

ACTIONS ON AIR QUALITY:

A global summary of policies and programmes to reduce air pollution

Executive Summary

Advance draft. Please do not cite or distribute

CONTEXT:

In 2019, 92 percent of the world's population experienced PM_{2.5} concentrations in excess of the World Health Organization (WHO) guideline of 10 µg/m³¹. Without policy interventions, exposure to PM_{2.5} would increase by 50 per cent by 2030. This would severely compromise lives and the quality of life of the population.

This report provides a review of policy actions of Member States per the mandate provided by UNEA Resolution 3/8 on Preventing and reducing air pollution to improve air quality globally². This report builds on the United Nations Environment Programme (UNEP) 2016 report 'Actions on Air Quality'³ which provided an overview of actions undertaken by countries around the world, focusing on a set of measures that if adopted would significantly improve air quality.

This new report is based on data collected in 2020 through a detailed survey shared with member states, supplemented with relevant literature documenting key actions being undertaken by governments around the world to improve air quality. The report is complemented by regional reports documenting more in-depth actions in key sectors as well as regional trends and priorities.

By 2016 UNEP found that countries had adopted a substantial number of policies, standards and regulations to reduce air pollution. However, the report also revealed crosscutting challenges to addressing air pollution. These included: ineffective implementation and enforcement of existing policies and regulations; limited cooperation between national and city administration; the universal need for monitoring and assessment; and the importance of behavioral change and public participation through awareness and stakeholder involvement.

¹ State of Global Air, 2020

² In its paragraph 7(j) UNEA/8 Resolution requested the Executive Director of UNEP to inter alia, "undertake an assessment of progress being made by Member States to adopt and implement key actions that can significantly improve air quality, in time for UNEA-5 and thereafter, synchronized with the Global Environment Outlook cycle."

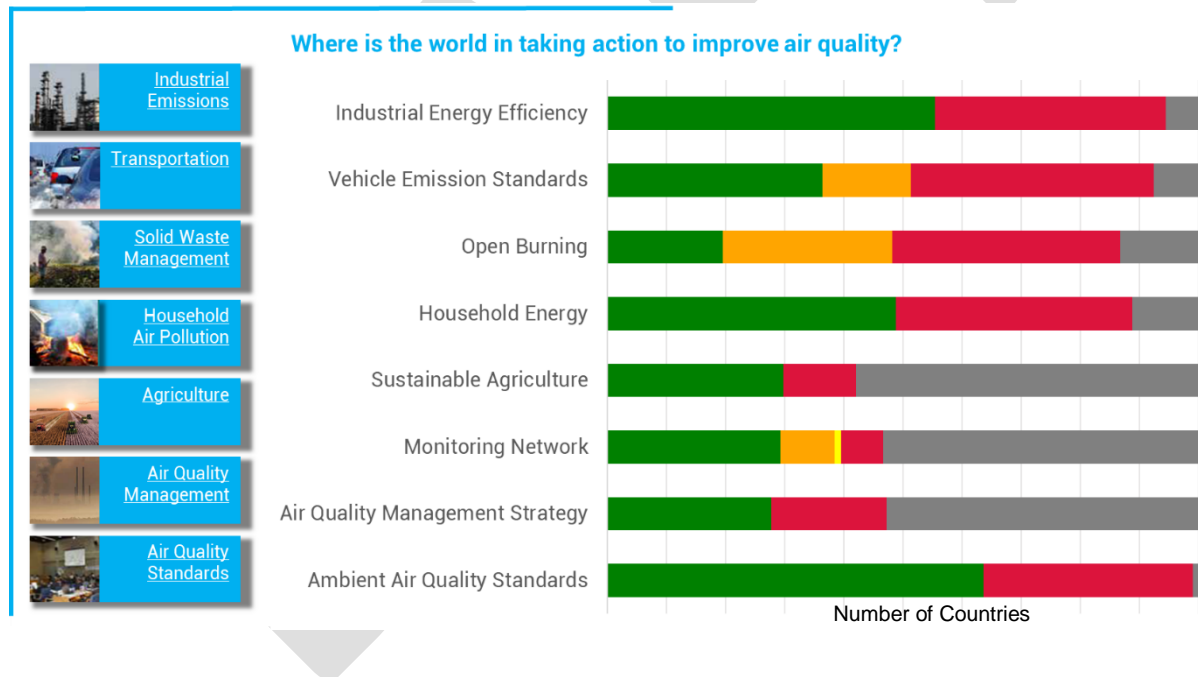
³ <https://www.unep.org/resources/assessment/actions-air-quality>

