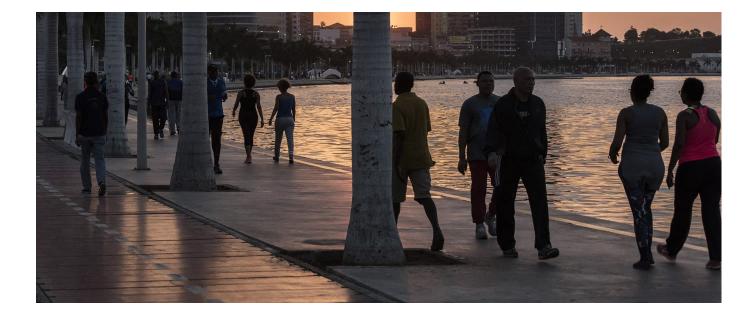


Angola

Geographic Futures

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In this entry, we first describe the Current Path forecast for [Angola] as it is expected to unfold to 2043, the end of the third ten-year implementation plan of the African Union's Agenda 2063 long-term vision for Africa. The Current Path in the International Futures (IFs) forecasting model initialises from country-level data that is drawn from a range of data providers. We prioritise data from national sources.

The Current Path forecast is divided into summaries on demographics, economics, poverty, health/WaSH and climate change/energy. A second section then presents a single positive scenario for potential improvements in stability, demographics, health/WaSH, agriculture, education, manufacturing/transfers, leapfrogging, free trade, financial flows, infrastructure, governance and the impact of various scenarios on carbon emissions. With the individual impact of these sectors and dimensions having been considered, a final section presents the impact of the Combined Agenda 2063 scenario.

We generally review the impact of each scenario and the Combined Agenda 2063 scenario on gross domestic product (GDP) per person and extreme poverty except for Health/WaSH that uses life expectancy and infant mortality.

The information is presented graphically and supported by brief interpretive text.

All US\$ numbers are in 2017 values.

Summary

Current Path forecast

- Angola was home to 32 million people in 2019, making it the 12th largest population in Africa. It is also one of the youngest and fastest growing populations in the world, which slows down potential income growth. Jump to Current Path forecast
- With a GDP of US\$138.8 billion in 2019, Angola is the sixth largest economy in Africa. However, it remains
 vulnerable to the volatility of the global oil market. Owing to rapid population growth and urbanisation,
 medium- and long-term economic prospects are optimistic. Jump to Economics: Current Path
- Roughly three out of every five Angolans over 19 million people in 2019 were living in extreme poverty
 (using US\$3.20). Without immediate action, the number of Angolans living in poverty will continue to grow for
 at least another decade. Poverty is particularly pronounced in Angola's rural areas, where an estimated nine
 of out ten people are extremely poor. Jump to Poverty: Current Path
- Angola depends heavily on drilling for and exporting crude oil, which are extremely carbon-intensive
 activities. In 2019, Angola emitted an estimated 12 million tons of carbon, primarily from its energy sector. In
 the Current Path forecast, Angola will steadily emit more carbon: by 2043, Angola is projected to be Africa's
 fifth largest producer of carbon emissions. As the Angolan population continues to grow, so too will its
 carbon emissions. It is urgent that the Angolan government pursue environmentally sustainable practices to
 meet the needs of its citizens. Jump to Carbon emissions/Energy: Current Path

Sectoral Scenarios

- The reduction in conflict risk and improved regime stability modelled in the Stability scenario significantly improve average incomes in Angola, reflecting the positive effect of peace and greater steadiness in governance on the well-being of Angolans. Jump to Stability scenario
- In the Demographic scenario, infant mortality in Angola decreases much more quickly than on the Current
 Path, falling to an estimated 28 deaths per 1 000 live births by 2043. Maternal education is strongly
 correlated with reductions in child and infant mortality, highlighting the urgent need for improved schooling
 for girls and women, especially in primary and secondary school. Jump to Demographic scenario
- Owing to the improved health outcomes and WaSH infrastructure in the Health/WaSH scenario, life expectancy and infant mortality improve slightly more rapidly in this scenario than on the Current Path. The modest effect of this scenario on these indicators shows that more action is needed in Angola to address its poor health outcomes. Jump to Health/WaSH scenario
- The improved agricultural production modelled in the Agriculture scenario helps to stabilise Angola's
 dependence on agricultural imports. However, Angola's population is among the youngest and fastest
 growing in the world, and greater investments in the agricultural sector will be necessary to keep its
 dependence on food imports from deepening over the long term. Jump to Agriculture scenario
- Primary and secondary test scores in Angola are lower than the average for lower middle-income African countries and are not projected to improve on the Current Path. In the Education scenario, average primary and secondary test scores improve significantly and eventually surpass the average for lower middle-income Africa. Jump to Education scenario
- The manufacturing growth and welfare transfers modelled in the Manufacturing/Transfers scenario significantly improve average incomes in Angola over the Current Path, evidencing the positive impact of cash transfers to vulnerable populations and increased manufacturing on incomes in the long term. Jump to Manufacturing/Transfers scenario
- In the Leapfrogging scenario, a much larger share of Angolans has access to electricity, a key requirement for lifting vulnerable populations out of poverty. However, poverty remains a growing problem in this scenario over the forecast horizon, showing that more than electricity access is needed to dramatically reduce poverty in Angola. Jump to Leapfrogging scenario
- o The increased economic freedom, productivity, and exports modelled in the Free Trade scenario raise

- average incomes in Angola substantially over the medium- and long-term. Jump to Free Trade scenario
- In the Financial Flows scenario, foreign direct investment and foreign aid to Angola increase more rapidly than on the Current Path, but the impacts on average incomes are modest. Jump to Financial Flows scenario
- The increased infrastructure spending modelled in the Infrastructure scenario, which primarily impacts
 infrastructure such as airports in lieu of sanitation infrastructure and other basic necessities, only modestly
 improves average incomes in Angola. Given Angola's lower level of development, more focus on basic
 infrastructure, such as water and sanitation, is necessary. Jump to Infrastructure scenario
- The improved governance modelled in the Governance scenario only modestly reduces extreme poverty in Angola. In fact, even in the Governance scenario, the number of extremely poor people in Angola continues to grow over the coming decades before stabilising at around 29 million people in 2040. Jump to Governance scenario
- On the Current Path, the country will emit 45.1 million tons of carbon in 2043. In the scenarios, projected
 emissions diverge only slightly from the Current Path forecast, and in all scenarios, carbon emissions double
 by 2030 and exceed 40 million tons by 2043. Jump to Carbon emissions scenario
- Combined Agenda 2063 scenario
 - In the Combined Agenda 2063 scenario, the number of extremely poor people in Angola increases to approximately 24 million people in the late-2020s (using US\$3.20) before falling to roughly 18.2 million in 2040 and 15 million in 2043. This forecast is far more optimistic than the Current Path and shows the beneficial effect of concerted, whole-of-government approaches to seemingly intractable issues such as poverty. Jump to Combined Agenda scenario

