COVID-19
MACROECONOMIC POLICY RESPONSES IN AFRICA
09

COVID-19 Fiscal Policy Response and Climate Change Action in Africa

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About CoMPRA

The COVID-19 Macroeconomic Policy Response in Africa (CoMPRA) project was developed following a call for rapid response policy research into the COVID-19 pandemic by the IDRC. The project's overall goal is to inform macroeconomic policy development in response to the COVID-19 pandemic by low and middle-income countries (LMICs) and development partners that results in more inclusive, climate-resilient, effective and gender-responsive measures through evidence-based research. This will help to mitigate COVID-19's social and economic impact, promote recovery from the pandemic in the short term and position LMICs in the longer term for a more climate-resilient, sustainable and stable future. The CoMPRA project will focus broadly on African countries and specifically on six countries (Benin, Senegal, Tanzania, Uganda, Nigeria and South Africa). SAIIA and CSEA, as the lead implementing partners for this project, also work with think tank partners in these countries.

Our Donor

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Executive summary

This paper analyses the fiscal policy measures adopted by African countries in response to COVID-19 and how these impact progress on their climate change actions of the countries. Specially, it analyses the climate friendliness of the immediate fiscal responses that were adopted by six African countries namely: Nigeria, South Africa, Senegal, Tanzania, Uganda and Benin when the pandemic first hit. The analysis focuses on measures that were included as part of the fiscal stimulus packages designed to address the economic fallout from the COVID-19 pandemic while acknowledging that countries may have undertaken more climate change action outside of these packages.

It is found that while the focus of countries was to minimise macroeconomic vulnerabilities and welfare losses, some of the measures adopted have implications on the climate response of the respective countries. Nigeria, the only country among the six with clean energy spending in its stimulus package, had an overall green stimulus package. South Africa, the biggest polluter among the six countries (and in Africa) adopted a climate neutral package while Uganda, the least polluting country of the six adopted a climate unfriendly package owing to its acceleration of the construction of environmentally unfriendly industrial parks. Lastly, Tanzania, Senegal and Benin had no climate related policies, thus making their stimulus packages climate neutral.

Looking at the policy measures in the stimulus packages, opportunities are identified for these countries and others in Africa to exploit and move towards a greener recovery. These include expanding the packages to include clean energy projects financed through green financing facilities, imposing carbon taxes to help consolidate their deteriorating fiscal positions while simultaneously reducing pollution, and contributing to the development of green finance segments by putting in place a regulatory framework to incentivise financial market players to develop and issue green products.

Introduction

This report provides an analysis of the climate friendliness of the COVID-19 policy responses adopted by six countries across Africa including Nigeria, South Africa, Senegal, Tanzania, Uganda and Benin. It is the first in a series of papers that will track the policy responses of countries and their respective contributions to the climate change mitigation and adaptation efforts. The report focuses on the fiscal measures that had been adopted for implementation at the time of writing, including additional and/or expedited budgetary expenditures, introduction or removal of government subsidies, and tax and other revenue measures introduced. Given the time lags that normally arise between announcement and implementation of fiscal measures, the report considers all measures announced by the fiscal authorities including those already implemented and those soon to be implemented.[1]

The COVID-19 crisis has highlighted the importance of macroeconomic policy in the climate change discourse. As countries design and implement their stimulus packages, they determine the kind of recovery that will be achieved. With climate change posing a big threat to most African economies, the crisis has provided an opportunity for countries to use macroeconomic policy to move towards sustainable economies. According to the African Development Bank,

1 This approach is also used by the Global Recovery Observatory of the Oxford University Economic Recovery Project, https://recovery.smithschool.ox.ac.uk/tracking/.

it is estimated that Africa will need investments of over $ 3 trillion in mitigation and adaptation finance by 2030[2] to fully implement its commitments for climate resilient and low-carbon economies as per the nationally determined contributions set out in the Paris Agreement. Therefore, the large stimulus packages required to successfully tackle the COVID-19 induced economic crisis can and should be designed to adequately incorporate these much-needed climate investments.

"With climate change posing a big threat to most African economies, the crisis has provided an opportunity for countries to use macroeconomic policy to move towards sustainable economies"

The need for proactive action against climate change cannot be overstated for Africa. Although the region has low greenhouse gas emissions, it remains the continent most vulnerable to climate change. Extreme weather and climate events on the continent have become more frequent. The 2019 tropical cyclone Idai, which affected more than 100 000 people across southern Africa, was among the most destructive tropical cyclones ever recorded in the southern hemisphere.[3] The damage caused by the cyclone overlapped with the COVID-19 pandemic thus putting the affected countries in a weaker position to deal with the impacts of the pandemic. This exemplifies the so-called twin crises, whereby countries have had to deal with the pandemic while simultaneously battling with the effects of climate change. Out of 132 identified unique extreme weather-related disasters that occurred in 2020, 92 overlapped with the COVID-19 pandemic.[4] Therefore, the conversation surrounding COVID-19 – including the macroeconomic policies tackling the pandemic – should indeed be analysed using a climate lens.

Africa, like the rest of the world, has adopted large stimulus packages that are unprecedented in size. In the sub-Saharan

