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TECHNICAL BRIEF

Discussion on Financing Clean Air and Climate Action

CONTRIBUTING ORGANIZATION

Climate Policy Initiative

Clean Air Fund

This technical brief is developed with the support of the contributing organizations to inform the 3rd Global Conference on Strengthening Synergies between the Paris Agreement and the 2030 Agenda for Sustainable Development.

I. Abstract

Almost the entire global population (99%) breathes air that exceeds WHO PM2.5 air quality standards, with low- and middle-income countries suffering from the highest exposures (WHO, 2022).

Tackling air quality has the potential to help ensure a sustainable future for all, simultaneously cutting across several of the UN's Sustainable Development Goals. In particular, joined-up action on climate and air promises to ensure limited public resources deliver effective, efficient and, importantly, equitable outcomes. Thus, clean air represents an enormous investment and impact opportunity. Despite this, total international public finance and philanthropic funding is disproportionately low (Clean Air Fund, 2021a).

Recognizing the potential synergies between climate change action and efforts to reduce air pollution, this brief looks at actions that simultaneously addresses both issues (or joined-up actions) by building on Clean Air Fund's existing and ongoing studies on clean air and climate action. Improving such joined-up action maximizes the impact of limited public and philanthropic funds seeking to address these two high-priority issues.

II. Interlinkages, synergies and trade-offs

Given their common causes, air pollution and climate change can be tackled together, providing additional co-benefits and offering greater cost-effectiveness than a siloed approach. The average abatement cost per tonne of CO_2e could be cut by as much as 5-18% by 2050 through the implementation of initiatives common to both agendas (Clean Air Fund, 2021b). Whereas air pollutant emissions could be reduced by 20–40% as compared to the current level and trend of emission. This would translate into greater cost-effectiveness: joined-up action can reduce the total cost, as a share of GDP, of controlling air pollution by 50% in 2050. Examples of actions that tackle both climate change and air pollution are listed in Table 1.

Table 1: Examples of actions that tackle both climate change and air pollution

Sector	Example actions
Energy	Renewable energy: Wind, solar or tidal energy, shifting from fossil fuel-fired power plants Improvements in the energy efficiency of buildings through retrofits, and higher standards for new buildings Incorporating black carbon and other air pollutants into Nationally Determined Contributions (NDC) in addition to greenhouse gases
Transport	Low emission electric cars Clean energy-based hydrogen fuel-cell cars Transportation demand management enhancing transportation network efficiency
Residential	Shift to cleaner cookstoves and heating devices using clean fuels like low carbon sourced electricity Clean-burning biomass stoves
Heating	Ground and air source heat pumps Replacement and retrofitting of heat-only boiler to improve combustion efficiency
Agriculture	Reduction of nitrogen input in the agricultural systems Reduction of slash and burn and other form of agricultural burning Intermittent aeration of continuously flooded rice paddies Farm-scale anaerobic digestion of manure from cattle and pigs Liquid manure management Feed changes for dairy and non-dairy cattle
Waste Management	Efficient waste management systems, especially around municipal solid waste Upgrade of primary wastewater treatment systems to secondary/tertiary treatment with gas recovery and overflow control Recycle, compost, anaerobic digestion, and landfill gas collection of municipal waste
Industrial Production	Replacement of traditional brick kilns with vertical shaft kilns and Hoffman kilns

Source: Clean Air Fund, 2021. "Joined up Action on Air Pollution and Climate Change"

