Q7

Describe the key points of the revised Global Air Quality Guidelines (AQGs) recently released by the World Health Organisation (WHO). How are these different from its last update in 2005? What changes in India's National Clean Air Programme are required to achieve these revised standards ?

UPSC Civil Services Mains 2021 · GS III · 10 marks · Indian Economy

Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment.

Core demand of the question

- Describe the key points of the revised Global Air Quality Guidelines (AQGs) recently released by WHO. How are these different from its last update in 2005? What changes in India's National Clean Air Programme are required to achieve these revised standards?
- Keep PM2.5 annual 5 versus 10 explicit
- Keep the explanation within a 10-mark length

Revision summary

WHO 2021 AQGs set PM2.5 annual at 5 µg/m³ against 10 in 2005, with tighter 24-hour PM and a much lower NO2 annual guideline.

Interim targets exist because few countries are at 5 today.

India's NAAQS and NCAP still work from a far higher PM2.5 ceiling and a limited city list.

Required NCAP shifts are stricter standards, wider monitoring, and regional airshed policy.

City dust plans alone cannot meet WHO 2021.

Introduction

WHO released new Global Air Quality Guidelines in 2021, replacing the 2005 update. The new numbers are much tighter, especially for PM2.5. India's National Clean Air Programme still aims at a modest cut from a high domestic standard. Meeting WHO 2021 would need stricter cities, denser monitoring, and an airshed approach, not only city action plans.

Body

Key points of WHO AQG 2021

- **PM2.5** annual mean is **5 µg/m³**; 24-hour mean is **15 µg/m³**.
- **PM10** annual mean is **15 µg/m³**; 24-hour mean is **45 µg/m³**.
- **NO2** annual mean falls to **10 µg/m³**, with a tighter 24-hour value.
- Ozone, SO2, and CO also get health-based guideline levels, with an ozone peak-season number added.

• WHO presents **interim targets** so countries can climb down from dirty baselines instead of pretending 5 µg/m³ is next year's law.

Difference from 2005

• 2005 set **PM2.5 annual at 10 µg/m³** and 24-hour at 25. 2021 **halves** the annual PM2.5 guideline to **5** and cuts the 24-hour number to 15.

• PM10 annual moves from **20 to 15**; 24-hour from **50 to 45**.

• NO2 annual was **40 µg/m³** in 2005 and is **10** in 2021, which is a large tightening for traffic and power-plant NOx.

• The 2021 package is based on a larger health-evidence base linking even "moderate" South Asian air to premature death.

NCAP changes required

• India's **NAAQS** still allow **PM2.5 annual 40 µg/m³**, eight times the new WHO annual guideline. NCAP must **tighten national standards** in stages toward WHO interims, not stop at a 20-30 per cent cut from 2017 in a few cities.

• **NCAP's city list must** expand and harden**:** more than the original non-attainment set, with real-time **monitoring** in smaller towns, not only State capitals.

• Pollution is an **airshed** problem (Indo-Gangetic plain, brick kilns, stubble, industry). City plans without **regional power, transport, and agriculture** rules cannot hit WHO numbers.

• Need **cleaner fuels, industrial emission norms, fleet electrification, waste burning control, and construction dust law** with penalties that bite.

• Health surveillance and public AQI communication should use WHO risk language so 40 µg/m³ is not sold as safe air.

Flow diagram

WHO 2005 PM2.5 annual 10 -> WHO 2021 PM2.5 annual 5

NCAP city 20-30 percent cut -> Gap to WHO

Stricter NAAQS -> Airshed action

More cities and monitors -> Airshed action

Airshed action -> Health-closer air

Conclusion

WHO 2021 made PM2.5 annual 5 µg/m³ against 10 in 2005, and tightened NO2 sharply. NCAP can approach that path only if India tightens standards, monitors more places, and governs air as a regional airshed rather than a municipal project.

Facts & figures

WHO AQG 2021

Global Air Quality Guidelines replacing the 2005 update; PM2.5 annual guideline 5 µg/m³.

WHO AQG 2005

Previous update with PM2.5 annual guideline 10 µg/m³ and NO2 annual 40 µg/m³.

NAAQS PM2.5

Indian annual standard 40 µg/m³, far above WHO 2021.

NCAP 2019

National Clean Air Programme: time-bound PM reduction in non-attainment cities from a 2017 baseline.

Airshed

A regional air basin (for example the Indo-Gangetic plain) that city-only plans cannot clean alone.