

LEGISLATIVE COUNCIL BRIEF
AIR POLLUTION CONTROL (AMENDMENT) BILL 2021

INTRODUCTION

At the meeting of the Executive Council on 16 March 2021, the Council ADVISED and the Chief Executive ORDERED that the Air Pollution A Control (Amendment) Bill 2021 (the Amendment Bill), at **Annex A**, should be introduced into the Legislative Council (LegCo).

JUSTIFICATIONS

Review of the AQOs

2. Pursuant to section 7A(2) of the APCO, the Secretary for the Environment (SEN) may from time to time review the AQOs for an air control zone to ensure that they are the objectives that should be achieved and maintained in order to promote the conservation of air in the zone in the public interest; and promote the best use of air in the zone in the public interest. According to section 7A(3) of the APCO, such review must be carried out at least once every five years. Moreover, under section 7A(4) of the APCO, SEN must submit to the Advisory Council on the Environment (ACE) a report of the review as soon as reasonably practicable after the review is carried out.

3. The prevailing AQOs as prescribed in Schedule 5 to the APCO (see B **Annex B**), which took effect on 1 January 2014, cover seven key air pollutants and 12 objectives¹. The Environment Bureau (ENB) and the Environmental

¹ The prevailing AQOs are benchmarked against the interim targets (ITs) and ultimate targets

Protection Department (EPD) embarked on a review of the AQOs in mid-2016 and completed the review in December 2018².

Review Outcome and Recommendations

4. The AQOs review covers the assessments of air quality in 2025³, which was completed in 2018, with due consideration of the implementation of ongoing and new air quality improvement measures which will likely produce results by 2025 and the assessments on health and economic impacts.

5. The results of the 2025 air quality assessment (Assessment Results) reveal that there would be a continuous improvement in the overall air quality in Hong Kong. Based on the Assessment Results, the review recommends tightening the three AQOs, as set out below –

- (a) the 24-hour AQO for sulphur dioxide (SO₂) prescribed under para. 4(2) of Schedule 5 to the APCO to be tightened from the IT-1 level (125µg/m³) of the WHO AQGs to IT-2 level (50µg/m³) with the

of the World Health Organization (WHO) Air Quality Guidelines (AQGs). The AQOs cover 12 objectives of seven key air pollutants, including sulphur dioxide (SO₂), nitrogen dioxide (NO₂), respirable suspended particulates (RSP/PM₁₀), fine suspended particulates (FSP/PM_{2.5}), carbon monoxide (CO), ozone (O₃) and lead (Pb). Among the 12 AQOs, six of them including SO₂ (10-min), NO₂ (1-hour and 1-year), CO (1-hour and 8-hour) and lead (1-year) have already adopted the ultimate targets of the WHO AQGs.

- ² An AQOs Review Working Group, which comprised air science experts, health professionals, academics and representatives of green groups, chambers of commerce, professional bodies and trade, as well as representatives from relevant Government bureaux/departments (B/Ds), was formed to identify possible new measures for improving the air quality and advise on the conduct on the air science and health aspects of the review.
- ³ Year 2025 was used as the assessment year, taking into consideration the target of broadly attaining the current AQOs by 2020 and the statutory requirement to review the AQOs at least once every five years.

current number of exceedances allowed (3 days per calendar year) remaining unchanged;

- (b) the 1-year AQO for fine suspended particulates (FSP/PM_{2.5}) prescribed under para. 6(2) of Schedule 5 to the APCO to be tightened from IT-1 level (35µg/m³) to IT-2 level (25µg/m³); and
- (c) the 24-hour AQO for FSP/PM_{2.5} prescribed under para. 6(1) of Schedule 5 to the APCO to be tightened from IT-1 level (75µg/m³) to IT-2 level (50µg/m³) with the number of exceedances allowed adjusted from the current 9 to 35 days per calendar year⁴.