Angola: Current Path

- Angola: Current Path forecast
- Demographics: Current Path
- Economics: Current Path
- Poverty: Current Path
- Carbon Emissions/Energy: Current Path



Angola: Current Path forecast

Chart 1: Political map of Angola



This page provides an overview of the key characteristics of Angola along its likely (or Current Path) development trajectory. The Current Path forecast from the International Futures forecasting (IFs) platform is a dynamic scenario that imitates the continuation of current policies and environmental conditions. The Current Path is therefore in congruence with historical patterns and produces a series of dynamic forecasts endogenised in relationships across crucial global systems. We use 2019 as a standard reference year and the forecasts generally extend to 2043 to coincide with the end of the third ten-year implementation plan of the African Union's Agenda 2063 long-term development vision.

Until recently, one of the fastest growing economies in Africa, the People's Republic of Angola — one of Africa's 23 low

middle-income countries — has long committed to diversifying its economy to achieve and sustain growth beyond oil. And its potential is great: covering roughly 1.25 million km² next to Namibia, Zambia and the Democratic Republic of the Congo (DR Congo), Angola boasts a long shoreline with several key ports and owns the massive oil fields off Cabinda Province — an exclave just north of Angola nestled in the DR Congo over which the two nations and local political groups have fought bitterly. But the legacies of Angola's 27-year civil conflict, political turmoil from 2002 to 2008 and, more recently, poor economic growth following the collapse of oil prices in 2014 have hindered progress.

Despite substantial improvements since the end of the civil war in 2002, Angola's human development outcomes are low, even compared to the rest of Africa. In the United Nations Development Programme's Human Development Index, Angola ranks 148th of 189 countries, suggesting that a long, healthy life, quality education and good standard of living are out of reach for most Angolans. One out of three people in Angola experiences multidimensional poverty — a phenomenon largely driven by struggling education and health systems that most families cannot afford to participate in.

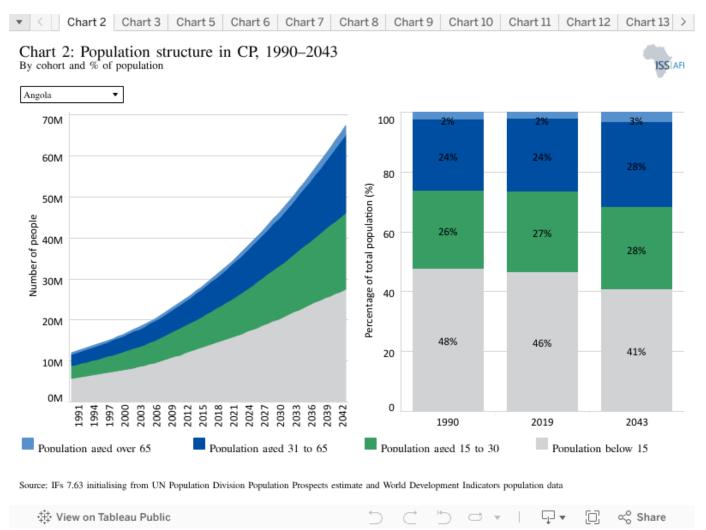
While Angola's rapid urbanisation rates and natural resources bode well for medium- and long-term economic prospects, the next several years are more uncertain. Crude oil prices have partially recovered since 2014, but the Angolan economy remains extremely vulnerable to the volatility of the oil market while the huge potential of its agricultural sector is very susceptible to the impact of climate change.

Angola's vast natural resources, ranging from large tracts of fertile land to immense hydropower potential, can help Angola become a stable economy and a peaceful, inclusive society. But for these resources to translate into sustainable growth, the government must commit to prioritising human development — a departure from the economic mismanagement of decades past.

The main thrust of President Lourenço's administration since assuming the presidency in 2017 has been on restoring the credibility of the People's Movement for the Liberation of Angola (MPLA) after decades of central state control and massive corruption under former President Dos Santos and his family and associates. Frustration is mounting, however, and during the most recent elections in September 2022 the ruling party only narrowly managed to stave off the challenge from the National Union for the Total Independence of Angola (UNITA) opposition.

Angola is a member of the Southern African Development Community (SADC) and the Economic Community of Central African States (ECCAS).



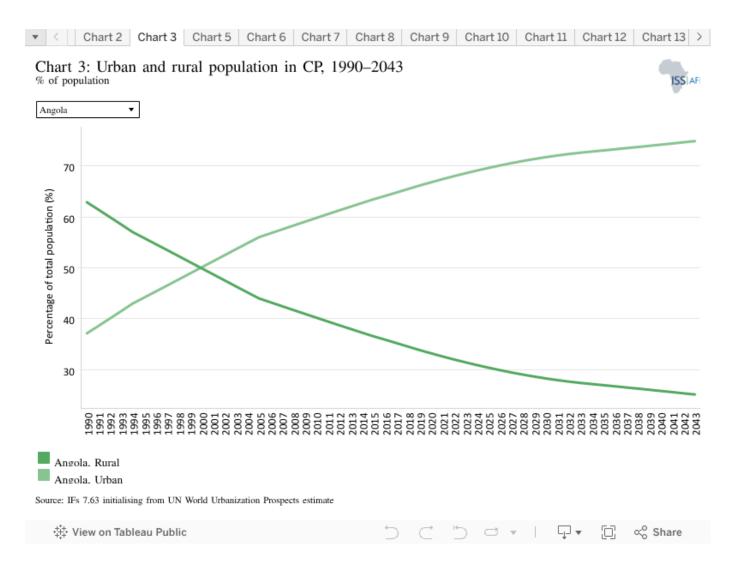


In 2019, Angola was home to 32 million people, making it the 12th largest population in Africa, behind Morocco (36.5 million) and Algeria (43.1 million). However, unlike these other countries, Angola's population is incredibly young: in 2019, 14.9 million Angolans were under the age of 15. Meanwhile, 16.4 million people in Angola are of working age, (between the ages of 15 and 65). Fewer than one million were 65 or older.