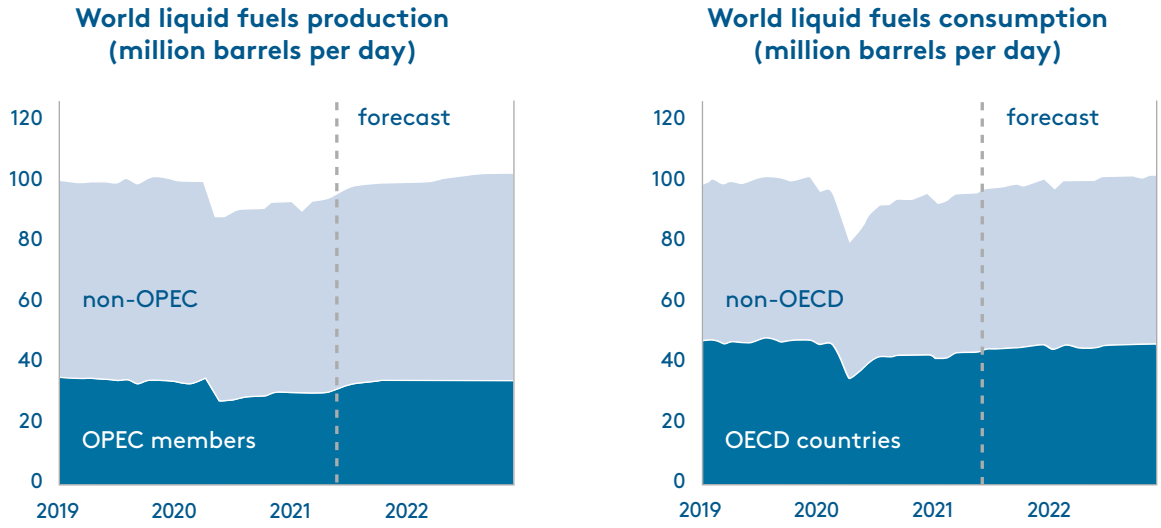
2 African Development Bank Group, 'Climate Change', https://www.afdb.org/en/topics-and-sectors/sectors/climate-change.

3 World Meteorological Organisation, 'State of the Climate in Africa 2019', 2020, https://library.wmo.int/doc_num.php?explnum_id=10421.

4 Dan Walton and Maarten van Aalst, 'Climate-related Extreme Weather Events and COVID-19', International Federation of Red Cross and Red Crescent Societies, Geneva, September 23, 2020, https://reliefweb.int/report/world/climate-related-extreme-weather-events-and-covid-19-first-look-number-people-affected.

region, COVID-19-related fiscal packages for the year 2020 averaged 2.6% of GDP.[5] Low- and medium-income countries in 2020 spent an average of $ 50.8 billion in stimulus packages compared to $ 7.2 billion spent in 2009 during the global financial crisis.[6] While the size of the packages will matter for the speed of recovery, the type of measures adopted will determine the quality of recovery achieved. With most countries focused on stimulating overall growth and protecting ailing industries, it is likely that recovery will be on the back of the traditional carbon intensive activities (Figure 1), unless a deliberate effort is made to achieve a green recovery. However, if the stimulus packages are designed to build back better with a greener economy, then recovery will be more sustainable as the negative impacts of the twin crises will be minimised.

Figure 1 Rebounding fuel production and consumption



Source: US Energy Information Administration, Short-term Energy Outlook, September 2021

COVID-19 and green recovery: Lessons from the global financial crisis

The 2008 global financial crisis caused a world recession on a scale unseen since the Great Depression. Termed 'the great recession', world real GDP fell by 0.5% in 2009, led by a 3.4% contraction in advanced economies.[7] While the sub-Saharan economy showed more resilience

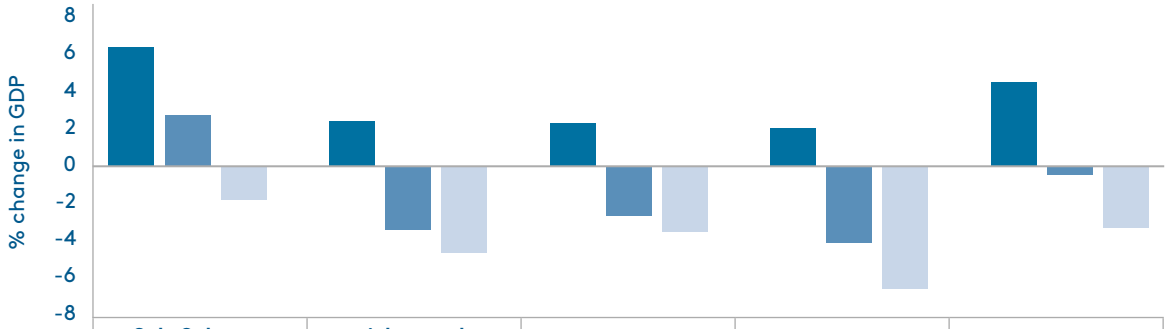
5 International Monetary Fund, 'Regional Economic Outlook – Sub-Saharan Africa: Navigating a Long Pandemic', Washington DC, April 2021, https://www.imf.org/en/Publications/REO/SSA/Issues/2021/04/15/regional-economic-outlook-for-sub-saharan-africa-april-2021.

6 Carpentier et al 2020, 'A Comparison of Selected Stimulus Packages in 2008 and 2020: Investing in Renewable Energy, Sustainable Agriculture and Food Security, and Gender Equality and the Empowerment of Women for Structural Economic transformation', https://unctad.org/system/files/information-document/osg_2020-12-18_StimulusPackages_en.pdf.

7 International Monetary Fund, 'World Economic Outlook: Rebalancing Growth', Washington DC, April 2010, https://www.imf.org/en/Publications/WEO/Issues/2016/12/31/Rebalancing-Growth.

to the crisis and managed to avert a recession, its economy experienced a significant slowdown, growing by 2.8% in 2009 following an average growth of 6.6% between 2004 and 2008 (Figure 2).

Figure 2 Impact of the global financial crisis vs COVID-19 on output



	Sub-Saharan Africa	Advanced economies	United States	Euro area	World
2004–2008	6,46	2,44	2,38	2,06	4,54
2009	2,8	-3,4	-2,6	-4,1	-0,5
2020	-1,9	-4,7	-3,5	-6,6	-3,3

Source: Author (based on IMF data)

The global financial crisis was first and foremost a demand shock caused by uncertainties and loss of consumer confidence in the world financial markets. In a bid to end the crisis, the world's major economies implemented large-scale fiscal and monetary policy measures aimed at stimulating consumer spending and investment. The US Federal Reserve Bank embarked on an aggressive monetary policy through its quantitative easing programmes in which more than $ 3 trillion of liquidity was injected in the economy via asset purchases.[8] This was complemented by a massive fiscal stimulus package estimated at $ 831 billion[9] which was implemented under the American Recovery and Reinvestment Act (ARRA) of 2009. The Euro area also embarked on an expansionary monetary policy of its own which culminated into a more than doubling of the European Central Bank's balance sheet.[10] In terms of fiscal policy, the European Commission proposed a European

8 Elizabeth Schulze, 'The Fed Launched QE Nine Years Ago – These Four Charts Show Its Impact', CNBC, November 25, 2017, https://www.cnbc.com/2017/11/24/the-fed-launched-qe-nine-years-ago--these-four-charts-show-its-impact.html.

