

Effects of the Charter on External Lighting on Mitigating Light Pollution in Hong Kong

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Background

Light pollution is an environmental issue happening in Hong Kong and also over the world. The University of Hong Kong (2013) found that the local urban night sky in Hong Kong is as much as 1000 times brighter than the international norms. In Hong Kong, the number of complaints against light pollution is high. In 2021, the complaint of light nuisance received by the Environmental Protection Department (2022) is 353. In order to control light pollution, there are guidelines like BEAM Plus by HKGBC (2019) and the Charter on External Lighting by the Environment and Ecology Bureau (2016). This research aims to investigate the effects of the Charter on External Lighting in Hong Kong.

Objectives

There is scant research studying the current situation of light pollution in different districts and investigating the effects of the Charter on External Lighting in Hong Kong. The question of whether the Charter on External Lighting help in reducing light pollution in Hong Kong will be discussed. The effects of the Charter on External Lighting in Hong Kong will be investigated.

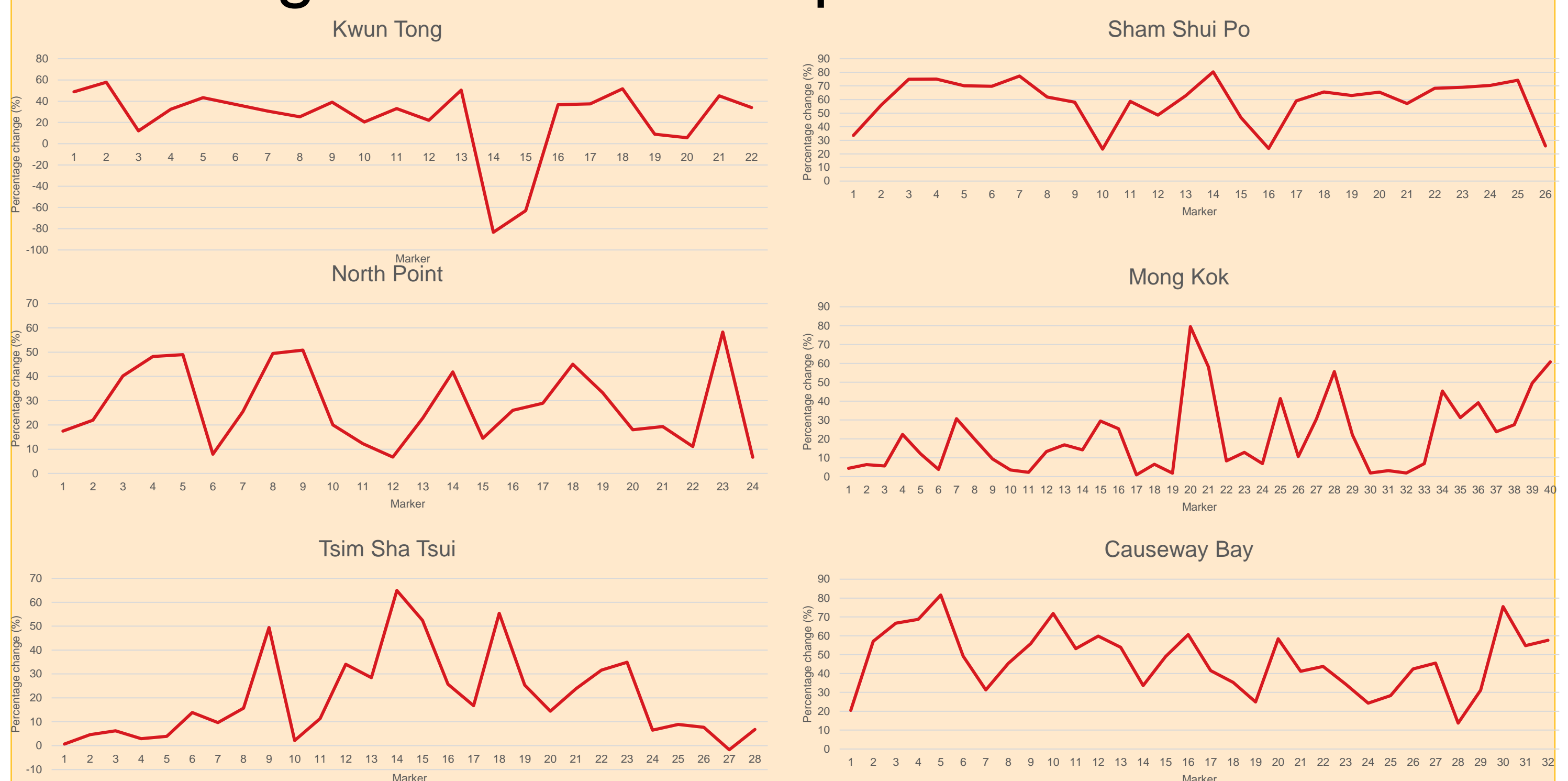
- To review the impacts of light pollution
- To review the light pollution in different countries
- To evaluate the light pollution in Hong Kong
- To suggest improvements for mitigating light pollution in Hong Kong

Methodology

- The field measurements have been conducted in different places downtown to record the switching on of external lighting and measure the light pollution parameters values before and after curfew (e.g., 10pm).
- A survey questionnaire has been conducted on 25 people for each place, asking for their views on light pollution and the Charter on External Lighting.