6. Despite the continuous improvement in overall air quality, the Assessment Results reveal that the concentration of respirable suspended particulates (RSP/PM₁₀) and ozone (O₃), which are subject to strong regional influence, in most areas in Hong Kong in 2025 will far exceed the next interim and ultimate targets of the WHO AQGs⁵ respectively. Hence, there is no scope for tightening the AQOs for RSP/PM₁₀ and ozone. Yet, the Government will continue to work closely with the Guangdong counterparts and tap the

⁴ Historical data of the EPD's air quality monitoring network demonstrate that the proposed 24-hour AQO for PM_{2.5} (50µg/m³ and 35 exceedances allowed in a year) is more stringent than the prevailing AQO (75µg/m³ and 9 exceedances allowed in a year). Between 2011 and 2017, the ambient air quality monitoring network recorded 17 exceedances against the prevailing 24-hour AQO for PM_{2.5}, but 30 exceedances against the proposed new AQO. This suggests that our air quality, after attaining the prevailing AQO, has to continuously improve in order to meet the proposed new AQO.

⁵ The Assessment Results reveal that even assuming zero emissions in Hong Kong in 2025, the background concentrations of PM₁₀ and ozone in Hong Kong mainly contributed from the Mainland would still exceed the ultimate targets of the WHO AQGs.

opportunities from the Greater Bay Area (GBA) cooperation to improve regional air quality and explore scope for tightening the AQOs, including RSP/PM₁₀ and ozone, in the next review period (i.e. 2019-2023).

7. We completed the review of the AQOs in December 2018 and submitted a review report to the ACE to fulfil the statutory requirement in February 2019. We then consulted the ACE and the Panel on Environmental Affairs (EA Panel) of the LegCo in March 2019. The ACE members generally supported the Assessment Results and recommendations to tighten the AQOs stated in paragraph 5 above. While acceding to our proposal to conduct a public consultation on the review findings and recommendations to tighten the AQOs, the EA Panel passed a motion requesting the Government to withdraw the adjustment in the number of allowable exceedances for the 24-hour AQO for FSP/PM_{2.5} from the current 9 to 35 days per calendar year and to tighten the AQOs for RSP/PM₁₀ and ozone.

8. After conducting a three-month public consultation between July and October 2019 on the review recommendations, we reported the outcome of the public consultation and the decision to tighten the AQOs to the LegCo EA Panel in December 2019. In brief, the findings of public consultation indicated that the public did not raise any objection to tighten the 24-hour AQO for SO₂ and 1-year AQO for FSP/PM_{2.5}; slightly more than half of the respondents understood or had no comment on the tightening of AQOs (including the 24-hour AQO for FSP/PM_{2.5}). There were responses which supported explicitly the adjustment of the number of exceedances allowed to 35, together with the tightening of the 24-hour AQO for FSP/PM_{2.5}. Also,

about one-fourth of the submissions opposed or had reservation to the adjustment of the number of exceedances allowed to 35. Yet, the EA Panel passed a motion expressing regret to the Government for not responding to an earlier motion passed in the EA Panel in March 2019 (see paragraph 7 above).

9. In response, we reiterated that the Assessment Results indicated that there was no scope for tightening the AQOs for ozone and RSP/PM₁₀ to a more stringent level (see paragraph 6 above). As for the 24-hour AQO for FSP/PM_{2.5}, it would be more pragmatic to tighten it to the next WHO IT-2 level by adjusting the number of allowable exceedances to 35 days per calendar year given that the proposed new level was a more stringent standard and tallied with the principle of progressively tightening the AQOs for attaining the AQGs as the ultimate goal. We also explained that under the ongoing five-year review cycle, the Government would embark on the next AQOs review (for the review period 2019-2023) to explore further scopes for tightening the AQOs.

10. We also consulted the ACE in January 2020 on the final recommendations and as before, members supported the recommendations to tighten the AQOs.

11. After considering all the views gathered from the public consultation and our policy direction to continuously explore new air quality improvement measures and balance the development of the society with a view to progressively tightening the AQOs to the ultimate targets of the WHO AQGs, we decided to proceed with the recommendations to tighten the AQOs as set

out in paragraph 5 above.