9 The Congress of the United States, Congressional Budget Office, 'Estimated Impact of the American Recovery and Reinvestment Act on Employment and Economic Output from October 2011 Through December 2011', February 2012, https://www.cbo.gov/sites/default/files/cbofiles/attachments/02-22-ARRA.pdf.

10 Vítor Constâncio, Vice-President of the European Central Bank, 'Central Banks in Historical Perspective: What Changed After the Financial Crisis?', conference speech on May 4, 2018, https://www.ecb.europa.eu/press/key/date/2018/html/ecb.sp180504.en.html.

stimulus plan amounting to EUR[11] 200 billion (1.5% of European Union GDP) to be implemented through national budgets, the European Union budget and the European Investment Bank.[12] China also unleashed a large fiscal stimulus initially set at CNY[13] 4 trillion ($ 586.68 billion) or 12.5% of GDP, which eventually increased to 27% of GDP (approximately $ 1,267 billion) channelled through central and local government budgets.[14] Like the US and Europe, China also adopted an accommodative monetary policy to complement the fiscal measures. This included interest rate cuts and an introduction of financial reforms aimed at increasing lending.

Although the stimulus packages adopted by these countries primarily targeted the demand side of the economy and support to financial markets, they nonetheless contained elements of green initiatives aimed at building back sustainably with a greener recovery. Among the biggest stimulus spending classified as green was China's $ 98 billion rail infrastructure programme, which significantly improved the energy efficiency of the transport sector in the country.[15] The country additionally implemented a $ 70 billion investment in clean electricity grids. In the Euro area, $ 94 billion in feed-in tariffs for solar energy ($ 69 billion) and wind energy ($ 25 billion) was provided as an incentive to solar and wind energy producers. The US, through the ARRA, provided $ 90 billion to the clean energy sectors via direct funding and tax measures.

"Among the biggest stimulus spending classified as green was China's $ 98 billion rail infrastructure programme, which significantly improved the energy efficiency of the transport sector in the country"

The aftermath of the global financial crisis provided an opportunity for evaluating the potency of green stimulus packages to achieve the intended outcomes. To this end, there are two facets to the success of green stimulus

11 Currency code for European Union euro.

12 Commission of the European Communities, 'A European Economic Recovery Plan', November 26, 2011, https://ec.europa.eu/economy_finance/publications/pages/publication13504_en.pdf.

13 Currency code for Chinese yuan.

14 Christine Wong, 'The Fiscal Stimulus Programme and Public Governance Issues in China', *OECD Journal on Budgeting*, Volume 11, Issue 3, 2011:1–22, doi.org/10.1787/budget-11-5kg3nhljqrjl.

15 International Energy Association, 'Green Stimulus After the 2008 Crisis', June, 29, 2020, https://www.iea.org/articles/green-stimulus-after-the-2008-crisis.

packages. First, the green policy measures adopted should be able to stimulate the economy and put it on the desired growth path. Secondly, the policy interventions must have long-lasting positive effects on the climate. More than a decade after the crisis, lessons can be drawn on the factors that affect the two outcomes. These lessons include the following:

Recovery from the global financial crisis was largely on the back of traditional carbon intensive energy: Carbon emissions which had gone down by 1.4% in 2009 due to the recession quickly bounced back by 5.9% in 2010 as economic activity picked up (Figure 1). Thus, policymakers need to be watchful for a likely upswing in greenhouse gas emissions in the immediate aftermath of the COVID-19 crisis.

Green spending is more effective in stimulating growth: Due to the high labour intensity of clean energy infrastructure, clean energy generates more jobs compared to fossil fuels, which are more capital-intensive sectors. Renewable energy has a higher jobs multiplier when jobs are scarce during a recession, thereby boosting consumer demand and GDP.[16] For every million dollars spent on clean energy, at least seven full-time jobs are created compared to fewer than three jobs created for one million dollars spent on fossil fuels.[17]

"For every million dollars spent on clean energy, at least seven full-time jobs are created compared to fewer than three jobs created for one million dollars spent on fossil fuels"

Economic crises may cause structural changes to energy usage and demand: The global financial crisis caused a significant structural break in most advanced market economies with regards to energy demand. Specifically, countries experienced a reduction in energy demand's elasticity to economic growth.[18] This is partly attributed to

16 Will Blyth, et al., 'Low Carbon Jobs: The Evidence for Net Job Creation From Policy Support for Energy Efficiency and Renewable Energy', UK Energy Research Centre, November 2014, https://d2e1qxpsswcpgz.cloudfront.net/uploads/2020/03/low-carbon-jobs.pdf.

17 Heidi Garrett-Peltier, 'Green Versus Brown: Comparing the Employment Impacts of Energy Efficiency, Renewable Energy, and Fossil Fuels Using an Input-Output Model', *Economic Modelling*, Volume 61, February 2017:439–447, https://doi.org/10.1016/j.econmod.2016.11.012.

18 International Energy Association, 'Green Stimulus After the 2008 Crisis'.

improvements in energy efficiency brought about by some of the green investments that had been made. This therefore implies that green stimulus packages can contribute to a permanent behavioural change by economic agents, causing a shift towards cleaner energy.

Bailouts of non-clean industries cause the most climate damage: In a survey of 231 economic experts from national treasuries and central banks, it was found that airline bailouts did not only have low fiscal multipliers but were also the most non-clean fiscal policy measure adopted during the global financial crisis.[19] However, given the nature of the COVID-19 crisis, which has severely damaged the airline industry and threatened its survival, such bailouts will remain a subject for debate as a choice has to be made between saving an industry and making significant strides towards lowering emissions.