Since 1990, when the nation had a population of 11.9 million people, the number of Angolans has nearly tripled owing to sustained high birth rates. Looking into the future, the population of Angola is forecast to nearly double by 2043 in the Current Path forecast, reaching 67.4 million.

Similar to most sub-Saharan countries, Angola's population is almost equally divided between the working-age population, who are those between 15 and 64 years of age (16.3 million people), and dependants, who are those under 15 years of age and 65 years or older (15.6 million people). For the entire forecast horizon to 2043, Angola's large youthful population will present a drag on growth and development.

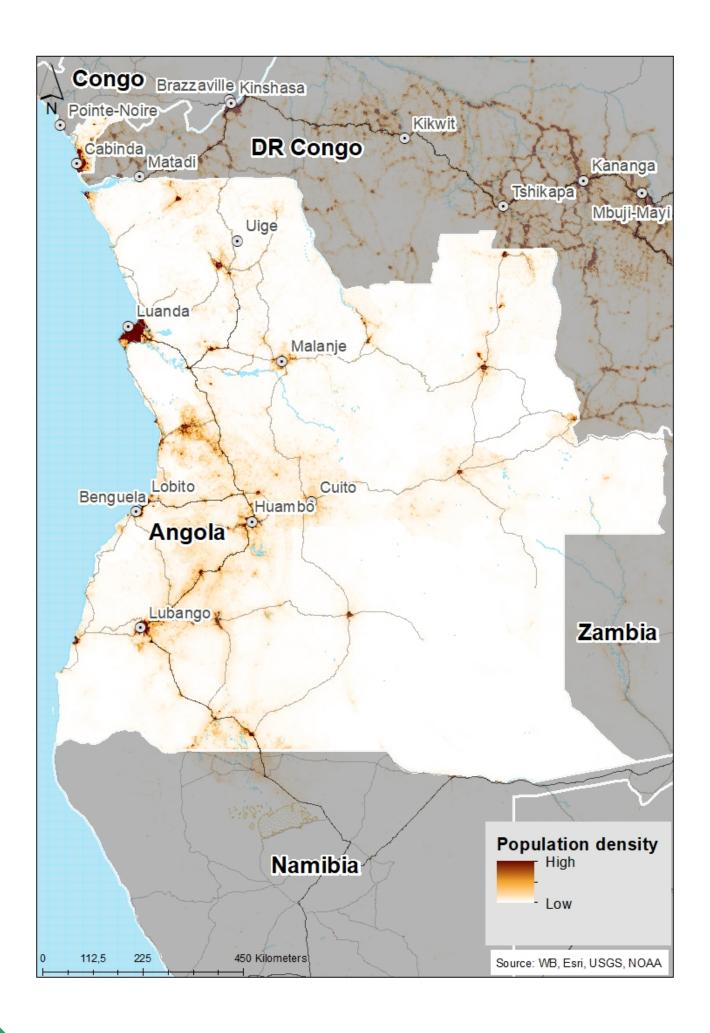
More specifically, children (those under 15 years of age) currently comprise an estimated 46% of the population, making Angola the fourth youngest nation in the world, next to Mali and Somalia (also 46%) and Niger (49%). Angola's workforce, defined as those between the ages of 15 and 65, is estimated at 17.7 million, representing 52% of the population. On the Current Path, the workforce's share of the population will increase to 53% by 2030 and 56% by 2043.



The flight of rural populations to Luanda and other cities during the civil war has driven the country's rapid rates of urbanisation. Most Angolans lived in rural areas up until the turn of the century. Since then, the number of people living in cities has outnumbered those living in rural areas. At present, nearly seven out of ten Angolans (23 million people) live in urban areas. This makes Angola the 11th most urban country in Africa and comparable to South Africa and Tunisia. Although urbanisation is associated with many challenges, which in Angola have included the growth of large slums around Luanda, it also brings about opportunities: providing basic services such as education and healthcare are more affordable in urban than in rural settings.

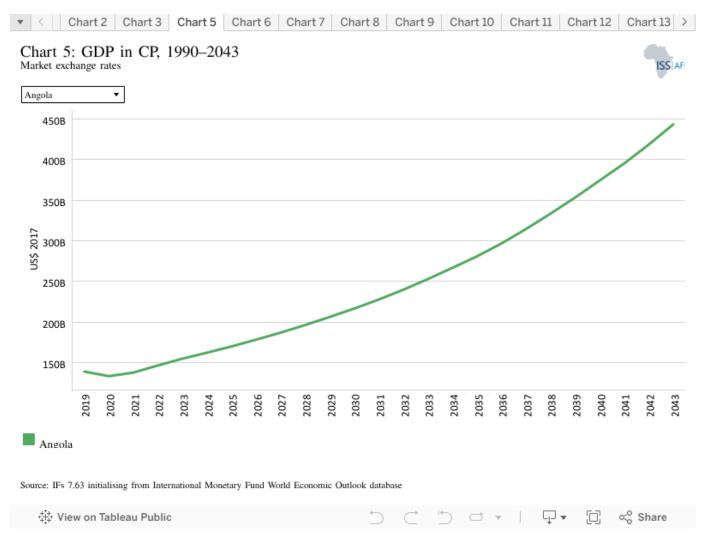
On the Current Path, nearly 80% of Angola's population, or 50 million people, will be urban by 2043.

Chart 4: Population density map for 2019



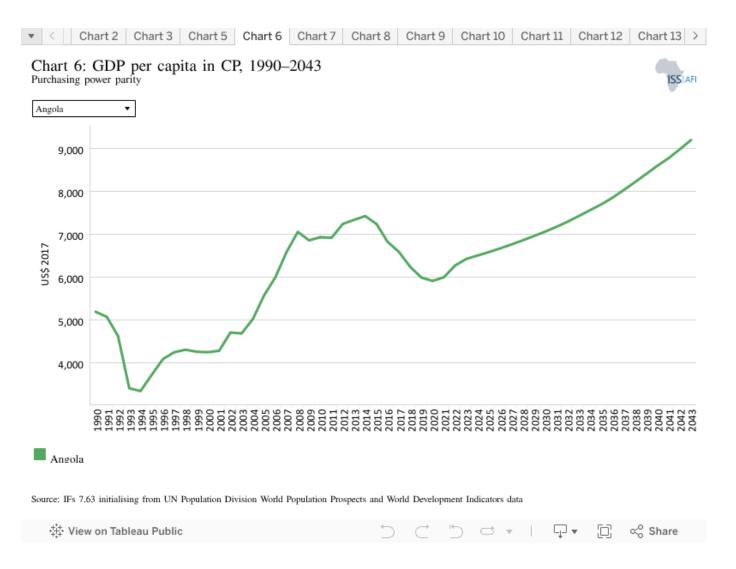
At present, an estimated seven out of ten Angolans live in the country's cities, primarily in Luanda, the nation's sprawling capital city. The large majority of the nation's economic activity, both formal and informal, occurs in this coastal metropolis. In the country's expansive rural interior, much of which is densely forested (in fact, half of Angola's land area is forested, making it the most densely forested nation in the Zambezi River Basin), an estimated nine out of ten people are extremely poor and food insecure.