Transitional Arrangement for Interfacing between the New AQOs and Designated Projects

12. When implementing the new AQOs, we will include in the Amendment Bill a transitional arrangement for designated projects (DPs) with Environmental Permits (EPs) issued under the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499) before the commencement of the new AQOs. For these projects, the existing AQOs will apply to an application for a variation of the conditions of an EP lodged within 36 months of the commencement of the new AQOs. This time-limited transitional arrangement could ensure the regulatory certainty for DPs with EPs and preserve the integrity of Environmental Impact Assessment (EIA) system. Similar transitional arrangement was provided in the last AQOs review⁶ and both ACE and the EA Panel did not raise any adverse comment on the arrangement.

13. To underscore the Government's continuous commitment to adopting the best practices, we have already suggested that Government projects for which EIA studies have not yet been commenced should endeavour to adopt new AQOs as the benchmark for conducting air quality impact assessment under the EIA studies as far as practicable from the time when the Amendment Bill is introduced to the LegCo.

⁶ Similar transitional arrangement was provided in the Air Pollution Control (Amendment) Ordinance 2013 for implementing the current AQOs on 1st January 2014.

Administrative measure for New Government Projects to adopt a more stringent standard of 24-hour AQO for FSP/PM_{2.5} in EIA

14. In late 2020, EPD obtained updated emission data of the Guangdong Province for 2017 which showed a general improvement in regional air quality providing scope for cities of GBA to set more stringent air quality standards. In light of such updated emission data in the region, EPD conducted the latest air quality assessment in late 2020. The updated assessment results⁷ show that the overall FSP/PM_{2.5} levels in Hong Kong would be reduced, as compared with the previous assessment results completed in 2018. On 1 January 2021, Macao SAR Government announced that they would adopt a set of new air quality standards which are applicable to EIA studies for their new projects. Their new 24-hour air quality standard of FSP/PM_{2.5} is set at WHO IT-2 (50µg/m³) with the number of allowable exceedances pitched at 18 days in a year, which tallies with our latest air quality assessment results. It is noted that the new air quality standards as well as EIA process in Macao are implemented through administrative measures instead of legislation.

15. In view of the latest development and to show the Government's determination to improve air quality, we recommend that new Government projects shall, on a best endeavours basis, adopt an administrative measure of using a more stringent standard of 24-hour AQO for FSP/PM_{2.5} with the

⁷ The updated assessment results show that the overall FSP/PM_{2.5} levels in Hong Kong would be reduced, as compared with the previous assessment results. The annual FSP/PM_{2.5} concentrations would be less than 19µg/m³ and the number of days that 24-hour FSP/PM_{2.5} concentrations exceed the WHO IT-2 level (50µg/m³) would be less than 18. For other air pollutants, the updated assessment does not indicate further scope for tightening of their AQOs in addition to the findings of the previous assessment results.

number of allowable exceedances set as 18 days per calendar year in conducting air quality impact assessment as required under the EIAO.

16. We have considered the option to adjust the 24-hour AQO for FSP/PM_{2.5} set out in the Amendment Bill by reducing the number of allowable exceedances from 35 to 18 days per calendar year. Given that the AQOs review is a statutory process involving established consultation and legislative procedures including the statutory requirement to consult the ACE, and very extensive stakeholders and public consultation, we have to go through the consultation process afresh if we further adjust the said 24-hour AQO for FSP/PM_{2.5} in the Amendment Bill. This would certainly delay the tabling of the Amendment Bill at the LegCo within this legislative session and would fail to meet the public aspiration for implementing the new AQOs at the soonest. Hence, we do not recommend this option.

OTHER OPTIONS

17. Maintaining the AQOs as status quo would not be an option given the high public expectations on Government's actions to improve the air quality of Hong Kong through the implementation of new air quality improvement measures. Tightening the AQOs could also help strengthen the requirements and levels of air pollution control on future DPs and specified processes⁸ (SPs) in order to meet the more stringent AQOs, thus resulting in further air quality improvement.

