

Hong Kong: Review of Environmental Quality and Policy (1997-2007)

By Christine Loh

In the ten years since the Handover, Hong Kong's environment quality has not improved or has even deteriorated in many areas. That is not to say there have been no improvements but, overall, Hong Kong residents still suffer from dangerously high levels of air pollution, poor marine water quality, high levels of exposure to severe traffic noise and rapidly diminishing landfill space. Areas rich in biodiversity are being compromised.

The existing sustainable development strategy does not provide an operational tool for guiding administrators on policy development. Indeed, the government continues to insist there is a need to "balance" economic development and environmental protection when, in reality, rebalancing and restoration in favour of the environment are urgently needed.

The solutions to environmental problems require policy-making to be integrated across many areas of government, such as planning, transport, energy and works. Moreover, the solutions for many environmental problems require cross-border cooperation with neighboring Guangdong Province, and/or cooperation with local businesses. This requires thorough understanding of emissions sources, clear thinking, transparent information flows, as well as strong negotiation skills on the part of the government when dealing with many parties and issues.

This report provides a summary of the environmental problems Hong Kong faced in 1997, the achievements that have been made over the past decade and the challenges that still remain. It also points to what needs to be done in the coming years.

Air Quality Management

Main problems in 1997

- Outdated Air Quality Objectives (AQOs) that do not protect public health;
- Large diesel vehicle fleets with poor emission controls (the majority with pre-Euro fuel standards);
- Use of illegal low-quality diesel;
- High density of traffic and population in dense urban canyons resulting in high roadside concentrations; and
- Growing problem of regional air pollution.

Achievements since 1997

- Reduction in vehicular emissions;
- Reduction in Volatile Organic Compound (VOC) emissions;
- Regional emissions reduction targets on a best effort with Guangdong by 2010; and
- Regional air monitoring network and data release system.

Problems remaining in 2007

- Air Quality Objectives remain a licence to pollute although an 18-month review is under way;
- Continued high roadside emissions of nitrogen dioxide and particulates;
- Continuing problem of regional air pollution, particularly ozone;

- Failure to address traffic growth;
- Failure to address emissions from large commercial vehicles;
- Failure to address emissions from marine vessels; and
- Uncertainty over whether the regional emissions reduction targets will be met.

Energy Policy

Main problems in 1997

- Lack of a clear policy and strategy for energy efficiency and conservation;
- Regulatory schemes for electric utilities provided a disincentive to the promotion of energy efficiency and renewable energy;
- Poor energy performance standards for new buildings;
- No mandatory energy efficiency standards for appliances;
- Relatively inexpensive electricity that provided no incentive for conservation.

Achievements since 1997

- Introduction of various voluntary energy codes;
- Promotion on voluntary energy saving ideas, such as turning up air conditioning in the summer to 25.5 Deg C.

Problems remaining in 2007

- Continued lack of coordinated and sustainable energy policy;
- Continued failure of the regulatory schemes to promote energy conservation and efficiency in electricity;
- Continued reliance on voluntary efficiency measures; and
- Continued failure to address building energy use.

Climate Change Policy

Main problems in 1997

- No policy on climate change;
- No targets for reducing greenhouse gas emissions;
- Fragmented policy control; and
- Profligate energy use.

Achievements since 1997

- Target set for renewable energy.

Problems remaining in 2007

- Lack of targets for reduction of greenhouse gases;
- Continuing increase in total and per capita greenhouse gas emissions; and
- Lack of leadership and coordination on energy issues.

Drinking Water Quality Management

Main problems in 1997

- No explicit policy or targets for water conservation;

- Contractual overprovision of water purchases from Guangdong resulting in freshwater wastage; and
- Domestic water price below full cost of supply.

Achievements since 1997

- Renegotiation of the supply contract with Guangdong; and
- Water conservation programme introduced.

Problems remaining in 2007

- Contractual problem with Guangdong not entirely resolved (new contract to be negotiated in 2008); and
- Domestic water rates are still lower than cost of supply.

Sewage Treatment

Main problems in 1997

- Only basic sewage treatment, lack of sewage treatment in the New Territories;
- Particularly poor water quality in Victoria Harbour, Deep Bay and Tolo Harbour;
- Contaminated marine sediments in some areas; and
- Particularly poor water quality in some rivers due to livestock waste and villages without sewer systems.