Pigouvian taxes are handy for fiscal consolidation after the crisis:[20] Economic crises, such as the global financial crisis and COVID-19, cause serious fiscal distress to countries, especially those with long-standing fiscal sustainability issues. Debt to GDP ratio of emerging and developing countries increased by more than seven percentage points between 2008 and 2010, while fiscal deficits in sub-Saharan Africa, which had averaged 0.1% of GDP in 2004-2008, averaged 4.5% of GDP in 2009-2012.[21] This was caused by deficit spending as revenues declined while the need for expansionary spending increased. As such Pigouvian taxes (including carbon taxes) provide an opportunity for furthering the climate agenda while consolidating a country's fiscal position.

In summary, we have seen that the COVID-19 crisis has surpassed the global financial crisis in terms of economic impact at both global and regional levels. This implies that a more aggressive approach is needed to achieve meaningful economic recovery. Armed with lessons learned from country responses to the crisis and the large fiscal stimulus packages availed for the COVID-19 crisis, policymakers can achieve stronger and more sustainable economic recovery. Africa should pay attention to these lessons and shape its policy responses to reflect the urgent need for adaptation in a bid to minimise the region's exposure to climatic shocks.

19 Cameron Hepburn, et al., 'Will COVID-19 Fiscal Recovery Packages Accelerate or Retard Progress on Climate Change?', *Oxford Review of Economic Policy*, 36, Supplement 1, 2020: S359–S381, https://doi.org/10.1093/oxrep/graa015.

20 A Pigouvian tax is a tax levied on an agent causing an environmental externality (environmental damage) as an incentive to avert or mitigate such damage.

21 IMF World Economic Outlook 2008, 2014, https://www.imf.org/en/Publications/WEO.

COVID-19 fiscal stimuli and climate implications

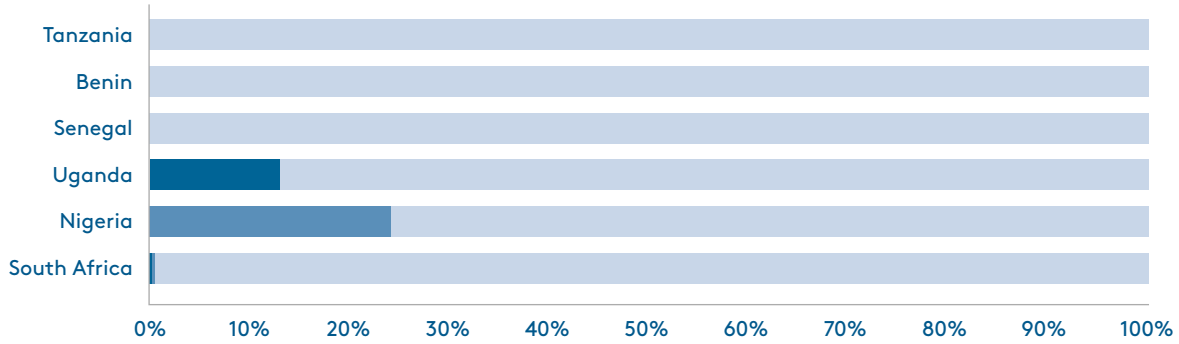
Fiscal measures adopted to stabilise economies weakened by the COVID-19 crisis have the potential to promote a green recovery or exacerbate greenhouse gas (GHG) emissions if climate unfriendly activities are promoted. Using the International Monetary Fund (IMF) definitions for environmental taxes and expenditures on environmental protection, we classify the fiscal stimulus measures adopted by the six countries analysed – South Africa, Nigeria, Benin, Senegal, Uganda and Tanzania – in terms of their environmental friendliness. An environmental tax is defined as 'a charge levied on a physical unit of an item that has a proven negative impact on the environment'.[22] These include taxes on energy (including fuel for transport), transport (excluding fuel for transport), pollution and natural resources.[23] Expenditures on environmental protection are those expenditures on a specified set of activities including pollution abatement, protection of biodiversity landscape, and management of waste and wastewater. In this paper, all fiscal measures that satisfy the environmental tax and expenditure categorisations are classified as green while those measures that work to the contrary – including removal of the environmental taxes and/or subsidising those activities, government expenditure that leads to increased pollution, damage to biodiversity landscapes, and poor waste and wastewater management – are considered climate unfriendly and therefore categorised as red policies. Policies that fall outside these categories are deemed climate neutral and categorised as grey.

As with the IMF climate change dashboard, in this paper both environmental taxes and expenditures are expressed as a percentage of GDP, and this is used as an index to measure how green (or red) is a country's fiscal stimulus package. This implies that the index represents the net impact of the fiscal stimuli on a country's fiscal policy position with regards to climate change efforts. Thus, those countries that invested more on green policies than red ones would have a positive (greater than zero) score, countries investing more in red policies than green ones would have a negative (less than zero) score, and lastly, countries with neither green nor red policies in their stimulus packages, or with a net grey package, would have a zero score. Figures 3 and 4 show the distribution of the policies across the categories for the six countries and the estimated net contribution towards climate interventions. As Figure 3 shows, all countries had stimulus packages dominated by grey measures. Nigeria had some green policies (but has not adopted red policies), South Africa and Uganda had red policies but no green ones, and lastly Tanzania, Benin and Senegal adopted only grey policy measures. Details of each country's fiscal policy responses and the determination of their climate friendliness are examined next.

22 IMF climate change dashboard, https://climatedata.imf.org/pages/go-indicators.

23 IMF, 'Database of Fiscal Policy Responses to COVID-19', July 2021, https://www.imf.org/en/Topics/imf-and-covid19/Fiscal-Policies-Database-in-Response-to-COVID-19.