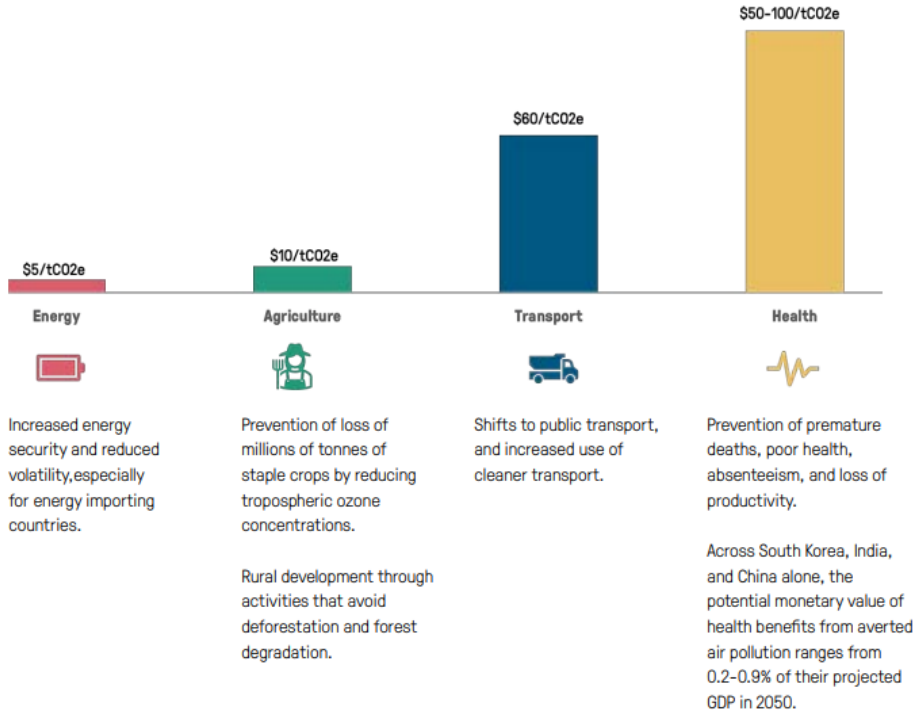
III. Lessons learned on opportunities and challenges

Overall, total official development funding on air quality in 2019 was less than 1% of total funding, majority (90%) of which was loans, while only 10% was grants (Clean Air Fund, 2021a). Early development interventions to support the adoption of low carbon infrastructure are crucial to minimise the public health impacts of air pollution (ibid).

Low and lower-middle income countries in Asia and Africa will face the worst impact with air pollution levels tripling by 2050 (Earthzine, 2012). Many of these countries have economic growth strategies dependent on the burning of fossil fuels. Lagos, for example, is predicted to become the world's largest city by 2100 - industrial expansion and soaring transportation needs will cause levels of PM2.5 to rise (Kemper & Chaudhuri, 2020).

Although air pollution and climate change share a number of common causes and offer potential for cost synergies, governments are not prioritizing the opportunity, as many climate decision-making processes do not currently account for the health, economic and social co-benefits of cleaner air (Clean Air Fund, 2021b). This results in powerful climate actions not being initiated as they are considered too costly and investors resort to the fossil fuel alternative. Taking these additional benefits into consideration can help trigger significant additional climate mitigation which has the potential to result in up to 8 giga tonnes of CO_2e per year to significantly accelerate progress towards limiting global warming (Clean Air Fund, 2021b). Co-benefits from improved air quality are illustrated in Figure 1.

Figure 1: Estimated value of co-benefits from improved air quality



Source: Clean Air Fund, 2021b. "Joined up Action on Air Pollution and Climate Change."

Mexico, Mongolia, and Chile are some of the countries that explicitly adapted their climate change strategies to incorporate air quality goals—with programming that tackled both agendas together, and extensive coordination between relevant stakeholders (Clean Air Fund, 2021b). In addition, cities networks such as C40 are launching initiatives around Clean Air in Cities which highlights the interconnects of the air pollution problem with the climate change and the need for cities to integrate top pollution-reducing actions into climate action plans.

Case study

Chile: Integrating clean air into Nationally Determined Contributions

Chile is particularly vulnerable to climate change and is already experiencing its impacts, manifestly through the enduring drought in the central and southern part of the country which began in 2010 (CCAC, 2020). At the same time, Chile is home to 11 of the top 15 most polluted cities in Latin America & the Caribbean with air pollution costing the Chilean health sector approximately USD 670 million every year, associated with 4,000 premature deaths (IQAir, 2021).

In April 2020, Chile submitted their revised Nationally Determined Contribution (NDC) to the UNFCCC, outlining their strategies for tackling climate change. One component of the NDC committed the country to reducing black carbon emissions by 25% by 2030, relative to 2016 levels. Black carbon is a so-called short-lived climate pollutant (SLCP) that directly contributes to atmospheric warming as well as being a dangerous air pollutant (CCAC, 2020). Major sources of black carbon in Chile are firewood for heating and residential cooking, biomass-based power, off-road machinery and diesel vehicles (CCAC, 2020).

Chile's decision to integrate black carbon reduction targets into its NDC is an important step towards joined-up action on climate change and air pollution, linking international climate policy processes with local air quality concerns. Various actions have been proposed to deliver on this target, including switching to electric heating, energy efficiency improvements, industry emissions standards as well as more stringent transport regulations (CCAC, 2020).