Achievements since 1997

- An overall 27% increase in the amount of sewage treated in 2005 (against a 7% increase in population);
- Partial completion of harbour treatment plans, and increase in proportion of harbour area sewage treated under the plan from 8% in 1997 to 52% in 2005; and
- Improvements in most marine water controlled zones and rivers.

Problems remaining in 2007

- 25% of sewage in the harbour treatment service area (generated by one million people) still receives screening only;
- Long-term solution for secondary sewage treatment still in discussion;
- Large areas of Hong Kong Island and Kowloon sewerage require upgrading;
- Increase in total and per capita sewage volumes generated;
- Village sewerage in rural areas still not completed;
- Some rivers still have bad/very bad water quality;
- Deep Bay water quality in decline; and
- Significant marine pollution loads from the Guangdong.

Solid Waste Management

Main problems in 1997

- Landfills filling up more quickly than anticipated;
- No landfill charge for privately or publicly collected waste; and
- No policy on waste reduction.

Achievements since 1997

- Per capita domestic waste totals only increased by 1%;
- 89% diversion of construction and demolition waste from landfill (to China); and
- Increase in quantities of waste recycled.

Problems remaining in 2007

- Landfills are projected to be at capacity by 2015, or by 2010 if construction and demolition waste is not reduced, recycled or diverted from landfill;
- Rapid increase in commercial waste;
- Low recovery rates for domestic waste;
- Uncertainty over future demand for construction and demolition waste;
- No regulatory requirements for private construction works to reduce or recycle construction and demolition waste;
- No waste charging scheme in place for municipal waste; and
- Future landfill site yet to be identified.

Noise Pollution Management**Main problems in 1997**

- Large numbers of people exposed to severe traffic and aircraft noise; and
- Large numbers of complaints about construction and neighbourhood noise.

Achievements since 1997

- Near elimination of excess noise from aircraft with relocation of airport; and
- Effective control of percussive piling.

Problems remaining in 2007

- Noise from existing roads continues to be a problem;
- Noise from roads predicted to get worse - 10% more people exposed to excessive traffic noise by 2016;
- Lack of wide political support for traffic management measures; and
- Lack of control of construction and renovation noise apart from percussive piling.

Nature Conservation**Main problems in 1997**

- Lack of a comprehensive nature conservation policy;
- Piecemeal protection of ecologically valuable areas;
- Intense development pressures; and
- Under-resourced and over-stretched department responsible for conservation.

Achievements since 1997

- Designation of another country park, Lung Fu Shan (47 hectares) in 1998, the first for nearly 20 years, and another marine park, Tung Ping Chau (270 hectares) in 2001;
- Designation of eight new Sites of Special Scientific Interest; and
- Conservation issues have received more attention.

Problems remaining in 2007

- Lack of a comprehensive nature conservation policy;
- Continued ad hoc protection of ecologically valuable areas;
- Intense development pressures and development-led planning ethos; and
- Under-resourced and over-stretched department responsible for conservation.

Actions in specific policy areas are needed to address the outstanding issues highlighted above. For example, to fight air pollution the HKSAR Government must tighten the AQOs, and introduce a specific objective for ultra-fine particulates (PM_{2.5}) in line with World Health Organization guidance. It must set a timetable in the foreseeable future for the scrapping of pre-Euro, Euro I and even Euro II vehicles. Moreover, town plans must be revised to help clean up roadside pollution, such as by providing large pedestrian-only areas, and to restrict vehicles from entering busy areas at certain hours. By promoting good planning, the government can also reduce traffic noise.

Marine emissions and emissions arising from port operations must be cleaned up since the throughput moving through Hong Kong and the nearby ports in Shenzhen make this small body of water the busiest in the world. Marine and vehicular emissions (arising from shipping and logistics operations) is part of the economic lifeblood of South China and, since they are in close proximity to large population areas, Hong Kong and Shenzhen must collaborate to ensure they run the cleanest ports in the world. Ships on cross-Pacific routes have to observe much tighter regulations on the US West Coast. Thus when they dock in Hong Kong and Shenzhen, they have the ability to meet similar standards but this will not happen uniformly unless stricter regulations are in place.

Beyond ports and logistics, Hong Kong and Guangdong have a joint interest in cleaning up their region to improve the health of their people, and to use the opportunity to become much more energy efficient and reduce carbon emissions; this in turn will push their industries to upgrade. Because the Chinese 11th Five Year Plan (2006-2010) requires Guangdong to meet more stringent energy efficiency and pollution reduction targets, the next few years provide a good opportunity for both sides to increase collaboration on environmental protection.