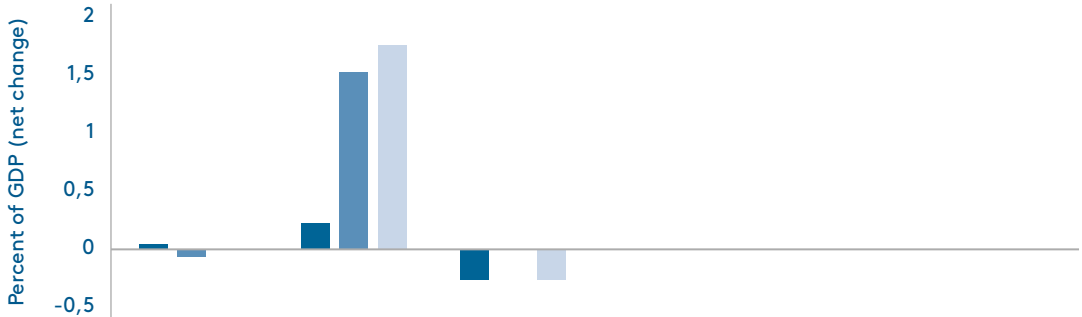
Figure 3 Distribution of fiscal policy measures across climate friendliness categories



	South Africa	Nigeria	Uganda	Senegal	Benin	Tanzania
Unfriendly	0,4	0,0	13,1	0	0	0
Friendly	0,4	24,4	0	0	0	0
Neutral	99,2	75,6	86,9	100	100	100

Source: Author's calculations based on data from IMF COVID-19 policy responses tracker, and country treasury departments

Figure 4 Contributions of fiscal stimulus packages towards climate interventions



	South Africa	Nigeria	Uganda	Senegal	Tanzania	Benin
Expenditures	0,04	0,22	-0,25	0	0	0
Tax & subsidies	-0,04	1,49	0	0	0	0
Overall	0	1,71	-0,25	0	0	0

Source: Author's calculations based on data from IMF COVID-19 policy responses tracker, and country treasury departments

South Africa's red fiscal response

South Africa's fiscal stimulus as of March 17, 2021 amounted to $ 30.37 billion (ZAR[24] 500 billion) – of which $ 15.36 billion was additional spending and forgone revenue targeting businesses and vulnerable households, $ 2.67 billion was deferred revenue, $ 12.15 billion was government guarantee loans for businesses, and $ 0.18 billion was a quasi-fiscal programme from the industrial development corporation to support businesses.[25] In addition to the fiscal stimulus aimed at jump-starting the economy, the government allocated $ 2.46 billion to support the health sector in efforts towards containing the virus.

South Africa's stimulus plans are reflected in the South African Economic Reconstruction and Recovery Plan launched by President Cyril Ramaphosa in October 2020. However, although the plan calls for a green recovery, details of the actual interventions to be implemented are not provided.[26] Nonetheless, some measures contained in the stimulus package have implications for achieving a green recovery. These include a $ 0.12 billion (ZAR 2 billion) worth of carbon tax deferral, and a job creation programme that contains a $ 0.12 billion (ZAR 1.983) investment for job creation in the environment, forestry and fisheries sectors. Carbon tax deferral (a red measure) allows, carbon emitting entities to postpone carbon tax payments over a three-month period[27] while job creation (a green measure) is part of a wider presidential initiative.

These two policies, each with a resource allocation approximately equal to 0.04% of GDP cancel each other with regards to green recovery efforts. With the rest of the policy measures essentially climate neutral, South Africa's fiscal stimulus package was also neutral (grey), having had a zero net impact on the GDP share of climate-related investments. However, outside the stimulus package, South Africa has other climate change interventions that are not part of the stimulus package. One such intervention is the which is a direct response to fill the 2 000 megawatts short-term electricity supply gap that was flagged in the Integrated Resources Plan of 2019. Under this programme, the South African government engaged private power producers to generate wind and solar energy to include in the national grid thereby reducing power shortages that have plagued the country in recent years. The government has committed to procuring up to ZAR 200 billion in renewable energy from independent power producers[28] which would represent approximately 4% of GDP.

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24 Currency code for South African rand.

25 IMF, 'Database of fiscal policy'. South African rand are converted into US dollars using the 2020 average exchange rate of ZAR16.47/$ (see www.exchangerates.org.uk).

26 Brian O'Callaghan, Julia Bird and Em Murdock, Oxford University Economic Recovery Project, SSEE and Vivid Economics in partnership with the UN Commission for Africa, 'A Prosperous Green Recovery for South Africa: Could green investment bring short-term economic recovery while unlocking long-term sustainable growth?', March 2021, https://recovery.smithschool.ox.ac.uk/wp-content/uploads/2021/03/20200301_OXFORD-VIVID-_-A-Prosperous-Green-Recovery-for-South-Africa_vf_EN.pdf.

27 Carbon tax payments were scheduled to recommence in July 2021.

28 National Treasury, 'Budget Review 2021', February 24, 2021, http://www.treasury.gov.za/documents/National Budget/2021/review/FullBR.pdf.

BOX 1 SOUTH AFRICA'S FISCAL STIMULUS MEASURES

Grey policies

- $ 12.14 billion (ZAR 200 billion) in credit guarantees to small and medium enterprises.
- $ 6.07 billion (ZAR 100 billion) to support for small and medium enterprises and informal businesses.
- $ 3.06 billion (ZAR 50 billion) support to vulnerable households.
- $ 2.43 billion (ZAR 40 billion) wage support through the Unemployment Insurance Fund.
- $ 0.91 billion (ZAR 15 billion) tax subsidy to employers.
- $ 1.28 billion (ZAR 21 billion) in tax deferrals of 35% of PAYE liability.
- $ 0.91 billion (ZAR 15 billion) in deferrals of provisional tax payments.
- $ 0.36 billion (ZAR 6 billion) in tax holiday for skills development.
- $ 0.36 billion (ZAR 6 billion) in deferrals for alcohol and tobacco excise duty.
- $ 0.3 billion (ZAR 5 billion) for case-by-case application for tax deferral.

Green policies

- $ 1.21 billion (ZAR 20 billion) support to municipalities to provide emergency water supply, sanitise public transport facilities and support vulnerable communities.
- $ 0.12 billion (ZAR 1.983 billion) is for job creation in the environment, forestry, and fisheries sectors.

Red policies

- $ 0.12 billion (ZAR 2 billion) in carbon tax deferral.