⁸ "Specified Processes" (SPs) as defined under the APCO means a process specified in Schedule 1 to the APCO. The SPs include major stationary air pollution sources such as power plant, incinerator, cement plant, concrete batching plant, etc. and their emissions are subject to stringent licensing control.

18. With regard to the ultimate targets of the WHO AQGs, they are very stringent set of guidelines and at present, no countries or jurisdictions have adopted these targets in full as their own air quality standards. Nonetheless, we shall continue to regularly review the AQOs with a view to identifying further air quality improvement measures including Pearl River Delta (PRD) regional collaboration.

THE AMENDMENT BILL

A 19. The main provisions of the Amendment Bill (in **Annex A**) are –

- (a) to amend the 24-hour AQO for SO₂, 1-year and 24-hour AQOs for FSP/PM_{2.5} prescribed in Schedule 5 to the APCO which will take effect on a day to be appointed by SEN (“commencement date”) (see **clause 3**); and
- (b) to provide for transitional provisions in the Amendment Bill for the continued application of the pre-amended AQOs [i.e. the AQOs prescribed in Schedule 5 to the APCO as in force immediately before the commencement date for applications for variations of the conditions of EPs submitted within 36 months beginning on the commencement date] (see **clause 4**).

C 20. The existing provisions being amended are at **Annex C**.

LEGISLATIVE TIMETABLE

21. Subject to the Chief Executive in Council's approval of the introduction of the Amendment Bill into the LegCo, the legislative timetable will be –

Publication in the Gazette	19 March 2021
First Reading and commencement of Second Reading debate	24 March 2021
Resumption of Second Reading debate, to be notified committee stage and Third Reading	

IMPLICATIONS OF THE PROPOSAL

22. The proposal has environmental and sustainability, health and productivity, economic and financial and civil service implications as set out at D **Annex D**. The proposal is in conformity with the Basic Law, including the provisions concerning human rights, and will not affect the current binding effect of the APCO. It has no family and gender implications.

PUBLIC CONSULTATION

23. We have consulted the public on the recommendations to tighten the three AQOs as set out in paragraph 5 above and the progressive approach to tighten the AQOs towards the ultimate targets of the WHO AQGs. The E findings are summarised in **Annex E**.

PUBLICITY

24. We will publish a press release for the Amendment Bill on 19 March 2021. A spokesman will be made available for enquiries.

ENQUIRY

25. For any enquiry relating to this brief, please contact Mr Dave HO, Assistant Director of Environmental Protection (Air Policy), at 2594 6309.

**Environment Bureau / Environmental Protection Department
March 2021**

A BILL

To

Amend the Air Pollution Control Ordinance to amend the air quality objectives in relation to sulphur dioxide and fine suspended particulates prescribed in Schedule 5 to the Ordinance; and to provide for transitional matters.

Enacted by the Legislative Council.

1. Short title and commencement

- (1) This Ordinance may be cited as the Air Pollution Control (Amendment) Ordinance 2021.
- (2) This Ordinance comes into operation on a day to be appointed by the Secretary for the Environment by notice published in the Gazette.

2. Air Pollution Control Ordinance amended

The Air Pollution Control Ordinance (Cap. 311) is amended as set out in section 3.

3. Schedule 5 amended (air quality objectives)

- (1) Schedule 5, section 4(2)—

Repeal

“125”

Substitute

“50”.

- (2) Schedule 5, section 6(1)—

Repeal

“75”

Substitute

“50”.

- (3) Schedule 5, section 6(1)—

Repeal

“9”

Substitute

“35”.

- (4) Schedule 5, section 6(2)—

Repeal

“35”

Substitute

“25”.