This summary provides a snapshot of progress in undertaking key measures to improve air quality by countries, and a brief analysis of progress compared to the 2016 overview. The full report provides further details and analysis of global actions, including gaps and opportunities to address them.

STATUS AND TRENDS:

This 2021 report assesses actions in key sectors that contribute to air pollution in most countries, including industrial emissions, energy production and industrial manufacturing, on road transportation, solid waste management, household air pollution and agriculture emissions. It also provides an overview of non-sectoral air quality management actions including air quality frameworks, strategies, standards, and monitoring.

Progress towards adoption of key actions that can significantly improve air quality⁴ (Source: UNEP survey data)



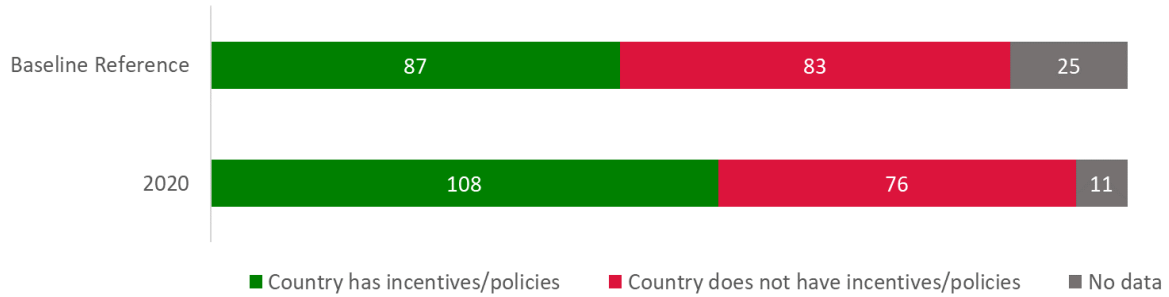
More countries have incentives or policies promoting cleaner production, energy efficiency and pollution abatement for industries

In the **industrial sector**, the report indicates growing uptake of policy incentives for cleaner production and energy efficiency relative to the baseline reference analysis of 2016. While some of

⁴ From the analysis of UNEP data, a set of key policy actions were identified that if adopted would significantly improve air quality. The above graphic indicates how many countries have adopted these policies (green), are on their way to adopting them (orange/yellow), or have yet to adopt or implement them (red). Grey indicates that no data was available.

this progress may reflect a reduction in data gaps relative to the baseline data (e.g., Europe), increases are noted in Africa and Asia and the Pacific.

Number of countries with incentives or policies promoting cleaner production, energy efficiency and pollution abatement for industries (Source: UNEP survey data)

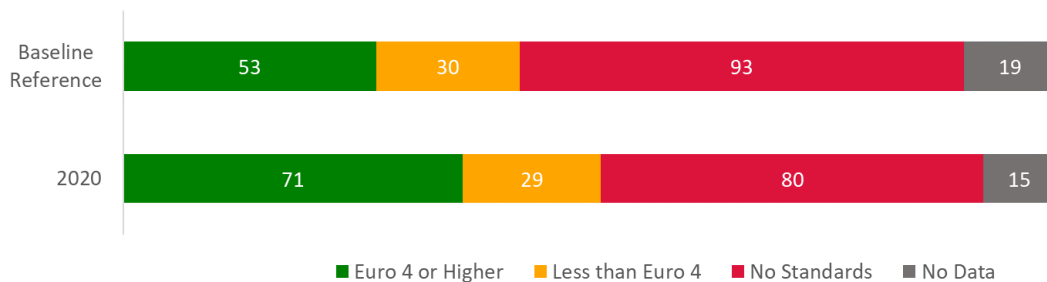


An increased number of countries are meeting Euro 4/IV vehicle emission standards