Alongside other countries that have adopted similar black carbon targets within their NDCs, Chile has set an example of how joined-up action may be operationalized, using and augmenting the existing policy infrastructure established for tackling climate change to achieve broader social and economic gains. Moreover, integrating immediate, local air pollution concerns – that have tangible implications for individuals - into longer-term strategies for tackling climate change, helps to increase buy-in on NDCs, allowing benefits to be realized today rather than sometime in a distant future. Capitalising on the shorter time frame for delivering air quality outcomes and, thereby, delivering on longer-term climate goals that span multiple political cycles, is a key opportunity joined-up action offers to policymakers.

Source: [Upcoming] Clean Air Fund and Climate Policy Initiative, 2022, "State of Global Funding to Air Quality 2022."

In 2015, China revised the Atmospheric Pollution Prevention and Control Law to ensure "cooperative control of atmospheric pollutants and greenhouse gas". This principle was reiterated in the 2018 Three-Year Action Plan for Winning the Blue Sky Defence Battle and the amendment to the Pollution Prevention Law. These policy actions signify China's shift towards tackling air pollution and greenhouse gases in tandem at the highest level. The 2020 Policies and Actions for Addressing Climate Change stated that the country would aim to achieve industry transformation, improvement of enterprise efficiency and energy structure, and reduction of carbon emission. China has also launched various industry specific policies, highlighting the need for data collection and capacity building. In 2017, a new policy guideline was issued to stipulate the emission standard for both air pollutants and greenhouse gases for industrial enterprises, including power generation, metallurgy, glass production, etc. The guideline stated the methodology on how enterprises should measure and report their air pollutants' emission and the level of global warming potential. Other similar policies were released on the control of volatile organic compounds (VoCs) as well.

IV. Recommendations for action: means of implementation and partnerships to accelerate progress

The moment to act is now. For over two years, as a result of the COVID-19 pandemic, public health has been the key driver of government policies worldwide. 2022, therefore, represents a critical juncture for leveraging that momentum to put an end to our global air quality crisis, ensuring a healthy future for people and the planet alike.

The clean air financing agenda:

1. Actors should work in coordination to ensure the clean air agenda receives the attention and political momentum it deserves: A global annual air quality convention could help to galvanize momentum behind the clean air agenda while facilitating coordination among donors to decide who can and should do what, avoiding duplicate action and channeling resources where it is needed the most.

3. Finance should be directed to increase the availability and accessibility of relevant data: Data-based air quality analyses are essential for identifying and managing effective, locally appropriate solutions. There is also opportunity to harmonize greenhouse gas emissions estimation methodologies with, and alongside, air pollution inventories to further joined-up action.

4. Joined-up action on air quality and climate is a unique investment and impact opportunity that promises to scale-up, and speed-up, efforts to ensure a sustainable future for all: Investment in air quality offers a win-win for climate action as well as several other sustainable development goals, helping to ensure maximum impact of limited public resources. Better accounting for climate finance with (unintentional) air quality co-benefits will allow funders to track and measure progress towards overlapping goals and increase impact of their funding.

5. Setting clear, science-based targets will help to catalyse air quality action and related finance: Setting air quality targets, in line with WHO standards, will allow countries, or cities therein, to clarify and crystallise action on air pollution, encouraging uptake of measurable goals to monitor progress. Countries with clear air quality targets tend to receive more air quality finance.

6. Integrated planning can help to ensure the efficacy of joined-up action: Given that climate change and air pollution are interdependent, countries can enhance their climate action plans by including air pollution actions in their NDCs and climate action plans on i. reducing emissions of SLCPs, including methane and black carbon ii. including air pollutants in emissions inventories, and iii. targeting policies that tackle both climate change and air pollution.

As countries further strengthen their NDC targets (through the Paris Agreement ratchet mechanism) there are opportunities to further align climate and SDG implementation, including building into other planning processes like National Adaptation Plans (NAPs), Net Zero Targets, and Long-Term Strategies (LTSs).

Working through the NDC Partnership, countries can guide partners through a programmatic approach to their NDC implementation, ensuring alignment between their climate and development objectives and priority support needs. Through diversity in the partners supporting these efforts, drawing on their comparative advantages across sectors (e.g., energy, transport) or key topics (e.g., gender, youth, biodiversity), countries can not only fast-track their NDC implementation, but also maximize the sustainable development co-benefits.

References and additional reading list

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