With an estimated gross domestic product (GDP) of US\$138.8 billion in market exchange rates, Angola was the sixth largest economy in Africa in 2019, behind Morocco, Algeria, Egypt, South Africa and Nigeria. But the heft of the Angolan economy obscures its vulnerability to the volatile global oil market, which has wreaked havoc on its economy since the advent of large-scale shale oil production in the United States. In fact, the Angolan economy recorded negative growth from 2016 to 2020.

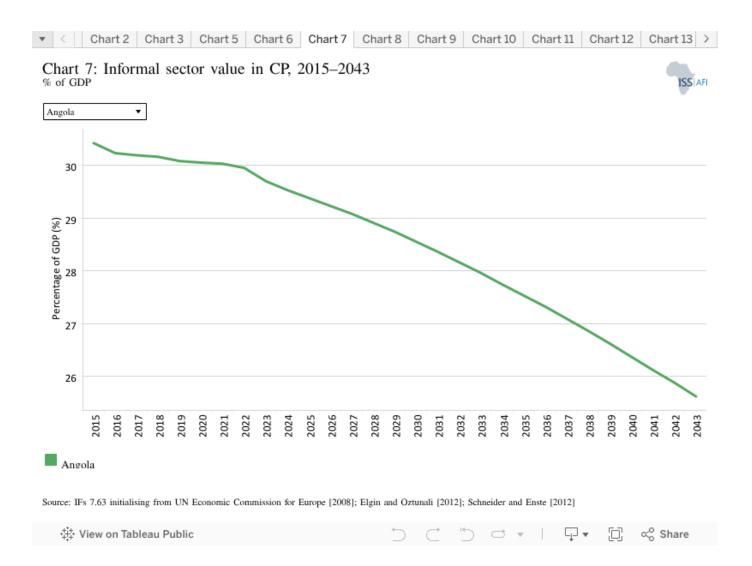
Medium- to long-term economic prospects are optimistic, reflecting rapid future population growth and further urbanisation on top of an already large urban population — phenomena that tend to generate increased economic output and are closely linked to economic growth within IFs. In the Current Path forecast, the Angolan economy will grow to US\$216.5 billion by 2030 and US\$443.3 billion by 2043.



Although many of the charts in the sectoral scenarios also include GDP per capita, this overview is an essential point of departure for interpreting the general economic outlook of Angola.

Average incomes in Angola, measured using GDP per capita in purchasing power parity, were lower by the end of the civil war in 2002 than they were at independence in 1975 owing to decades of conflict and central state control. The nation's newfound peace and growing oil revenues led to a high average growth rate of 8.8% per year between 2001 and 2010. However, the impact of the shale oil revolution in the US on global oil supply caused the economy to contract by almost -3% in 2016.

In 2019, the GDP per capita was estimated at US\$5 988, the 15th highest in Africa and similar to Nigeria and Cape Verde. In the Current Path forecast, Angola's average incomes will outpace those of other lower middle-income countries in Africa and reach roughly US\$7 060 by 2030 and US\$9 205 by 2043.



The onerous requirements of doing business in Angola are among the many barriers to formalising Angola's informal economy, an extraordinarily resourceful sector that Angola's National Statistics Institute estimates employs nearly three out of every four Angolan adults. It permeates Angolan society: informal businesses pave roads, provide transportation and fuel, fish and agriculture services as well as undertake mining and vehicle repairs, among many other goods and services. In fact, the provision of water is the largest subsector of Luanda's informal economy. Although reliable data on informal economies is scarce, IFs estimates that the informal economy generated nearly one-third of Angola's GDP in 2019, similar to the average of other lower middle-income African countries.

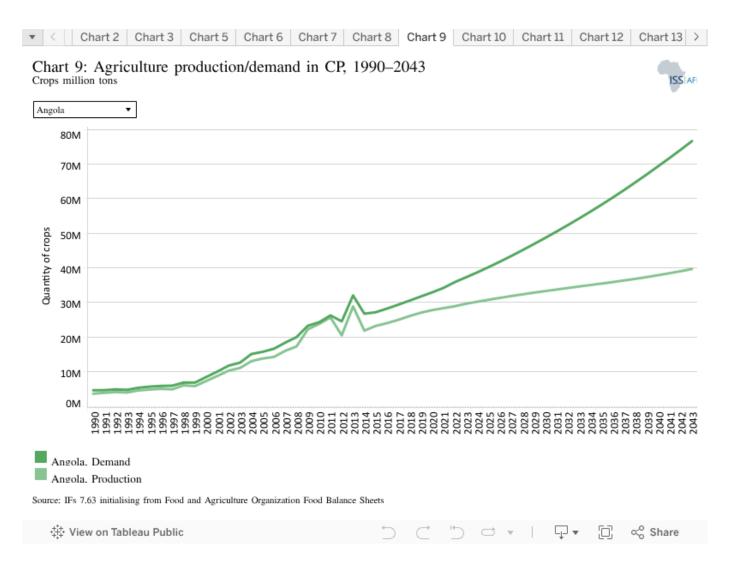
On the Current Path, the informal sector's share of GDP will decline only slightly by 2043 to comprise one-quarter of GDP. Every effort should be made to reform laws and regulations to lower barriers of entry into the formal sector. Community enterprise models can also play an important role in providing livelihood opportunities and basic services. Indeed, Luanda's extraordinary informal water supply network would not exist if the government fulfilled its basic infrastructure duties.

The IFs platform uses data from the Global Trade and Analysis Project (GTAP) to classify economic activity into six sectors: agriculture, energy, materials (including mining), manufactures, services and information and communications technology (ICT). Most other sources use a threefold distinction between only agriculture, industry and services with the result that data may differ.