4. Transitional provisions relating to application under section 13(1) of EIAO

- (1) This section applies to an application, made during the transitional period, under section 13(1) of the EIAO for a variation of the conditions of an environmental permit issued before the commencement date (*specified application*).
- (2) For a specified application—
 - (a) the pre-amended air quality objectives continue to have effect as a criterion for evaluating air quality impact under section 1.1(a) of Annex 4 to the EIAO technical memorandum for the purposes of the specified provisions referred to in subsection (3); and
 - (b) the amended air quality objectives do not have effect as such a criterion for those purposes.

- (3) The specified provisions for a specified application are—
- (a) sections 5, 6, 7 and 8 of the EIAO, as applied in relation to the application because of section 13(4) of the EIAO; and
 - (b) section 13(5)(b) of the EIAO.
- (4) In this section—
- amended air quality objectives** (經修訂空氣質素指標) means the air quality objectives prescribed in Schedule 5 to the APCO as amended by this Ordinance;
- APCO** (《空氣污染管制條例》) means the Air Pollution Control Ordinance (Cap. 311);
- commencement date** (生效日期) means the date on which this Ordinance comes into operation;
- EIAO** (《環境影響評估條例》) means the Environmental Impact Assessment Ordinance (Cap. 499);
- EIAO technical memorandum** (《環評條例技術備忘錄》) means the technical memorandum published under section 16(5) of the EIAO on 16 May 1997;
- pre-amended air quality objectives** (原有空氣質素指標) means the air quality objectives prescribed in Schedule 5 to the APCO as in force immediately before the commencement date;
- transitional period** (過渡期) means the period of 36 months beginning on the commencement date.

Explanatory Memorandum

The objects of this Bill are to amend the Air Pollution Control Ordinance (Cap. 311) (**Ordinance**) to amend the air quality objectives in relation to sulphur dioxide and fine suspended particulates prescribed in Schedule 5 to the Ordinance and to provide for transitional matters.

2. Clause 1 sets out the short title and provides for commencement.
3. Clause 3 amends sections 4 and 6 of Schedule 5 to the Ordinance to tighten the air quality objectives in relation to sulphur dioxide and fine suspended particulates.
4. Clause 4 provides for transitional provisions. For an application made under section 13(1) of the Environmental Impact Assessment Ordinance (Cap. 499) for a variation of the conditions of an environmental permit issued before the commencement date of this Bill, if the application is made within 36 months beginning on the commencement date, the pre-amended air quality objectives will continue to apply.

Annex B

**HONG KONG'S PREVAILING AND PROPOSED NEW AQOS AND INTERIM
AND ULTIMATE TARGETS OF THE WHO AQGS**

Pollutants	Averaging Time	WHO AQGs ($\mu\text{g}/\text{m}^3$)				No. of Exceedances Allowed in Hong Kong's Prevailing AQOs per calendar year	
		IT-1 ^[1]	IT-2 ^[1]	IT-3 ^[1]	Ultimate Target		
Sulphur Dioxide (SO ₂)	10-minute	-	-	-	500	3	
	24-hour	125	<u>50</u>	-	20	3	
Respirable Suspended Particulates (RSP/PM ₁₀)	1-year	70	50	30	20	Not applicable	
	24-hour	150	100	75	50	9	
Fine Suspended Particulates (FSP/PM _{2.5})	1-year	35	<u>25</u>	15	10	Not applicable	
	24-hour	75	<u>50</u>	37.5	25	9	<u>35</u>
Nitrogen Dioxide (NO ₂)	1-year	-	-	-	40	Not applicable	
	1-hour	-	-	-	200	18	
Ozone (O ₃)	8-hour	160	-	-	100	9	
Carbon Monoxide (CO)	1-hour	-	-	-	30,000	0	
	8-hour	-	-	-	10,000	0	
Lead (Pb)	1-year	-	-	-	0.5	Not applicable	

Notes:

[1] IT – WHO's interim targets

xx Prevailing AQOs are indicated in green cells

xx Proposed new AQOs and allowable number of exceedances are indicated in orange cells

Schedule 5

[s. 7A]

Air Quality Objectives

Part 1

Preliminary

1. Interpretation

In this Schedule—

fine suspended particulates (微細懸浮粒子) means suspended particles in air with a nominal aerodynamic diameter of 2.5 µm or less;

respirable suspended particulates (可吸入懸浮粒子) means suspended particles in air with a nominal aerodynamic diameter of 10 µm or less.

