

# Guangdong-Hong Kong-Macao Pearl River Delta Regional Air Quality Monitoring Network results for 2020 released

Guangdong, Hong Kong and Macao released today (June 10) a report on air quality in 2020 under the Guangdong-Hong Kong-Macao Pearl River Delta Regional Air Quality Monitoring Network, showing a continuous improvement of air quality in the Pearl River Delta (PRD) in recent years.

Overall, the air pollutant emission reduction measures implemented by Guangdong, Hong Kong and Macao have contributed to the gradual improvement of overall air quality in the PRD. The monitoring network was launched in November 2005. Compared with 2006, the average annual concentration levels of sulphur dioxide (SO<sub>2</sub>), respirable suspended particulates (RSP) and nitrogen dioxide (NO<sub>2</sub>) in 2020 decreased by 86 per cent, 49 per cent and 43 per cent, respectively. Although the other two parameters, i.e. carbon monoxide (CO) and fine suspended particulates (FSP) were only added to the monitoring network in September 2014, their average annual concentration levels also decreased by 16 per cent and 31 per cent, respectively, in 2020 when compared with those in 2015. On the other hand, the 2020 average annual concentration level of ozone (O<sub>3</sub>) increased by 27 per cent when compared with that in 2006, indicating that further alleviation of regional photochemical pollution is required. The average annual concentration levels of the above six air pollutants since 2006 are shown at the Annex.

To continually improve regional air quality, the Hong Kong Special Administrative Region (HKSAR) Government and the Guangdong Provincial Government have long been committed to reducing emissions of air pollutants from key sources. The two governments are conducting a study on Post-2020 regional air pollutant emission reduction targets and concentration levels, with a view to formulating air pollutant emission reduction targets/levels in 2025 and 2030. In addition, the governments of Guangdong, Hong Kong and Macao will launch a three-year study from 2021 to 2024 on Characterisation of photochemical ozone formation, regional and super-regional transportation in the Greater Bay Area. Results from the study will help better understand the origins of ozone precursors, their formation mechanism and regional and super-regional transportation characteristics in the Greater Bay Area.

Hong Kong has implemented various air pollutant emission control measures on marine and land transport, power plants and non-road mobile machinery in order to continually improve air quality. On the vehicular emission front, Hong Kong has tightened the emission standards for first registered vehicles (except for diesel private cars, motorcycles and tricycles) to Euro VI in phases according to vehicle classes, and will continue to phase out old diesel commercial vehicles. It has also stepped up emission controls against petrol and liquefied petroleum gas vehicles by using roadside remote sensing equipment. In March 2021, the HKSAR Government announced the Hong Kong Roadmap on Popularisation of Electric Vehicles, which

guides Hong Kong's future direction to attain zero vehicular emissions before 2050. As regards marine emissions, the HKSAR Government and the Guangdong Provincial Government have jointly implemented control measures to mandate vessels to use low-sulphur fuel. Hong Kong will also increase the use of natural gas in power generation, promote the local development of renewable energy and continue to tighten emission caps for power plants progressively. In addition, the emission standards for newly approved non-road vehicles have been tightened in phases to Euro VI, on par with that for the newly registered road vehicles.

Guangdong Province implemented the "three-year action plans on pollution control (2018-2020)" and the "implementation plan on safeguarding blue sky (2018-2020)". It introduced measures including deepening control of industrial enterprises; commencing volatile organic compounds monitoring and controls on enterprises; comprehensively enhancing treatments for various pollution sources, including the collection rate, operation rate and removal rate of pollutants' treatment facilities. Guangdong Province also put forward vapour control measures in petrol filling stations, oil depots and tanker trucks, and implemented a target action plan for sensitive areas and chemical industry zones, imposing coal-to-gas switching and an in-depth treatment of coal-fired boilers with capacity of more than 35 tons of steam per hour for some industrial boilers and furnaces in the building ceramic industry. Measures on the vehicular emission front include strengthening compliance management of diesel vehicles pollution, intensifying penalties on diesel trucks' excessive emissions through remote sensing and managing large diesel vehicle operators, and taking the national lead in adopting concessionary measures to encourage refuelling at night to reduce the impact of fuel volatilisation. Other measures include enhancing decision-making capabilities based on scientific considerations; holding expert consultation meetings on air pollution prevention and control; conducting research on meteorological conditions, variation of air quality trends and annual patterns of pollutants emission; and providing guidance to cities on tackling polluted weather effectively to further improve air quality.

Macao rolled out a series of air quality improvement measures to reduce pollution from mobile and stationary sources respectively in accordance with relevant initiatives laid down in the Five-Year Development Plan of the Macao Special Administrative Region (2016-2020) and its policy objectives. Such measures include continuously optimising and improving the emission limits and measurement methods for exhaust gases from vehicles, promoting the use of electric vehicles and continuously putting forward research on controlling and reducing volatile organic compounds. Macao has been monitoring the vapour recovery systems in petrol filling stations as well as continuously overseeing the implementation status of the administrative regulation for limiting the emission standards of chemical and pharmaceutical industries, power plants and oil depots, which came into force in 2020. The Ambient Air Quality Standard was also published to further improve the air quality and safeguard the health of the public.

The monitoring network, comprising total 23 air monitoring stations located in Guangdong Province, Hong Kong and Macao, monitors six major air

pollutants (i.e. SO<sub>2</sub>, NO<sub>2</sub>, O<sub>3</sub>, RSP, FSP and CO). The Ecological and Environmental Monitoring Centre of Guangdong, the Environmental Protection Department of Hong Kong (HKEPD), the Macao Environmental Protection Bureau and the Macao Meteorological and Geophysical Bureau are responsible for the co-ordination, management and operation of the monitoring stations of the three sides. They will continue to release annual reports on the monitoring results and long-term pollution trends of the PRD as well as quarterly statistical monitoring results. Members of the public can visit the website of the Guangdong-Hong Kong-Macao Regional Air Quality Monitoring Information System ([113.108.142.147:20047](http://113.108.142.147:20047)), or the websites of the Department of Ecology and Environment of Guangdong Province ([gdee.gd.gov.cn](http://gdee.gd.gov.cn)), the HKEPD ([www.epd.gov.hk](http://www.epd.gov.hk)), the Macao Environmental Protection Bureau ([www.dsma.gov.mo](http://www.dsma.gov.mo)) or the Macao Meteorological and Geophysical Bureau ([www.smg.gov.mo](http://www.smg.gov.mo)) for the relevant annual reports and quarterly monitoring statistics.