Of all six sectors, services contribute the most to the Angolan economy, comprising an estimated 48.9% (US\$67 billion) in 2019. The next largest sectors are energy and manufactures, which contribute an estimated 15.9% (US\$22 billion) and 14.5% (US\$20 billion), respectively. Agriculture follows, making up an estimated 13% (US\$18 billion) of the economy.

In the Current Path forecast, the value-added contributions of services, manufacturing, materials and ICT will continue to increase in both relative and absolute terms. Conversely, the absolute contributions to the economy of agriculture and energy will increase, but their value added as a per cent of GDP will decrease.

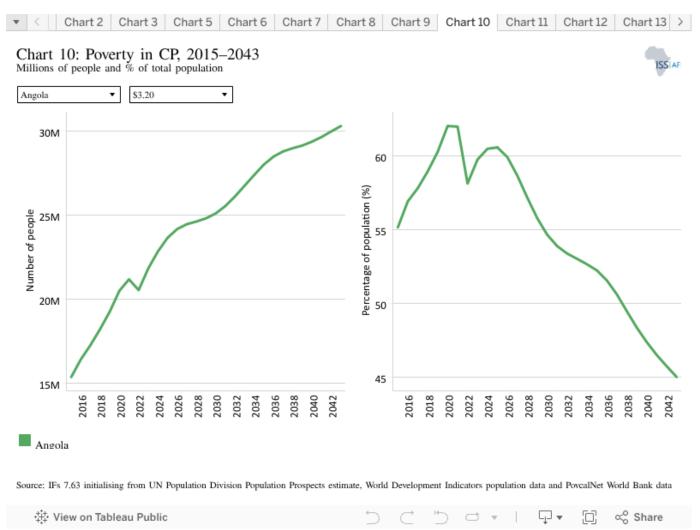
Moving forward, it will be important for Angola to encourage and support growth in agriculture, manufacturing, and tourism to improve the livelihoods of the country's rapidly growing population.



The data on agricultural production and demand in the IFs forecasting platform initialises from data provided on food balances by the Food and Agriculture Organization (FAO). IFs contains data on numerous types of agriculture but aggregates its forecast into crops, meat and fish, presented in million metric tons. Chart 9 shows agricultural production and demand as a total of all three categories.

Angola is the third largest sub-Saharan African country and has large swathes of arable land. However, the agricultural sector — once among the most productive on the continent — performs far below its potential. At present, 95% of the roughly 5 million hectares of cropland that cover 4% of the country is used by families for small-scale and subsistence farming. Meanwhile, between 60% and 75% of the population depends on subsistence agriculture for income and food. Given the sector's low productivity, food demand exceeds food production. In the Current Path forecast, Angola's rapidly growing population will translate into quick and dramatic growth in food demand, reaching 77 million metric tons by 2043. Conversely, production is projected to stagnate, increasing only to 40 million metric tons by 2043.





There are numerous methodologies for and approaches to defining poverty. We measure income poverty and use GDP per capita as a proxy. In 2015, the World Bank adopted the measure of US\$1.90 per person per day (in 2011 international prices), also used to measure progress towards the achievement of Sustainable Development Goal 1 of eradicating extreme poverty. To account for extreme poverty in richer countries occurring at slightly higher levels of income than in poor countries, the World Bank introduced three additional poverty lines in 2017:

- · US\$3.20 for lower middle-income countries
- US\$5.50 for upper middle-income countries
- · US\$22.70 for high-income countries.

Poverty is among Angola's most pervasive challenges: in 2019, three out of every five Angolans — over 19 million people — were living under the extreme poverty line for lower middle-income countries (US\$3.20 per day). Two out of five Angolans are living on less than US\$1.90 per day, the income level used to measure global progress towards the United Nations' first Sustainable Development Goal to eliminate extreme poverty by 2030.

Meanwhile, one out of every three Angolans is living in severe poverty according to the Multidimensional Poverty Index,

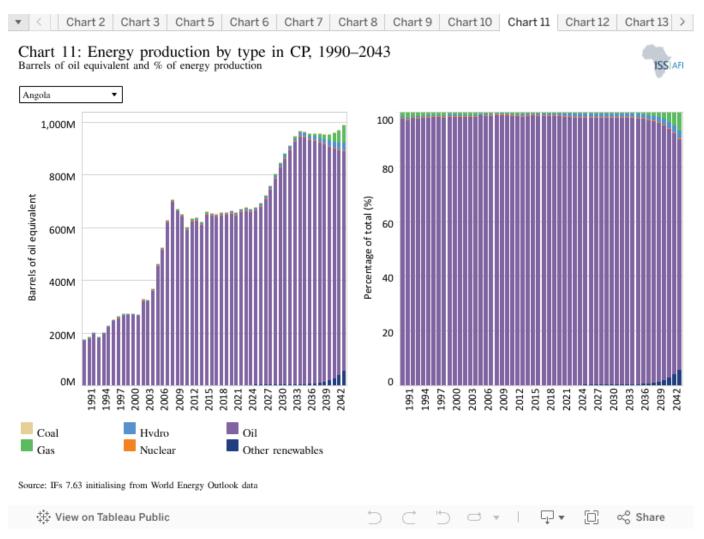
which is based on 10 indicators measuring education, health and standard of living.

In the Current Path forecast, the share of the population living under the lower middle-income poverty line will fall slightly from the current estimate of 60% to 45% by 2043. However, owing to rapid population growth, the number of Angolans living on less than US\$3.20 per day will continue to grow, reaching over 25 million by 2030 and over 30 million by 2043. Because Angola has relatively high inequality (third highest among Africa's 23 lower middle-income countries), economic growth does not readily translate into poverty reduction.

It is important to note that Angola's national poverty rates fail to capture the prevalence of poverty in the country's rural areas, where nine out of ten people are poor.



Carbon Emissions/Energy: Current Path



The IFs platform forecasts six types of energy, namely oil, gas, coal, hydro, nuclear and other renewables. To allow comparisons between different types of energy, the data is converted into billion barrels of oil equivalent (BBOE). The energy contained in a barrel of oil is approximately 5.8 million British thermal units (MBTUs) or 1 700 kilowatt-hours (kWh) of energy.

