

INTEGRATED ASSESSMENT OF AIR POLLUTION AND CLIMATE CHANGE FOR SUSTAINABLE DEVELOPMENT IN AFRICA

SUMMARY

Air pollution and climate change are a deadly duo for Africa, and must be tackled together. Air pollutants and greenhouse gases often share the same sources and can be even more dangerous when combined. Africa is particularly vulnerable to climate change, and currently, an estimated 1 million people per year die prematurely from air pollution on the continent. But there is a way to improve the situation: preventing emissions from short-lived climate pollutants (SLCPs), like methane and black carbon, is crucial for the world to stay below 1.5°C. Reducing SLCPs will help both save lives and protect the environment.

Africa has a huge opportunity to continue developing sustainably, improve human well-being, and protect nature by investing in solutions to fight climate change and air pollution together. A new *Integrated Assessment of Air Pollution and Climate Change for Sustainable Development in Africa* from the African Union Commission (AUC), the Climate and Clean Air Coalition (CCAC), and the UN Environment Programme (UNEP), developed by African scientists in a process supported by the Stockholm Environment Institute (SEI), shows how African leaders can act quickly across 5 key areas—**transport, residential, energy, agriculture, and waste**—to fight climate change, prevent air pollution, and protect human health.

By following the Assessment's recommended actions which simultaneously cut air pollution and prevent climate change, African governments can reap many benefits, including:

- Preventing **200,000** premature deaths per year by 2030 and **880,000** deaths per year by 2063; and
- Cutting carbon dioxide emissions by **55%**, methane emissions by **74%**, and nitrous oxide emissions **40%** by 2063,
- Improving food security by reducing desertification and increasing crop yields for rice, maize, soy, and wheat,
- Significantly contributing to global efforts to keep warming below 1.5°C and limiting the negative effects of regional climate change.

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KEY MESSAGES

Air pollution is a climate and public health emergency, in Africa and around the world.

- Air pollution is the greatest environmental threat to human health, and is responsible for about 7 million deaths each year globally. Almost everyone on Earth – 99% of the world's population – breathes air that exceeds WHO air quality guidelines.
- In Africa, more than 1 million people die prematurely each year from exposure to indoor and outdoor air pollution. Air pollution disproportionately harms women, children, the elderly, and the poor. Many vulnerable groups in Africa are most at risk from the combined negative health impacts of air pollution and climate change.

Air pollution and climate change are inextricably linked, and must be tackled together.

- Air pollutants and greenhouse gases often share the same sources and drivers, including fossil-fuel driven economic growth.
- Some pollutants, including the SLCPs, methane and black carbon, directly contribute to both impacts simultaneously.
- Because they are very potent and do not last long in the atmosphere, fast action to cut SLCP emissions is the most effective way to keep global warming below 1.5°C.

As African economies and populations boom over the next decades, governments must ensure that people and the climate remain healthy.

- Africa's population and economy will grow rapidly between now and 2063, by when the African Union aims to have achieved its Agenda 2063, a transformative plan which lists achieving "*Environmentally sustainable and climate resilient economies and communities*" as a key goal.
- The population of Africa is projected to increase 32% by 2030 and 137% by 2063, by when it is estimated that over 60% of Africans will live in cities. This rapid growth will be accompanied by massive demand for transport and for food. Ensuring zero hunger by 2063 will require almost three times more food than today.

The Africa Assessment demonstrates a sustainable path forward, one that aims to meet not only the Agenda 2063, but also the Sustainable Development Goals by 2030, despite the huge increases in economic activity, urbanization, and population that will accompany development.

- The Assessment is the first-ever integrated assessment of air pollution and climate change for the continent and provides a robust scientific basis for action towards clean air in Africa, including the development of a continent-wide **Clean Air Program**. The Assessment was written by a pan-Africa team with contributions from international scientists and experts.
- The Assessment's recommendations are closely aligned with key priorities of Agenda 2063 and with the goals and targets of the Sustainable Development Goals (SDG). Nearly all the recommendations can be found in at least one African Nationally Determined Contribution (NDC) and are currently identified as contributing to achieving national climate change mitigation goals.