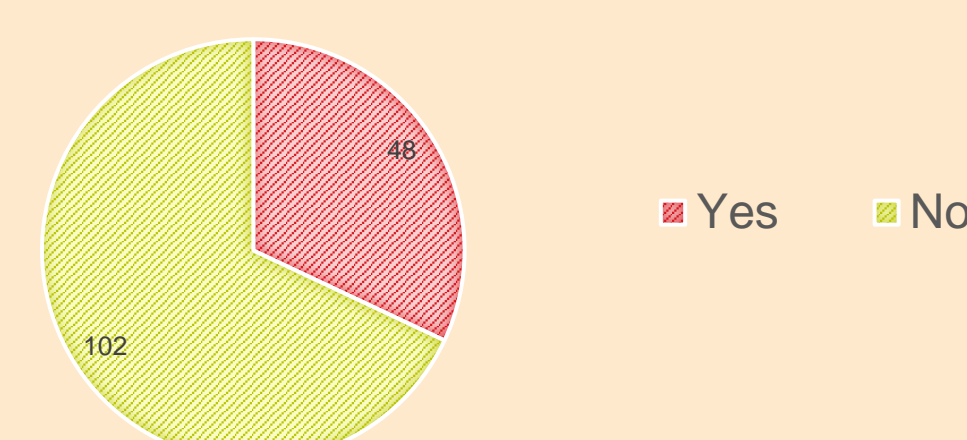
Findings

In general, all six areas have a decrease in illuminance from pre-curfew periods to post-curfew periods. However, compared to the CIE standard, all the locations have an illuminance much higher than the requirement.

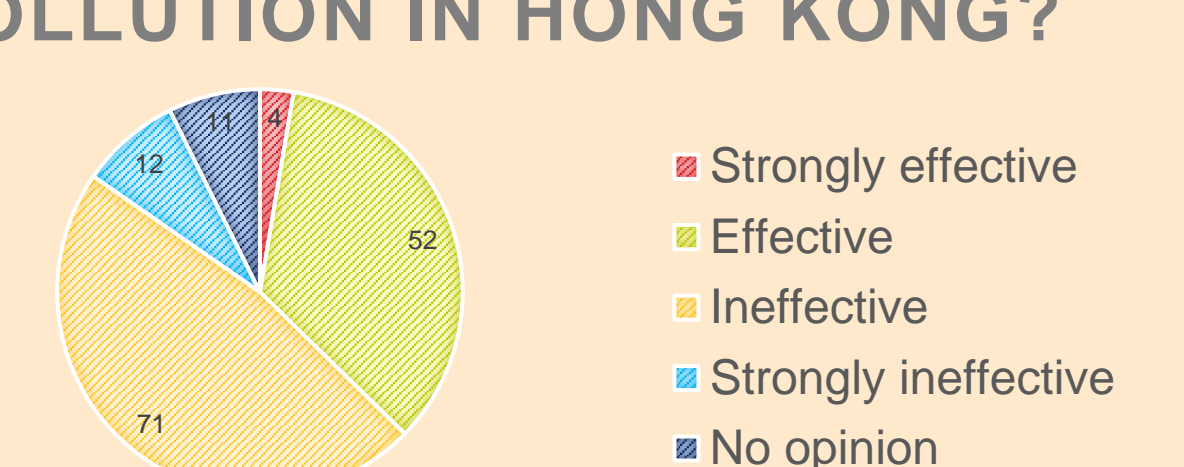


From the survey questionnaire result, it is found that 68% of the respondents do not know what the Charter on External Lighting is.

DO YOU KNOW WHAT IS CHARTER ON EXTERNAL LIGHTING IS?



IN YOUR OPINION, HOW EFFECTIVE IS THE CHARTER TO REDUCE THE LIGHT POLLUTION IN HONG KONG?



Conclusion

It is found that the illuminance of the six locations in between the pre-curfew and post-curfew periods have a decrease of 20% to 70%. However, when compared to the CIE's recommended maximum luminous intensity, the data collected is much higher than the requirement. On the other hand, the acknowledgement of the Charter by the respondents is low.