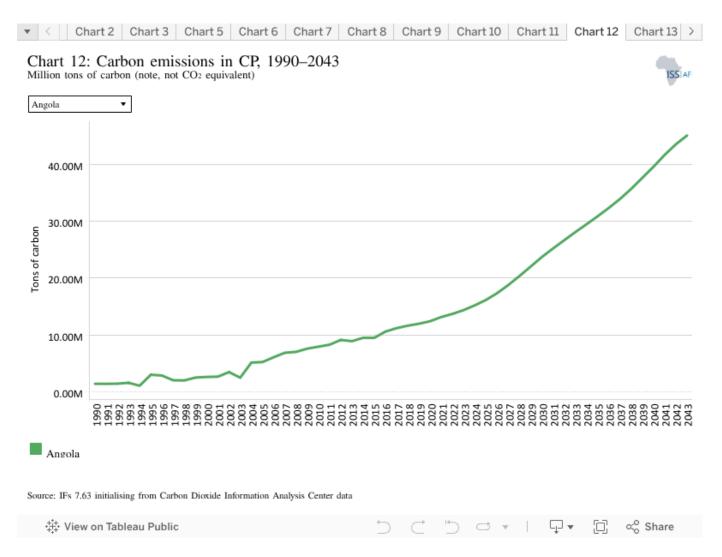
Oil dominates energy production — and the economy — in Angola, where nearly all reserves are in deepwater oil fields off the Cabinda Province, a small yet geopolitically critical Angolan coastal exclave in the DR Congo that countries and separatist groups have been fighting over for decades. In 2019, Angola produced an estimated 65 million barrels of oil equivalent (MBOE) of oil, which includes crude oil, condensates and natural gas liquids. The 1.57 million barrels of oil per day that Angola sent abroad in 2017 accounted for more than 95% of export earnings.

With over 8.2 billion barrels of proven oil reserves, and 13.5 trillion cubic meters of natural gas, Angola has the potential to be energy self-sufficient, but spends more than US\$1.7 billion annually on oil imports due to infrastructure deficits. To address this imbalance refinery development is an important priority with upgrades to the country's only operating refinery (Luanda Refinery) and three new projects (Lobito, Cabinda and Soyo) in the pipeline by mid-2022.

Although there have been recent investments in oil and gas exploration, Angola's proven oil reserves are expected to run out by the mid-2030s. The decrease in oil production reflects this expectation. If new reserves are discovered, whether

they will be financially viable in an era of relative oil abundance is far from certain.

As the Angolan population grows and its economy intensifies, Angola will require more energy for domestic use. The country's renewable energy potential — primarily hydropower and solar — is among the most significant opportunities available. Moving forward, accelerating the transition away from hydrocarbons and towards renewables will be an indispensable component of a self-sufficient and economically stable Angola.



Carbon is released in many ways, but the three most important contributors to greenhouse gases are carbon dioxide (CO2), carbon monoxide (CO) and methane (CH4). Since each has a different molecular weight, IFs uses carbon. Many other sites and calculations use CO2 equivalent.

In 2019, Angola emitted an estimated 12 million tons of carbon. Although the energy sector is primarily responsible for greenhouse gas emissions, land-use change (such as deforestation), forestry and agriculture also contribute. In the Current Path forecast, Angola will steadily emit more carbon: in 2030, the nation is projected to emit 24 million tons. In 2043, Angola is projected to emit 45 million tons of carbon making the country Africa's fifth largest producer of carbon emissions behind Algeria, South Africa, Egypt, and Nigeria.

From an African perspective, the continent's largest producer of carbon emissions, South Africa, emitted 133 million tons that same year. Meanwhile, China — the world's largest emitter of carbon — produced 2.9 billion tons in 2019, followed by the United States (1.4 billion tons) and India (676 million tons).

As the climate continues to warm, Angola's water and food resources, infrastructure and human settlements will be increasingly threatened. Climate change projections vary across the country. At the national level, annual rainfall is projected to decrease by roughly 1% from 1990 levels by 2050. Generally, the northern areas will become warmer and experience a slight decrease in rain, while the southern areas will become hotter more quickly and suffer a more dramatic decrease in rain.

Conversely, the central coastal region is expected to experience a slow increase in rainfall. Floods and droughts will also continue to intensify and become more frequent, causing further soil degradation and endangering vulnerable communities.

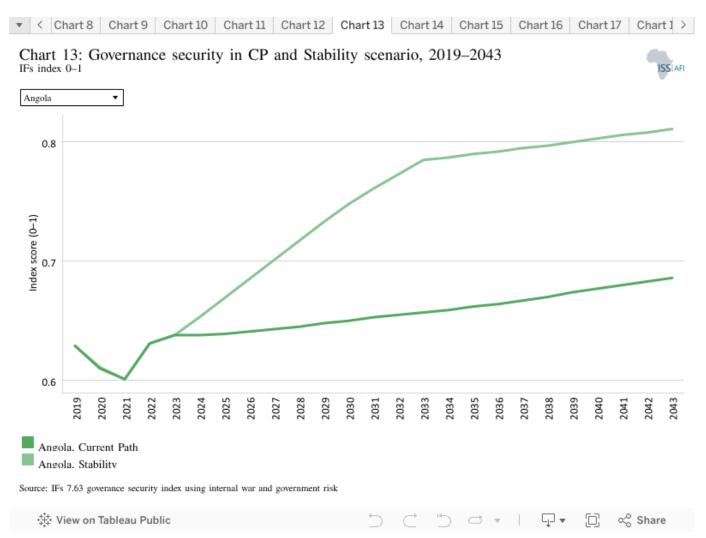
Like the rest of southern Africa and other arid climates, Angola is feeling climate change's effects primarily through food and water insecurity. In fact, Angola is one of seven countries globally that will inevitably suffer decreased yields of key crops (cassava, maize, sorghum, rice, wheat and millet) by 2030 because of climate change.

To help mitigate the effects of climate change, Angola needs to sustainably manage the forests that cover half of the country. Sustainable management of forests and other ecosystems will be critical to helping adapt to and mitigate climate change. Angola is the most densely forested country in the Zambezi River Basin and unusually diverse: 'It occupies only 4% of the terrestrial area of Africa, yet it possesses the highest diversity of biomes and is second only to mega-diverse South Africa in terms of the number of ecoregions found within its borders.'