Source: IMF COVID-19 policy responses tracker, South Africa treasury, and South African Economic Reconstruction and Recovery Plan

Nigeria's green fiscal response

In response to the health and socio-economic challenges posed by the COVID-19 pandemic, the Nigerian government came up with the Economic Sustainability Plan (ESP) an economic sustainability plan which outlined policy measures to be undertaken to address the challenges. In it, $ 5.98 billion (NGN[29] 2.3 trillion) in additional expenditure was included to help stimulate the economy.[30] These expenditures comprised additional spending in social safety nets, agriculture, energy, public infrastructure, and support to small and medium businesses. Additionally, the

29 Currency code for Nigerian naira.

30 Nigerian naira are converted to US dollars using the 2020 average exchange rate of NGN384.62/$ (see www.exchangerates.org.uk).

federal government also adopted tax and subsidy measures aimed at improving the mobilisation of non-oil revenues in the wake of the massive drop in oil prices because of the pandemic and reducing the tax burden on firms and people. The fiscal measures included in Nigeria's stimulus plan are summarised in Box 2 below.

While most of the fiscal measures adopted were broad interventions targeting all sectors, they include notable interventions with climate implications. As part of its efforts to create jobs during the pandemic, the federal government accelerated the implementation of the $ 0.62 billion (NGN 240 billion) Solar Power Strategy and launched the $ 0.23 billion (NGN 90 billion) National Gas Expansion Programme. The former targets 25 million people to benefit from the installation of five million solar home systems and mini grids, while the latter aims to accelerate the transition of Nigeria to a post-oil era and promote the domestic use of cleaner fuels. These two interventions are deliberately designed to contribute to a greener recovery by increasing the share of clean energy used in the country while at the same time creating green jobs.

"As part of its efforts to create jobs during the pandemic, the federal government accelerated the implementation of the $ 0.62 billion (NGN 240 billion) Solar Power Strategy and launched the $ 0.23 billion (NGN 90 billion) National Gas Expansion Programme"

In addition to these climate conscious interventions, the federal government adopted revenue measures that also have positive climate implications. While the primary intention was to increase government revenues following the drastic oil revenue decline, the measures adopted – particularly with regards to government subsidies – stand to negatively affect the consumption of non-clean energy. The removal of $ 4.42 billion (NGN 1.7 trillion) worth of fossil fuel subsidies, and reduction of electricity subsidies by increasing tariffs by 50% (from 56% to 80%) have the effect of increasing the cost to consumers and therefore reducing the amount of such (non-clean) energy consumed. It is estimated that the policy to increase electricity tariffs will shift a $ 1.2 billion (NGN 464.4 billion) cost burden of fuel-generated electricity to its consumers, causing a decline in its consumption.[31] However, unlike

31 According to the Nigerian Electricity Regulatory Commission, the federal government spent NGN 540 billion on electricity subsidies in 2019. This implies that about NGN 464.4 billion (86%) was spent on subsidising fossil fuel generated power because 86% of Nigeria's power is fossil fuel generated.

the solar power installations and the gas expansion programme, the subsidy measures are most likely to be transitory given that the country relies heavily on fossil fuel generated power which most people cannot afford without government support. In the meantime these measures will disincentivise consumers of non-clean energy and provide an opportunity for the government to begin the process of permanently removing the subsidies.

In total, the green measures included in the country's fiscal stimulus plan amount to $ 5.28 billion (NGN 2.03 trillion), representing 1.7% of the country's 2019 GDP of $ 378.66 billion (NGN 145.639 trillion). This shows that Nigeria is pursuing an overall green recovery strategy that could lead to the reduction in the country's carbon footprint thus making a positive contribution towards the global efforts to halt climate change.

BOX 2 NIGERIA'S FISCAL STIMULUS MEASURES

Grey policies

- $ 0.23 billion (NGN 88.46 billion) in conditional cash transfer programme.
- Special Public Works (SPW) Programme for the vulnerable.
- $ 30 million (NGN 50 billion) targeted credit facility.
- $ 5.2 billion (NGN 2 trillion) loan to the manufacturing sector.
- $ 3.9 billion (NGN 1.5 trillion) loan to the real sector.
- $ 260 million (NGN 100 billion) intervention to the health sector.
- $ 9.4 billion (NGN 3.6 trillion) injection to the banking system.
- $ 780 million (NGN 300 billion) Micro, Small and Medium Enterprises Development Fund.
- $ 195 million (NGN 75 billion) Nigerian Youth Investment Fund.

Green policies

- $ 0.62 billion (NGN 238.46 billion) investment in solar power electrification and green jobs.
- $ 0.23 billion (NGN 88.46 billion) for the National Gas Expansion Programme to promote domestic use of compressed natural gas and support the creation of one million jobs.
- Removal of fossil fuel subsidies amounting to $ 4.42 billion (NGN 1.7 trillion).
- 50% increase in electricity tariffs (shifting a $ 1.21 billion (NGN 465.39 billion) cost burden of fossil fuel generated electricity to the consumers).

Source: IMF COVID-19 policy responses tracker and Nigeria Economic Stability Plan

Uganda's red fiscal response

Uganda's COVID-19 fiscal stimulus amounted to $ 686.2 million (USh[32] 2.54 billion) in additional government expenditure and tax relief measures focused on supporting corporations, small and medium enterprises and vulnerable groups.[33] This package was implemented through supplementary budgets for the 2019/2020 and 2020/2021 fiscal years supported by the IMF to the tune of $ 491.5 million under the Rapid Credit Facility and a $ 300 million budget support from the World Bank under the Uganda COVID-19 Economic Crisis and Recovery Development Policy Financing.