Policies to reduce emissions from the **on-road transportation sector** remain critical countries and their urban areas around the world. The past five years have shown progress, with 18 additional countries adopting emission standards equivalent to Euro 4/IV or higher for a total of 71. Twenty-nine countries have vehicle standards in place, but they are not yet up to Euro 4/IV stringency.

A key aspect of successful implementation of tailpipe standards is fuel quality. UNEP tracks progress on tailpipe standards as well as fuel quality. There is still significant progress to be made with regards to fuel quality, as highlighted in the main report.

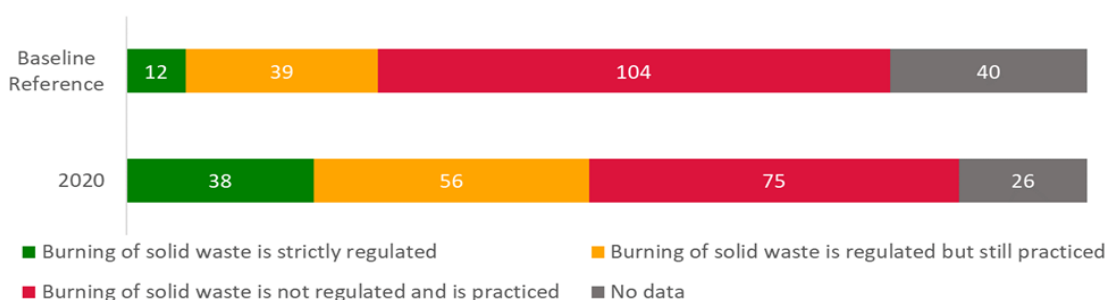
Number of countries meeting Euro 4/IV vehicle emission standards (Source: UNEP survey data)



More countries regulate open burning of solid waste, however it is still a widespread practice

The proportion of countries that regulate **open waste burning** has increased significantly since 2016. Ninety-four countries (43 more than in 2016) have partially or strictly regulated burning, but only 38 of these countries are regulating the burning of waste strictly. Despite this progress since 2016, open burning is still practiced in many countries even when regulations exist. Seventy-five countries still do not have regulations in place. Survey data indicate that governments have taken actions ranging from urban or national waste management plans, to waste management regulations and more advanced strategies like landfill gas capture and improved collection, separation and waste disposal methods.

Solid waste burning regulation by country (Source: UNEP survey data)

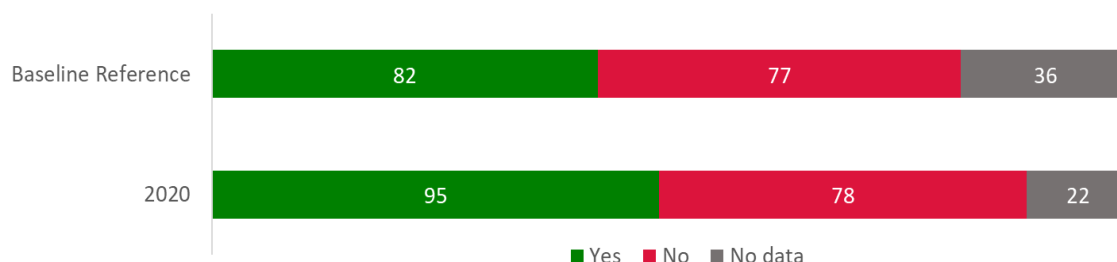


More countries are adopting clean energy programmes for residential heating and cooking

In terms of **household air pollution**, the world has seen increased availability of cleaner fuels and an estimated global reduction in the burden of disease due to this source. Thirteen additional countries are found to have national programmes to promote clean energy in residential heating and cooking.