Hong Kong should conduct a comprehensive energy review to look at how its energy needs can be met in sustainable ways over the next 10 to 20 years, and to set greenhouse gas (GHG) reduction targets. A key area is buildings. To fulfil its aspirations to be a global financial centre, the city should ensure that it has the right regulatory framework to ensure that older buildings are retrofitted and new ones provide high energy efficiency, while also maximising productivity and health benefits for their occupants.

In renewal negotiations next year for the Scheme of Control Agreements that applies to electric utilities, the power companies should be given incentives to promote demand side management rather than terms that encourage increased capital investments, as under the current arrangements. The best way to do this would be to decouple electricity sales and profits so the utilities are rewarded for helping customers cut usage. Unfortunately, this is unlikely to happen; the Hong Kong government's primary goal seems to be to reduce the utilities' rate of return because doing so is politically popular.

In water management, the HKSAR government should redouble efforts to reduce domestic water consumption, including raising water charges so that the full costs of providing water are recovered. Unfortunately, it is unlikely to raise water charges because it is politically unpopular to raise fees for any public service. In terms of marine water, Hong Kong needs to expedite the

next stage of the harbour sewage scheme to deal with secondary treatment and to build sewers in all remaining places that are not adequately served. As with water charges, the government will find it hard to increase sewage fees.

The same can be said for promoting solid waste reduction. Without imposing charges, it is unlikely there will be dramatic reductions. As long as the government is unable to find ways to explain costs and benefits, and opportunity costs, it will be unable to do what it knows is necessary. While the polluters-pay principle has been articulated for a long time, it will remain only rhetoric unless there is determined action.

To deal with nature conservation, Hong Kong must develop a comprehensive nature conservation policy which addresses all outstanding issues, namely international wildlife trading, protection and management of ecologically sensitive sites on both private and public land, protection of rare and endangered species, restoration of degraded or lost habitats, marine biodiversity, better law enforcement, plus gaps in knowledge about land and water biodiversity.

Hong Kong's inherited legacy of pollution problems stem largely from poor planning. In 2007, the process for strategic and transport planning in particular continues to display a lack of integration of related environmental issues. This partly stems from the government's infrastructure development-led ethos which conflicts with stated sustainable development objectives in the planning system. Public consultation and engagement processes seldom provide for fundamental questioning of government plans. The vision for Hong Kong's development still derives largely from the top of the administration, and there is a tendency for large infrastructure projects to bypass the strategic planning process and be pushed through without robust analysis.

Hong Kong's environment, particularly air and water pollution, is heavily influenced by region-wide emissions. At the same time, Hong Kong's economy is growing ever more integrated with Guangdong, so there is both the need and the opportunity to exert influence. Despite some useful studies and initiatives, the level of cross-border cooperation is still quite limited. Release of data from the Mainland needs to be further improved for it is difficult to direct policy or resources without it. Most cooperation is also done at an administrative level, despite the interest of business and NGOs in supporting government efforts. Increased engagement of the business community in particular is vital for expediting efforts to reduce pollution across the border.

From the Chief Executive down, decision-makers are (and long have been) reliant on large infrastructure projects as a primary tool for promoting economic growth. The lack of leadership on environmental protection over the past decade has had knock-on effects on the civil service. Decision-makers use the rhetoric of sustainable development freely, but have yet to truly put it into practice. They have failed to identify sustainable development as a policy objective or to align government organisational structures and practices to meet this goal. Therefore, as a whole, the decisions and behaviour of ministers and officials do not reflect an attempt to find sustainable solutions. Indeed, the most senior political leaders have yet to internalise sustainable development and the ways it can be both a development strategy and an operational guide for policy implementation. Surprisingly, there still seems to be little appreciation that, in today's world, no economy can be seen as truly competitive when the health of its people is under daily threat from pollution and ecological damage.

Yet, Hong Kong has enormous capacity to act once priorities are realigned. There is a depth of expertise among the government's environmental officers, whose energy could be released with the right policy emphasis. The city also has a large number of professionals who can just as

easily apply their knowledge to promote sustainable development rather than suboptimal projects which emphasize the speed of development. Hong Kong's society will more likely than not support sustainable choices if the pros and cons are properly explained as part of the political process. Fortunately, the city is wealthy and has the means to pay for the environmental transformation it needs.



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