Uganda did not actively pursue a green recovery plan. All measures included in its stimulus package were general measures that applied to the wider economy rather than activities connected to climate change (see Box 3). Nevertheless, the country allocated $ 89.7 million (USh 331.6 billion) to accelerate the Kampala Industrial and Business Park Infrastructure Scheme, a project that stands to emit significant amounts of greenhouse gases during its construction and operation phases. The project's environmental impact assessment estimates that up to 3 136 700 metric tonnes of carbon dioxide equivalent will be emitted every year once the park is operational. The projected yearly emission would increase Uganda's emissions by approximately 58% (based on the 2019 emissions estimated at 5.3 million tonnes).[34]

"Uganda did not actively pursue a green recovery plan. All measures included in its stimulus package were general measures that applied to the wider economy rather than activities connected to climate change "

The $ 89.7 million allocated to the Kampala Industrial and Business Park Infrastructure Scheme represent 0.25% of Uganda's GDP. There are no other fiscal measures with notable climate change effects and this – along with the estimated net contribution of the fiscal stimulus package

32 Currency code for the Ugandan shilling.

33 Ugandan shillings are converted to US dollars using the 2020 average exchange rate of USh3696.7/$ (see www.exchangerates.org.uk).

34 Knoema data, https://knoema.com/atlas/Nigeria/CO2-emissions?compareTo=BJ,SN,ZA,UG,TZ.

to climate change standing at -0.25% of GDP – makes Uganda's recovery red. However, the eventual impact of this package will depend on whether efforts are made to promote production of climate friendly products at the parks, and if mitigation measures to address the pollution will be implemented.

BOX 3 UGANDA'S FISCAL STIMULUS MEASURES

Grey policies

- $ 8.4 million in support to COVID-19 research and innovation projects.
- $ 123.1 million recapitalisation of Uganda Development Bank (UDB) to finance the COVID-19 response plan.
- $ 27.9 million recapitalisation of UDB (equity).
- $ 21 million support to savings and credit cooperative organisations through Micro Finance Support Centre.
- $ 70.3 million 'Emyooga' programme to fund savings and credit cooperative organisations to finance small businesses.
- $ 34.6 million funding for import substitution and export promotion strategies through the Uganda Development Corporation.
- $ 32.7 million in provision of agriculture inputs and support for the e-voucher system.
- $ 35.2 million expansion of labour-intensive public works in urban and peri-urban areas.
- $ 17 million additional funding for Social Assistance Grants for Empowerment (SAGE).
- $ 35.2 million financial support for the youth.
- $ 8 million financial support to Uganda women entrepreneurship fund.
- $ 129 million payment of domestic arrears to help government suppliers with liquidity challenges.
- $ 3.3 million in deferred corporate taxes.
- $ 7.7 million in deferred PAYE taxes.
- $ 0.4 million tax relief for small, medium enterprises.
- $ 32.6 million in tax refunds.

Red policies

- $ 89.7 million to accelerate the development of industrial and business parks.

Source: IMF COVID-19 policy responses tracker, Uganda's recovery programme

Neutral responses in Senegal, Benin and Tanzania

Fiscal measures adopted by Senegal, Benin and Tanzania were generally fewer and climate neutral. The measures centred on providing support to vulnerable households, small businesses and large formal corporations. In the case of Senegal and Benin – both members of the West African Economic and Monetary Union – the limited fiscal measures were supported by a larger programme of the regional Banque Centrale des États de l'Afrique de l'Ouest. For Tanzania, the government had lifted all the COVID-19 restrictions implemented by July 2020 following its declaration that the country was COVID-19 free. As such, economic damage was limited compared to other countries and the country recorded a growth rate of 1% in 2020. With no economic restrictions in the country, it is not surprising that the stimulus measures were also relatively limited and did not include any environmental initiatives.

"Fiscal measures adopted by Senegal, Benin and Tanzania were generally fewer and climate neutral. The measures centred on providing support to vulnerable households, small businesses and large formal corporations"

BOX 4 FISCAL STIMULUS MEASURES BY SENEGAL, BENIN AND TANZANIA[a]

Senegal's fiscal stimulus measures (*all grey*)

- $ 111.2 million in food aid.
- $ 27.6 million in suspended payments for water and electricity for poor households.
- $ 173.8 million in direct support to hard hit sectors including tourism and transport.
- $ 347.6 million in credit guarantees to large corporations and small enterprises.
- $ 137.3 million in expedited payments of unmet obligations to firms.

Benin's fiscal stimulus measures (*all grey*)

- Direct support to formal sector businesses (0.9% of GDP).
- Support for vulnerable households through cash transfers, electricity and water bills subsidies and urgent social projects (0.2% of GDP).
- A public guaranteed plan (1.0% of GDP) and credit lines and refinancing measures (0.7% of GDP) established to foster access to finance for micro, small, and medium enterprises.

Tanzania's fiscal stimulus measures (*all grey*)

- $ 376 million in expedited payment of expenditure arrears, with priority given to small and medium enterprises.
- $ 32.1 million expansion of social security.

a West African CFA francs converted into US dollars using the 2020 average exchange rate of 575.4/$ (see www.exchangerates.org.uk).

Source: IMF COVID-19 policy response tracker

The quality of green responses

The extent to which a country embraces a green recovery should reflect its GHG emissions and vulnerability to climatic shocks. A quality response entails a country with a higher carbon footprint and/or higher vulnerability to climate change to implement a greener stimulus package. The matrix in Figure 5 provides an assessment of the quality of country specific fiscal responses among the selected countries. The horizontal axis measures a country's 2019 carbon emissions in log metric tonnes[35] while the vertical axis measures the greenness of the country's fiscal stimulus. A country ranked high in terms of quality of its fiscal response appears in the upper left quadrant. These are countries with low carbon emissions but still pursued a green recovery. The second rank is the upper right quadrant which shows countries with a high carbon footprint and a climate friendly stimulus plan. In the lower left quadrant are low emitting countries with a non-green response. Lastly, the lowest ranked countries – with a low-quality response – are those in the lower right quadrant. These are countries with high carbon footprints and a climate unfriendly response.