Survey data show that governments implement various measures in this sector with the highest level of uptake for increased energy efficiency in housing, followed by improved access to green technologies for residential heating; adoption of low-emission cooking stoves and fuels and expanding use of liquefied petroleum gas (LPG).

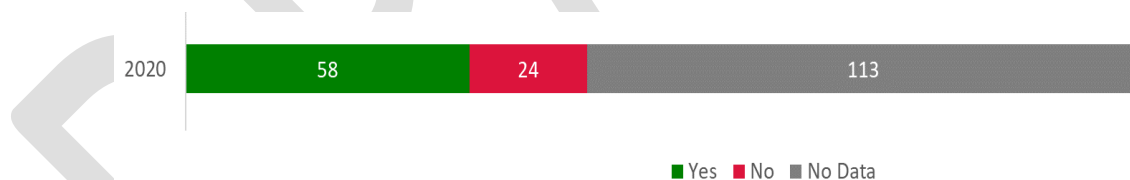
Countries with national clean residential energy programmes (Source: UNEP survey data)



There is limited evidence of incentives to promote sustainable agricultural practices

Fifty-eight countries have reported incentives in place to promote **sustainable agriculture**. Measures include alternatives to open burning of agricultural residues, improved livestock manure management, and reducing food waste through composting. The survey found that among those countries promoting sustainable agriculture incentives, nearly one quarter of respondents are providing alternatives to open burning of agriculture waste and nearly one quarter are supporting closed storage and improved livestock manure management. Approximately twenty percent of respondents are using methane capture for energy use and nineteen percent have measures to reduce food waste.

Does your country have incentives to promote sustainable agriculture practices (such as livestock manure management and use of organic fertilizers)? (Source: UNEP survey data)



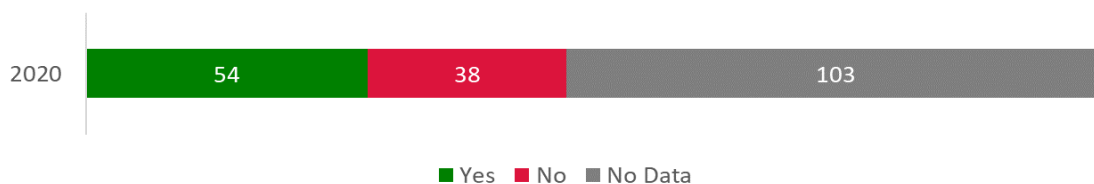
NON- SECTORAL AIR QUALITY MANAGEMENT ACTIONS:

Whereas action across the key sectors above will significantly reduce air pollution, the 2016 assessment found gaps in the integration and strengthening of air pollution management strategies. In order to address these gaps and assess progress going forward, the 2021 report introduces two key air pollution management aspects in its analysis: (i) air quality management strategy, and; (ii) air quality monitoring. Therefore, a measurement of progress made over the past five years for these two key additions is not possible utilizing the UNEP survey data only.

Many countries have a national air quality management strategy

The survey responses to this question do not allow a comprehensive picture of how many countries have a dedicated national air quality management strategy. The responses received indicate that three key approaches are being used to implement air quality management strategies: most commonly a national air quality action plan, followed by sectoral plans, clean air acts, and other approaches used, sometimes in concert.