Sectoral Scenarios for Angola

- · Stability scenario
- Demographic scenario
- · Health/WaSH scenario
- · Agriculture scenario
- Education scenario
- Manufacturing scenario
- Leapfrogging scenario
- · Free Trade scenario
- · Financial Flows scenario
- Infrastructure scenario
- · Governance scenario
- · Impact of scenarios on carbon emissions





The Stability scenario represents reasonable but ambitious reductions in risk of regime instability and lower levels of

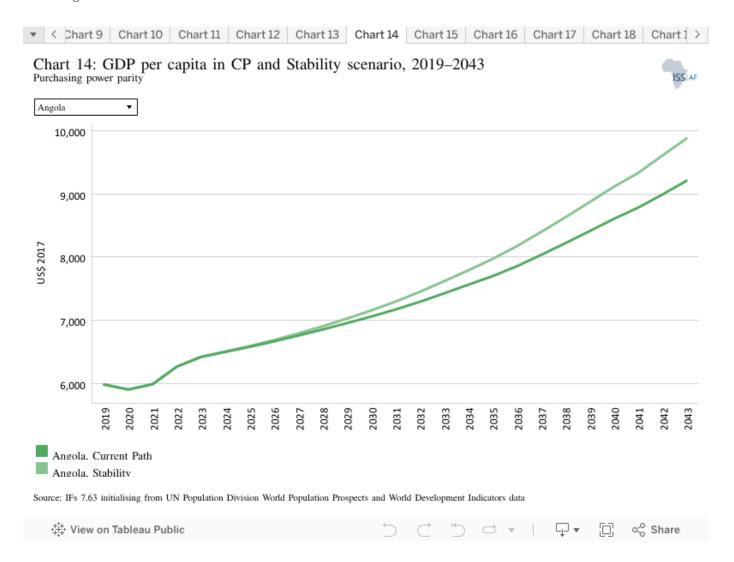
internal conflict. Stability is generally a prerequisite for other aspects of development and this would encourage inflows of foreign direct investment (FDI) and improve business confidence. Better governance through the accountability that follows substantive democracy is modelled separately.

The intervention is explained here in the thematic part of the website.

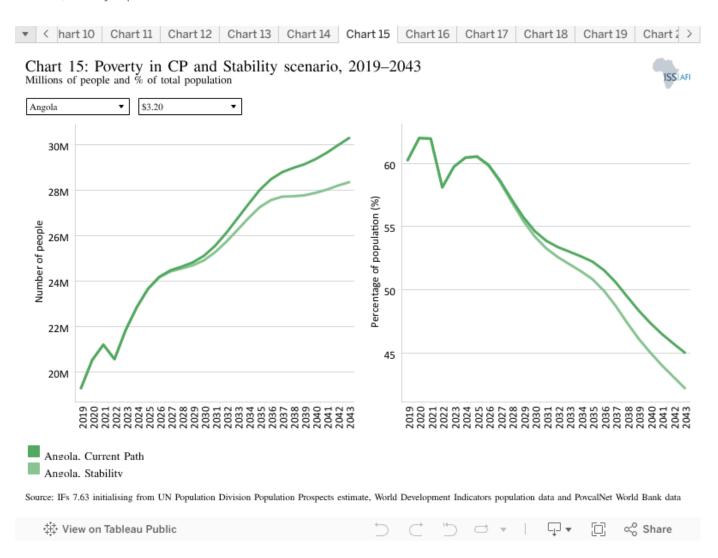
The governance security index captures the probability of internal war and vulnerability to conflict. Angola scores lower on this index than other lower middle-income African countries, reflecting its turbulent history and the nation's struggle to consolidate its democracy as it transitions away from its distinctly autocratic and authoritarian history. Because of its history of large-scale armed conflict, the IFs Government Security Index ranked Angola at a lowly 49th in Africa in 2019

Indeed, as is typical of resource-dependent countries, Angola's oil wealth has led to rent-seeking and corruption. Reports on conspicuous consumption abound as do tales of the extent to which a small elite has appropriated the country's wealth. According to Transparency International's corruption perception index, in 2021 Angola was ranked the 44th most corrupt country in the world. Moreover, the Financial Action Task Force only removed Angola from its money-laundering blacklist in 2016.

In the Stability scenario, Angola's score on the governance security index improves dramatically over the next decade and, by 2043, by 29% compared to the Current Path forecast. This improvement would in turn increase the country's levels of government capacity and societal inclusion, creating an environment in which peace can flourish. Conversely, Angola's score stagnates on the Current Path.

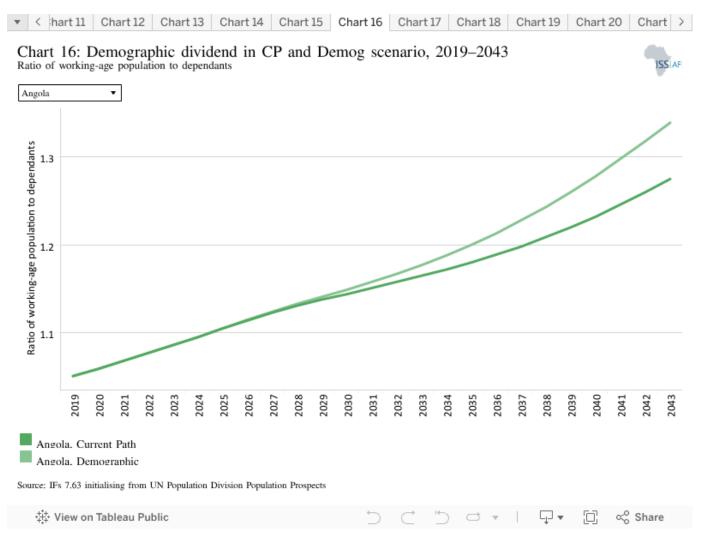


The ambitious but attainable governance improvements modelled in the Stability scenario result in greater average income growth over the long term compared to the Current Path. Measured using the GDP per capita, average incomes reach US\$9 872 by 2043 in the Stability scenario. On the Current Path, average incomes only reach US\$9 205. Thus, in the Stability scenario, average incomes are approximately US\$667 greater in 2043 than on the Current Path, reflecting the positive effect of greater stability in governance on the well-being of Angolans. A large part of that improvement is due to the reduction of defence expenditure in Angola that follows greater stability. Whereas, in 2019, government consumption on the military was at 3% of GDP and, in the Current Path forecast set to remain at that level to 2043, in the Stability scenario, military expenditure declines to 1.5% of GDP in 2043.



