

Effects of air pollution and proposed solutions

[Environment](#), [Air](#)



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The effects caused by air pollution and the discussion on the suggested solutions in terms of sustainable development

With the rapid development and urbanization in Hong Kong, the air quality deteriorated due to a great amount of air pollutants released into the atmosphere, and contributing to the greenhouse effect as well as worsening global warming. This essay is divided into two parts, the first part is briefly talk about the negative effects caused by serious air pollution in terms of sustainable development, and the second part is a detailed discussion of the suggested solutions.

The effects caused by air pollution can be discussed in terms of sustainable development with three aspects which are inter-related, inter-dependence and equally balanced, and these aspects are environmental, social and economic aspects. In terms of the environmental aspect, the worsening air quality will fasten the greenhouse effect with a rise in temperature and contributing to global warming.

In terms of the social aspect, “ the World Health Organization estimates that every year, 2. 4 million people die from causes associated with air pollution” (Sierra-Vargas & Teran, 2012, p. 1031). It shows how air pollution causing health impacts on human. The worsening air quality increases the risk of having “ respiratory diseases, cardiovascular diseases, or cancers” (Deguen et al. 2012), and according to Sierra-Vargas and Teran (2012), people who are active outdoors, people with diseases and elderly are at higher health

risk. These pollution-related illnesses are affecting the quality of life because these illnesses not only shortened the life expectancy and caused the psychological stress, but also increased the expenditure on health care. Therefore, serious air pollution causing pollution-related health impacts in the social aspect and increasing the expenditure on health care in the economic aspect.

Apart from the social aspect, the poor air quality with low visibility and high concentration of greenhouse gases in the atmosphere also produce negative impacts in the economic aspect. Deteriorating air quality affects local tourism industry and the foreign investment. According to Law and Cheung (2007), the tourism industry in Hong Kong has recently threatened by the deteriorating air quality, regarding to the huge economic contribution from the tourism industry, poor air quality may reduce the willingness of tourists to travel in Hong Kong. Besides, some foreign investments are retreated and some professionals refuse to work in Hong Kong because of the poor working environment with worsening air quality. All these economic impacts will weaken the competitiveness of Hong Kong and resulting in unexpected economic losses which in turns suffered by the whole society.

From the examples mentioned above on the impacts in three specific categories, we can notice that air pollution caused adverse impacts at both individual and social levels. Therefore, “[i]n order to protect the air quality from deteriorating further, more efforts should be made by the government, as well as by society to make Hong Kong a clean and safe place to travel and to live” (Law and Cheung, 2007, p. 398). Both the HKSAR government and

the public should be responsible for the improvement works on air pollution, such as a strong pertinence policy together with active public participation.

The most important and effective long-term air improvement policy should be the adoption of sustainable development approach with an equal balance between the environmental conservation and the economic development.

Hong Kong is a well-known financial-based metropolis around the world.

Therefore, the government mainly puts emphasis on the economic development, but neglected the importance of environmental conservation, in other words, the government weighted the economic development over the environmental conservation, and thus resulting in environmental destructions during the process of economic development in Hong Kong.

However, it is hard to make equal balance between the economic development and the environmental conservation, and the co-existence of both aspects may be in a low possibility, because one aspect has to make scarification when the other one exists. For examples, lands for economic development propose generate a great amount of dust particulates during construction and resulting in poor air quality with low visibility.

Simultaneously, the air quality improvement policies for environmental conservation purpose spend a huge amount of government expenditure. But, regarding to the serious problem of air pollution in Hong Kong and the related distinct negative outcomes caused, environmental conservation should be given the first priority and economic development should come the second.

The second possible solution is urban greening. Vegetation plays an important role in air purification because plants can absorb carbon dioxide and release oxygen through photosynthesis. In order to improve the air quality, the government should carry out urban greening to increase the green areas through proper city planning in the urban areas, especially in the inner cities and heavy traffic areas, such as MongKok, Wan chai, Causeway Bay and Tsim Sha Tsui. However, limited spaces with densely distributed pattern of skyscrapers in the urban areas create hurdles on urban greening and the use of the valuable lands for growing vegetation in urban areas may trigger voices of disapproval. But, there are two possible ways of urban greening, the first solution, according to Sierra-Vargas & Teran (2012), is making good use of rooftops for growing plants, the government can give economic incentives to the property owners for the encouragement of planting vegetation on rooftops. The second one is re-planning the existing parks with an enlarged percentage on the area of vegetation. These two solutions can make the best use of the available space resources that do not require extra space on the ground floor.

Sources of pollutants in Hong Kong are mainly from power plants and vehicles, so strong pertinence policies on these two sources are needed. The first solution, according to Sierra-Vargas and Teran (2012), promoting the use of the landfill gases as one of the energy sources is a possible way to improve air quality with a fall in the amount of pollutants. Mexico is one of the successful places that converts “ landfill gas into electricity and powers the light rail transit system and city street lighting at night” (Sierra-Vargas and Teran, 2012, p. 1036). The Hong Kong government should study from

the cases of Mexico and conduct a suitable plan based on the ideas observed. The alteration of landfill gases into useable energy can reduce the greenhouse gases being released into the air. Another solution is promoting the extensive use of renewable power instead of non-renewable power so as to change to a cleaner way for power generation, such solar power and wind power. However, there are two difficulties in using landfill gases and adoption of renewable power resources. The first hurdle is a great amount of government expenditure is required for the construction or installation of the specific power plants, like the regular maintenance of the power plants. Besides, the opposition from environmental protection groups may also rise because this power generation method is not classified as renewable power. If the opposition raise, it is better to take the second solution instead of both solutions in order to avoid social conflicts based on the problem mentioned.

In terms of the vehicles, the government should work together with two bus companies to carry out the discussion about the expansion of the service area and increase the service provided to the public. The HKSAR government can use economic incentives or make investments to increase the operating capital of two bus companies. With better bus services provided, the willingness of people to take public transportation to school or to work will be increased and thus less energy is used and less pollutants are emitted into the atmosphere.

Apart from the policies mentioned above, the active public participation on the reduction of air pollutants is very important and it should be made by every citizen, such as the using of public transportation instead of private

cars and reduce the use of energy means less air pollutants are released by burning non-renewable power resources, such as coal. Also, citizen should actively participate in the consultation of the government policies launched for improving the air quality.

Air pollution is a serious problem which created many negative impacts, and an effective comprehensive solution with a lengthy period for thorough and careful planning is needed for improving air quality. It is beneficial when better air quality can be found in Hong Kong. Although the problems of air pollution cannot be totally eliminated, the more efforts we pay resulting in a higher chance for us to make changes and improve the air quality.

References

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