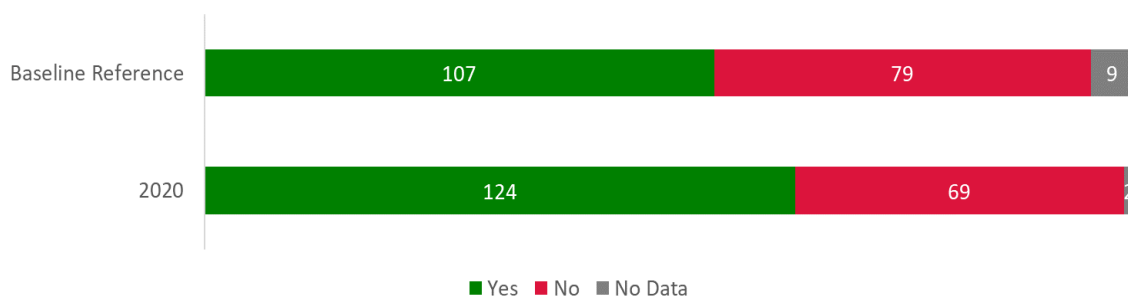
Is there a national air quality management strategy/framework/plan of action in the country? (Source: UNEP survey data)



National ambient air quality standards are driving air quality management approaches

In 2020, 124 countries (or about two thirds) were found to have legal instruments containing ambient air quality standards, an increase of 17 from the 2016 report which found that 107 countries had ambient air quality standards. More than one fifth of countries are in the process of reviewing or updating those standards and nearly another fifth have plans to introduce standards in legislation in the near future.

Countries with ambient air quality standards embedded within a legal instrument (Source: UNEP survey data, 2016; UNEP Global Ambient Air Pollution Legislation report, 2021)

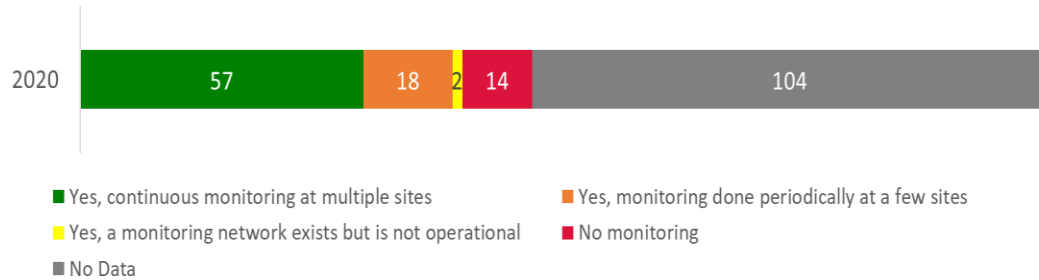


Air Quality monitoring is expanding through a variety of approaches, but many countries still lack reliable, routine networks

Survey data suggest that greater awareness of air pollution resulting from access to data is playing a role in the public demand for enhanced global action on air quality. Countries are increasingly

establishing air quality monitoring networks, with most using a combination of mobile and stationary reference monitors, though some are reliant on low-cost sensors and others use a hybrid of mobile and stationary reference monitors. The proportion of countries without “continuous monitoring” are testament to existing data and capacity gaps which hinder global action on air quality.

Does your country have national ambient air quality monitoring network? (Source: UNEP survey data)



Conclusions

The findings of the full report indicate that, while progress can be observed across the sectors in adopting key policies and actions that are known to reduce air pollution, significant gaps still remain. The analysis quantifies the extent of policy uptake by countries but does not take into account implementation or lack thereof; nor does the survey design allow for this. This edition of the *Actions on Air Quality* report does, however, acknowledge the barriers in day-to-day implementation of air quality management programmes, including staff retention and capacity gaps as well as affordability and maintenance challenges of air quality monitoring equipment. Countries are also facing larger, systemic challenges such as financing gaps that result in inability to invest in data analysis and lack of enforcement capacity when policies and actions are adopted.

UNEP will continue to track efforts that improve air quality. The report seeks to set benchmarks in assessing current and future progress in policy action towards cleaner air and as such is subject to continuous improvements in underlying data and methodology. This will inform and promote accelerated action, and catalyze broad support in the context of national, regional, and global efforts to improve air quality, and in response to UNEA Resolutions, Agenda 2030, the *International Day of Clean Air for blue skies* and other relevant international actions, including those calling for integrated policies on air quality and climate.