than the recovery of valuable materials, the landfill disposal bans tie in with the Government's overall MSW management strategy that emphasizes waste avoidance, reduction, reuse and recycling. They complement MSW charging and PRSs to ensure that certain waste types are recovered.



Every member of the community can contribute to source separation of waste

PUBLIC EDUCATION AND PARTNERSHIP

- 58. Public education and partnership form the foundation of our policy tools.** To implement the proposed policy tools successfully, the community's full support is crucial. People must understand the need to change old practices and appreciate the advantages of our policy tools. Appeals and advertising campaigns help to raise awareness, but the greatest impacts have come through a more direct approach - by reaching out. A sustained, community-wide education and partnership programme will play a significant and long-term role in reinforcing the importance of MSW avoidance, reduction, reuse and recycling.
- 59.** We must target the young by starting at schools. A key agent of change is the education sector, where our future generations are nurtured. The development of responsible behaviour and environmentally friendly habits will hinge upon inculcating in students civic awareness and social responsibility to care about our environment through waste reduction. School curriculum plays an important role in developing responsible behaviour, which can be promoted through moral and civic education, environmental education as well as subjects such as General Studies at the primary level, Social Studies, Liberal Studies, Integrated Humanities and Science subjects etc. at the secondary level.

60. Partnerships with the business community are critical. Businesses are important partners in MSW management. The well-celebrated WasteWi\$e initiative has encouraged and recognised thousands of businesses that proactively reduce their waste. Through the participation of the business community, we can demonstrate to the wider public how our policy tools can really work, and instil the concept of sustainable MSW management in our 3.3 million strong labour force.



Partnership with the local community and green groups to promote waste reduction and recovery

LEGISLATION

61. **Legislative backing for the policy tools is needed.** The Government must be firm and fair, and legislative backing for our proposed policy tools is indispensable. Once legislation is enacted, regulatory measures will be put in place to ensure that MSW charging, PRSs and landfill disposal bans are complied with. Monitoring and enforcement will deter and penalize those environmentally harmful practices such as “fly-tipping”, and ensure that products and materials are properly recovered for reuse or recycling.

SUMMARY

- 62.** As a true believer of free market, we have proposed to put economic incentives at work through the policy tools in the three-tier waste hierarchy : avoidance and minimisation; reuse, recovery and recycling; and bulk reduction and disposal. To generate the highest return with our limited resources, the Government’s efforts focus on waste avoidance and recovery. We believe that the three major proposed policy tools - waste charging, PRSs, and landfill disposal bans - and the two key complementary measures - public education and partnership and legislation – would work hand in hand and have a knock-on effect:
- Waste charging promotes the “polluter-pays” principle and provides economic incentives to induce behavioural changes;
 - PRSs emphasize the shared responsibility and provide an added incentive to recover and recycle, thus sustaining a dynamic local recycling industry; while
 - Landfill disposal bans prevent valuable, recyclable and unstable MSW from entering landfills so as to extend their usable life, reduce long term environmental burden and complement the first two policy tools.
- 63.** To put these policy tools at work, legislation will be introduced. The Government will also reinforce the key message of waste reduction and recycling through public education and partnership.