2. Application

The air quality objectives set out in this Schedule are prescribed for every air control zone.

3. Reference conditions

All measurements of the concentration of gaseous air pollutants set out in Part 2 of this Schedule are to be adjusted to a reference temperature of 293 Kelvin and a reference pressure of 101.325 kilopascal.

Part 2

Concentration Limits of Air Pollutants

4. Sulphur dioxide

- (1) The concentration limit of sulphur dioxide in air averaged over a reference period is 500 µg/m³ and the number of reference periods in which the limit is exceeded should not be more than 3 per calendar year.

- (2) The concentration limit of sulphur dioxide in air averaged over a day is 125 µg/m³ and the number of days on which the limit is exceeded should not be more than 3 per calendar year.
- (3) For the purposes of subsection (1), a reference period is—
 - (a) the first 10 minutes of a day; or
 - (b) each successive 10-minute period of the day.

5. Respirable suspended particulates

- (1) The concentration limit of respirable suspended particulates in air averaged over a day is 100 µg/m³ and the number of days on which the limit is exceeded should not be more than 9 per calendar year.
- (2) The concentration of respirable suspended particulates in air averaged over a calendar year should not exceed 50 µg/m³.

6. Fine suspended particulates

- (1) The concentration limit of fine suspended particulates in air averaged over a day is 75 µg/m³ and the number of days on which the limit is exceeded should not be more than 9 per calendar year.
- (2) The concentration of fine suspended particulates in air averaged over a calendar year should not exceed 35 µg/m³.

7. Nitrogen dioxide

- (1) The concentration limit of nitrogen dioxide in air averaged over an hour is 200 µg/m³ and the number of hours in which the limit is exceeded should not be more than 18 per calendar year.
- (2) The concentration of nitrogen dioxide in air averaged over a calendar year should not exceed 40 µg/m³.

8. Ozone

- (1) The number of days on which the maximum daily 8-hour mean concentration of ozone in air exceeds 160 µg/m³ should not be more than 9 per calendar year.
- (2) For the purposes of subsection (1), the maximum daily 8-hour mean concentration of ozone in air is selected by examining 8-hour running averages, calculated from hourly data and updated each hour.
- (3) Each 8-hour running average calculated for the purposes of subsection (2) is assigned to the day on which the 8-hour period ends, that is—

- (a) the first calculation period for a day is the period from 5 p.m. on the previous day to 1 a.m. on that day; and
- (b) the last calculation period for a day is the period from 4 p.m. to 12 midnight on that day.

9. Carbon monoxide

- (1) The concentration of carbon monoxide in air averaged over an hour should not exceed 30 000 µg/m³.
- (2) The maximum daily 8-hour mean concentration of carbon monoxide in air should not exceed 10 000 µg/m³.
- (3) For the purposes of subsection (2), the maximum daily 8-hour mean concentration of carbon monoxide in air is selected by examining 8-hour running averages, calculated from hourly data and updated each hour.
- (4) Each 8-hour running average calculated for the purposes of subsection (3) is assigned to the day on which the 8-hour period ends, that is—
 - (a) the first calculation period for a day is the period from 5 p.m. on the previous day to 1 a.m. on that day; and
 - (b) the last calculation period for a day is the period from 4 p.m. to 12 midnight on that day.

10. Lead

The concentration of lead in air averaged over a calendar year should not exceed 0.5 µg/m³.

(Schedule 5 added 12 of 2013 s. 7)

IMPLICATIONS OF THE PROPOSAL

Environmental and Sustainability Implications

The progressive tightening of AQOs demonstrate the Government's determination to improve air quality and will help us drive the formulation and implementation of air quality improvement policies and measures. It is also conducive to the sustainability principles of seeking opportunities to enhance environmental quality and providing a living environment which promotes and protects the health of the public.