Across five key areas, the Assessment recommends 37 measures that are cost-effective and proven, including:

- Shifting to cleaner vehicles and to safe and affordable public **transport,** as well as safe cycling and walking;
- Transitioning to sustainable clean cooking and efficient household appliances for refrigeration and air conditioning in the **residential** sector,
- Moving to renewable **energy** and increasing energy efficiency, capturing methane from oil, gas, and coal, and drastically reducing other GHG and SLCP emissions,
- Reducing methane emissions from **agriculture** with better livestock and manure practices, reducing crop losses and food waste, and promoting healthy diets,
- Developing better **waste** management systems, generating less organic waste, and reducing open burning.

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There's already evidence that these solutions work. Most of the 37 solutions have already been successfully implemented in different parts of Africa. Examples include:

- **Transport:** Regional agreements have introduced clean fuel and vehicle emissions standards, and electric vehicle imports are rising. Many cities are working to increase public transport and non-motorized transport options.
- **Residential:** Clean cooking options are increasing across Africa, and 40% of African countries have now adopted mandatory minimum energy performance standards (MEPS) for air conditioning.
- **Energy:** Africa has massive solar energy potential, and countries have begun setting ambitious targets for renewable energy expansion under their Nationally Determined Contributions (NDCs).
  - Several African countries have committed to reduce oil and gas methane emissions, pledging to eliminate 45% by 2025 and 60-70% by 2030.
  - More than 25 countries on the continent have joined the Global Methane Pledge, which aims to cut human-caused methane emissions at least 30 percent by 2030 globally.
- **Agriculture:** Alternative Wetting and Drying (AWD) has been successfully validated across West Africa. To avoid open burning of agricultural residue, there are initiatives to help farmers upcycle post-harvest waste for different uses, like fuel briquettes and composting residues and wastes.
- **Waste:** New, innovative public-private partnerships have begun to increase waste service collection coverage in urban areas.

Africa requires support to tackle its air pollution and climate change problems. It is responsible for a fraction of global greenhouse gas emissions yet bears a disproportionate burden of the negative impacts.

- All countries outside of Africa must drastically reduce their own emissions to help limit warming to 1.5°C to help Africa avoid the worst impacts of climate change and reduce the cost of adaptation.
- Home to nearly 20% of the world's population, Africa is responsible for only 4% of carbon dioxide emissions. However, the continent is responsible for 13% of methane emissions, making methane reductions a critically important area of investment, especially as methane is also a precursor of tropospheric ozone pollution that impacts human health and crop yields.
- Scientific, business, finance, non-state actors, governments, development, and other actors must join forces to pool resources and implement the Assessment's measures to achieve significant, impactful change.
- Countries and funders can assist in the development of the AUC's Clean Air Program for implementation of the assessment measures, as supported by the African Ministerial Conference on the Environment - AMCEN.

WHAT HAPPENS IF WE DON'T ACT?

Without changes in policy, greenhouse gas emissions will triple by 2063.

Outdoor air pollution is projected to get worse, causing about 930,000 premature deaths per year in 2030 and about 1.6 million premature deaths per year in 2063.

Despite advances in clean cooking technologies, household air pollution would still cause about 170,000 premature deaths per year in 2030 (150,000 by 2063.)

Without action, economic growth compounded by population growth, unplanned urbanization, and unsustainable lifestyles will exacerbate pressures on resources, the environment, and human health, and could increase inequalities and limit Africa's ability to achieve sustainable development.

ROAD TO THE FUTURE:

5 AREAS FOR ACTION TO PROMOTE SUSTAINABLE DEVELOPMENT AND PROTECT HUMAN HEALTH AND THE ENVIRONMENT IN AFRICA

1 ENERGY

- RENEWABLE ENERGY
- PHASING OUT HFCs
- ENERGY EFFICIENCY
- CAPTURING METHANE

2 RESIDENTIAL

- CLEAN LIGHTING AND COOKING
- HOUSEHOLD ENERGY EFFICIENCY

3 AGRICULTURE

- REDUCE FOOD WASTE
- HEALTHIER DIETS
- REDUCE METHANE EMISSIONS
- MORE EFFICIENT LIVESTOCK AND MANURE PRACTICES
- ELIMINATE BURNING OF CROP RESIDUES

4 TRANSPORT

- BETTER PUBLIC TRANSPORT
- ELECTRIC VEHICLES
- CLEANER VEHICLES
- CYCLING AND WALKING

5 WASTE

- IMPROVED WASTE MANAGEMENT SYSTEMS
- REDUCE OPEN BURNING
- COMPOSTING
- REDUCE ORGANIC WASTE

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