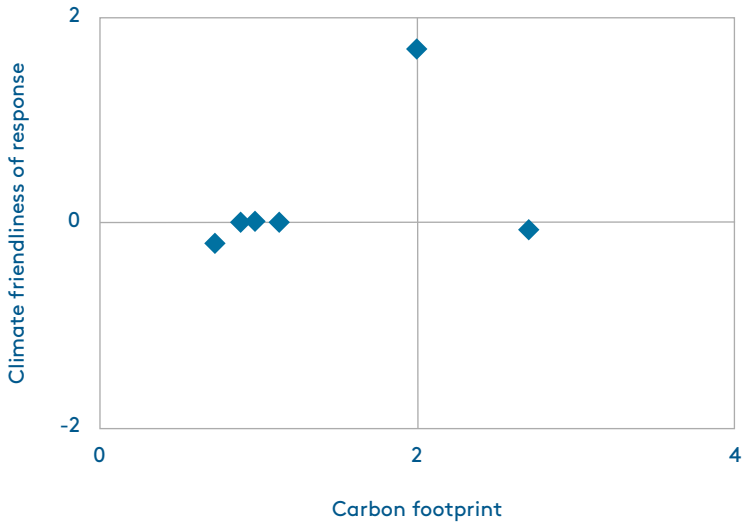
"A quality response entails a country with a higher carbon footprint and/or higher vulnerability to climate change to implement a greener stimulus package"

As the figure shows, most countries in our sample are in the lower left quadrant meaning that they have low carbon emissions and did not pursue a climate friendly recovery. Senegal has the most climate unfriendly recovery because it reduced its GDP share of green policies by -1.9 percentage points. Uganda, the lowest carbon emitting country in the sample, also had a low-quality recovery for its red response to the crisis – with its fiscal package reducing the GDP share of green policies by -0.25 percentage points. Two countries with low carbon emissions, namely Benin and Tanzania, had climate neutral stimulus packages and were therefore also ranked low quality.

35 Knoema data.

The two more interesting cases were that of Nigeria and South Africa, the two biggest economies in sub-Saharan Africa. South Africa, despite being the highest carbon emitter in Africa, did not pursue a green recovery. Consequently, its quality of response was the lowest among the sampled countries and it therefore appears in the lower right quadrant. Nigeria, on the other hand, had a high-quality response and appears in the upper right quadrant due to its pursuit of green recovery and a smaller carbon footprint. However, it needs to put more effort into minimising its emissions to achieve a higher quality fiscal stance with respect to climate change. Nigeria also needs to ensure that its green fiscal policies are maintained beyond the pandemic.

Figure 5 Quality of fiscal responses



Source: Author's calculations (climate friendliness index) and Knoema data

Opportunities for a greener recovery

Drawing on lessons from the 2008 global financial crisis and the subsequent yet transitory decline in GHG emissions, the same is likely to be the case with the COVID-19 crisis. As economies recover, so will GHG-emitting activities, and this will see a rebounding of emissions. It is therefore imperative for governments to take advantage of the crisis-induced reduction in GHG emissions, and work towards making these trends more permanent. Although some of the stimulus packages adopted by the six African governments constitute a step towards achieving that, more can be done to further incentivise green sectors while simultaneously achieving quality growth as outlined below.

- Create more jobs through green projects: Green expenditure has been shown to be more effective in creating jobs given the high labour intensity of such projects. However, only Nigeria has included such projects in its stimulus package. So far, governments have been more focused on providing direct labour support through wage subsidies to firms and support to small medium enterprises. While such measures can deliver improved labour market outcomes during the crisis, governments should increase expenditures on green investment projects which have been shown to have a high job multiplier while supporting the climate agenda.
- Use Pigouvian taxes to help restore fiscal balance: Apart from Nigeria, the other countries were yet to put any focus on fiscal consolidation during the crisis. Nigeria removed some of its energy subsidies – most of which were supporting the non-clean energy industries. However, as the crisis continues to compromise the fiscal positions of the countries, more will need to be done on both the expenditure side and revenue side. This therefore provides an opportunity for the countries to increase their revenue collections while promoting the climate agenda by imposing environmental taxes.
- Green financing can facilitate green recovery but remains highly unexploited: Green bonds are one of the most readily accessible and economical options to help raise large amounts of capital for infrastructure development to meet environmental targets in Africa.[36] With COVID-19 causing significant revenue challenges in African countries, governments must move to exploit green financing facilities such as green bonds to raise adequate funds for job creating and growth stimulating green projects. Furthermore, governments should encourage local financial markets to introduce or increase green products by putting in place a regulatory framework that incentivises players in the financial markets.

Conclusion

The damaging effects of the COVID-19 pandemic on African economies have led governments to adopt and implement economic stimulus packages. These packages have provided countries with an opportunity for climate change action by aiming to build back better by means of green recovery. However, the stimulus measures adopted by the six countries thus far have been by and large climate neutral – focused on helping ailing businesses and vulnerable individuals.

Nonetheless, while focus has been on minimising macroeconomic vulnerabilities and welfare losses, some of policy measures adopted have implications on the climate action of the respective countries. Nigeria, the only country among the six with clean energy spending in its stimulus package, had an overall green stimulus package. South Africa on the other hand,

36 Palesa Shipalana, 'Green Finance Mechanisms in Developing Countries: Emerging Practice', South African Institute of International Affairs, October 1, 2020, https://saiia.org.za/wp-content/uploads/2020/10/1-Palesa-Shipalana-1.pdf.

the biggest polluter, adopted a neutral package. Uganda, the least polluting country adopted a climate unfriendly package owing to its acceleration of the construction of industrial parks. Lastly, Tanzania, Senegal and Benin all adopted climate neutral packages.

Given the respective compositions of the packages, there are still opportunities for these countries and others in Africa to move towards a fully green recovery. These include expanding the packages to include clean energy projects financed through green financing facilities, imposing carbon taxes to help consolidate their deteriorating fiscal positions while simultaneously reducing pollution, and contributing to the development of green finance segments by putting in place a regulatory framework that incentivises players in the financial markets to develop and issue green products.

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SAIIA is an independent, non-government think tank whose key strategic objectives are to make effective input into public policy, and to encourage wider and more informed debate on international affairs, with particular emphasis on African issues and concerns.

Cover image: Workers prepare to harvest lettuce at a hydroponics farm on April 30, 2021 in Harare, Zimbabwe. Hydroponic farming saves as much as 90% of the water needed as it is reused multiple times (Tafadzwa Ufumeli/ Getty Images)

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