Health and Productivity Implications

2. On health and productivity implications, we have reported that the potential air quality improvements could bring along health benefits, such as reducing premature deaths, hospital admissions, clinic visits, and medical cost in particular in relation to respiratory and cardiovascular diseases, and indirectly raising labour productivity. In short, there would be potential benefits of reducing about 1 850 premature deaths in 2025 due to the reduction in long-term exposure of air pollution (in terms of annual concentration level of FSP/PM_{2.5} and NO₂), as compared with 2015. About 1 530 cases of hospital admission and 262 580 cases of clinic visits (both public and private practitioners) could also be reduced in 2025 due to the improvement in short-term exposure (in terms of 1-hour or 24-hour concentration levels) of air pollutants, in particular the improvement of 1-hour concentration level of NO₂, as compared with 2015. The corresponding savings from hospital admissions and clinic visits were estimated at about \$96 million¹. Nevertheless, the slight

¹ The potential economic savings is estimated based on a tool developed by the study "Developing an Instrument for Assessing the Health and Economic Impacts of Air Pollution in Hong Kong", which was commissioned by EPD and conducted by the Chinese University of Hong Kong. It does not include monetary gain in preventing premature deaths as the Office of the Government Economist (OGE) considers it

increase in ozone concentration level in 2025 could offset some of the health benefits² owing to short-term exposure of air pollutants.

Economic Implications

3. The delivery of the tightening of the AQOs for FSP/PM_{2.5} and SO₂ and the abatement measures underscore Hong Kong's continuous commitment to better air quality and environment, which would strengthen Hong Kong's competitive edge as an international business hub and tourist destination.

4. The consequential more stringent benchmark for infrastructural and development projects to get EPs under the EIAO or for SPs to get SP licences under the APCO would result in some, albeit marginal, further improvements in air quality, though it would also incur extra compliance costs for the implementation of additional mitigation measures to comply with the tightened AQOs.

Financial and Civil Service Implications

5. While the act of the review of the AQOs and public consultation do not entail any additional financial and staffing implications for the Government, the implementation of new air quality improvement measures identified in the review could have resource implications for EPD and other relevant B/Ds. Nevertheless, any requirement for additional resources would be justified and sought in accordance with the established mechanism.

inappropriate for the Government to attach a monetary value to life and has reservations in the methodology adopted by the study conducted by the Chinese University of Hong Kong. The estimate also does not include savings in production loss due to reduced hospital admissions and clinic visits as OGE has concerns about the methodology.

² The hospital admissions and clinic visits (for public and private practitioners) owing to the predicted increase in ozone concentration in 2025 were estimated at about 30 cases and 8 210 cases respectively. The corresponding costs on these short-term impact such as hospital admission and clinic visits were estimated at about \$2.5 million.

THE REVIEW OF AIR QUALITY OBJECTIVES PUBLIC CONSULTATION FINDINGS

Background

We conducted a three-month public consultation between July and October 2019 to solicit public views on the review findings and the proposed tightening of three AQOs including 24-hour AQO for SO₂, 1-year and 24-hour AQOs of FSP/PM_{2.5}.

2. To enhance public understanding of the proposal and facilitate the public consultation, we prepared a set of public consultation document and a leaflet to outline the review process and to highlight the key new air quality improvement measures; findings of air quality assessments; health and economic impact assessment results; and rationales for the proposed tightening of the AQOs. In addition, we set up a dedicated public consultation website (www.aqoreview.hk) and designed a views collection form¹ for the public to submit their views online or by email, fax or post.

3. During the consultation, we have hosted four consultation forums for stakeholders² and the public, and attended four discussion sessions held by professional institutions (the Hong Kong Institution of Engineers and the Hong

¹ To facilitate the public to provided views and comments, the views collection form set out four questions as follows:

Question 1: Hong Kong's air quality has been improving in recent years. Are you aware of the improvements in air quality and visibility?

Question 2: The WHO AQGs recommend governments of different places to continuously explore new air quality improvement measures and balance the development of the society, with a view to progressively tightening the air quality standards to achieve the WHO AQGs levels. Do you agree with this approach?

Question 3: What are your views on the proposed tightening of the AQOs for PM_{2.5} and SO₂ as recommended in this review?

Question 4: In your opinion, what kind of work should be paid attention to and covered in the next review of the AQOs?

² The stakeholders included environmental groups, professional institutions, commercial and industrial organisations, tertiary institutions, transport trade, political parties, women's and youth groups, think tanks, etc. The Legislative Council members, the Heung Yee Kuk members and the District Council members were also separately notified of the public consultation. A total of around 600 invitations were sent.

Kong Institute of Qualified Environmental Professionals), a business chamber (the Hong Kong General Chamber of Commerce) and a concern group (AQO Review Coalition). There were about 400 participants for the events mentioned above.

Major Findings of the Public Consultation

4. We received a total of 282 submissions during the consultation period. Most of the submissions (246 submissions or almost 90%) were made by filling out the EPD's views collection form, while the rest were submitted by separate email, fax or post, etc. About 80% of the submissions were from individuals, about 10% were from organisations including environmental and concern groups, business chambers and political parties, and the remaining submissions had no indication of whether they were from individuals or organisations.

5. The major views towards the tightening of the AQOs are summarised below.

- (a) Most of the respondents agreed that we should follow the recommendations of the WHO AQGs to continuously explore new air quality improvement measures and balance the development of the society with a view to progressively tightening the AQOs to the ultimate targets of the WHO AQGs;
- (b) The public did not raise any objection to tighten the 24-hour AQO for SO₂ and 1-year AQO for FSP/PM_{2.5}; and
- (c) Slightly more than half of the respondents understood or had no comment on the tightening of AQOs (including the 24-hour AQO for FSP/PM_{2.5}). There were responses which supported explicitly the adjustment of the number of exceedances allowed to 35, coupled with the tightening of the concentration level of the 24-hour AQO for FSP/PM_{2.5}. Also, about one-fourth of the submissions opposed or had reservation to the adjustment of the number of exceedances allowed to 35.

Consultation Forums and Discussion Sessions

6. During the consultation, we have hosted four consultation forums for stakeholders and the public, and attended four discussion sessions held by professional institutions, a business chamber and a concern group. The key

views are summarized in the ensuing paragraphs.

7. A professional institution and some environmental groups opined that adopting the PRD emission data of 2020 in the air quality assessment for 2025 had not taken into account the potential air quality improvement brought by the implementation of various emission reduction measures in the PRD region in the next few years. Hence, the air quality assessment for 2025 would be conservative. We explained at the forums and meetings that the 2020 emission projection in the PRD region was the only data confirmed by the Guangdong authority. To keep the credibility of the review, we must use officially confirmed data to assess the changes in air quality in 2025.

8. A few environmental groups and concern groups queried whether the proposal of tightening the 24-hour AQO for FSP/PM_{2.5} from the present level of 75 µg/m³ to 50 µg/m³ while adjusting the number of exceedances allowed from 9 to 35 was more stringent than the present AQO. We clarified at the meetings that the setting of the number of allowable exceedances for the short-term AQO was based on the scientific air quality assessment results for 2025. To facilitate the public to compare the two AQOs, we made reference to the historical air quality monitoring data between 2011 and 2017 to illustrate that the proposed new AQO is more stringent than the prevailing one.

9. Some participants of the consultation forums expressed concerns about the health impact arising from high NO₂ concentration at the roadside and the increase in ozone level. There were also views that the Government should enhance the PRD regional cooperation, as well as further improve the regional air quality at the GBA level.

10. A concern group raised concerns at different consultation forums about the air quality impact arising from an ongoing road works project with an EP granted under the EIAO by the EPD, and requested the Government to step up air quality monitoring at nearby residential buildings.