In 2019, three out of every five Angolans (over 19 million people) were living in extreme poverty. On the Current Path, the share of the Angolan populations living in poverty will fall slightly to 45% by 2043, but the number of poor Angolans will continue growing owing to rapid population growth. The Stability scenario offers a slightly more optimistic future in which the poverty rate falls to 42% by 2043. However, even in the Stability scenario, the number of Angolans living in extreme poverty will continue to grow until the mid-2030s, reaching 28 million people by 2043. The underwhelming effect of the Stability scenario on poverty suggests that, even with improved governance and societal stability, poverty will continue to worsen in Angola without immediate efforts to address its key drivers — rapid population growth, low levels of educational attainment, and middling economic prospects.





This section presents the impact of a Demographic scenario that aims to hasten and increase the demographic dividend through reasonable but ambitious reductions in the communicable-disease burden for children under five, the maternal mortality ratio and increased access to modern contraception.

The intervention is explained here in the thematic part of the website.

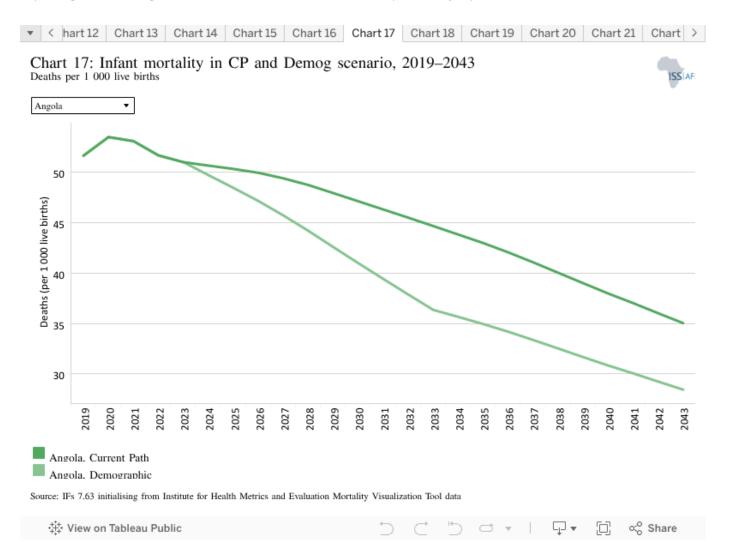
Demographers typically differentiate between a first, second and even a third demographic dividend. We focus here on the contribution of the size of the labour force (between 15 and 64 years of age) relative to dependants (children and the elderly) as part of the first dividend. A window of opportunity opens when the ratio of the working-age population to dependants is equal to or surpasses 1.7.

At present, Angola's population is just about equally divided between the working-age population and dependants. In both the Demographic scenario and in the Current Path forecast, the ratio of Angola's working-age population to its dependants will remain below 1.4 out to 2043. (In other words, Angola will have fewer than 14 working-age individuals for every 10 dependants by 2043).

This suggests that, even in the Demographic scenario, Angola will only have the potential to achieve a demographic dividend late in the second half of the century. Only then will it benefit from its most important economic asset: its large

labour force.

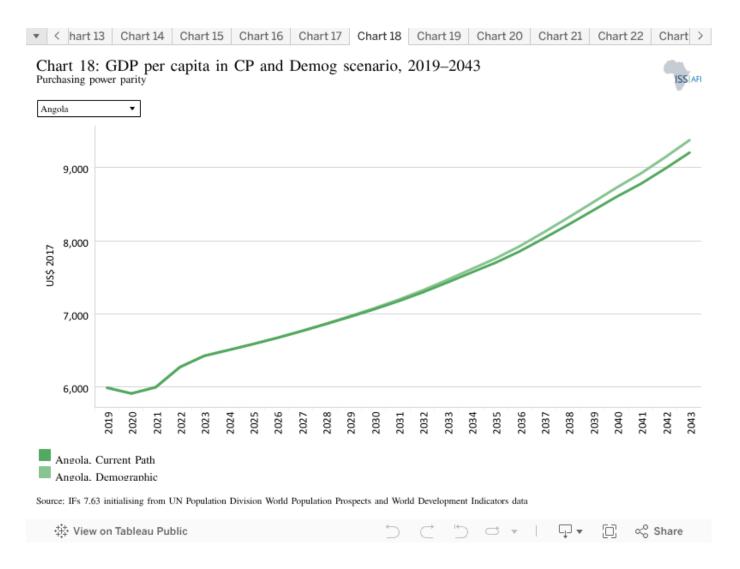
Angola could advance its demographic dividend, and in turn improve income growth more rapidly, by prioritising improving women and girls' access to education and healthcare — particularly reproductive healthcare.



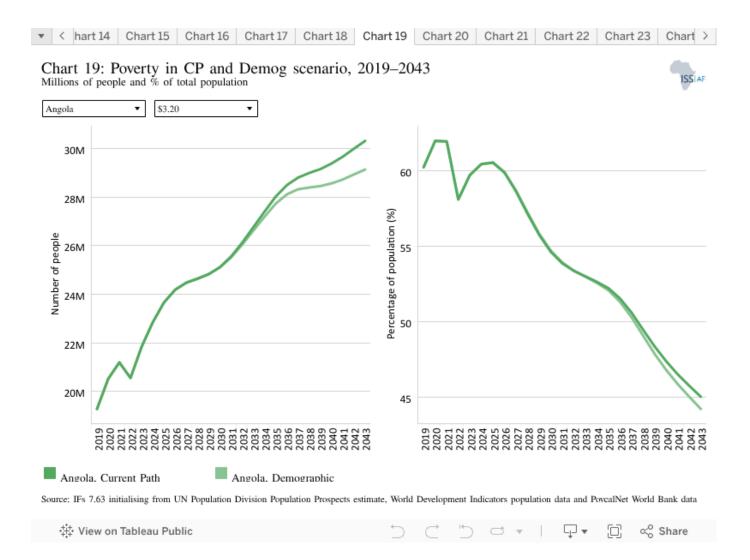
The infant mortality rate is the number of infant deaths per 1 000 live births and is an important marker of the overall quality of the health system in a country.

Health outcomes have generally improved in recent decades in Angola. Infant mortality, although still high compared to other lower middle-income African countries, dropped significantly to just over 51 deaths per live births in 2019. In the Current Path forecast, the infant mortality rate will continue to fall to 47 deaths per 1 000 live births by 2030 and 35 by 2043. However, the infant mortality rate decreases much more quickly in the Demographic scenario, falling to approximately 28 deaths per live births by 2043.

Maternal education is strongly correlated with reductions in child and infant mortality, underscoring the urgent need for greater investment in schooling for girls and women, especially in primary and secondary school.



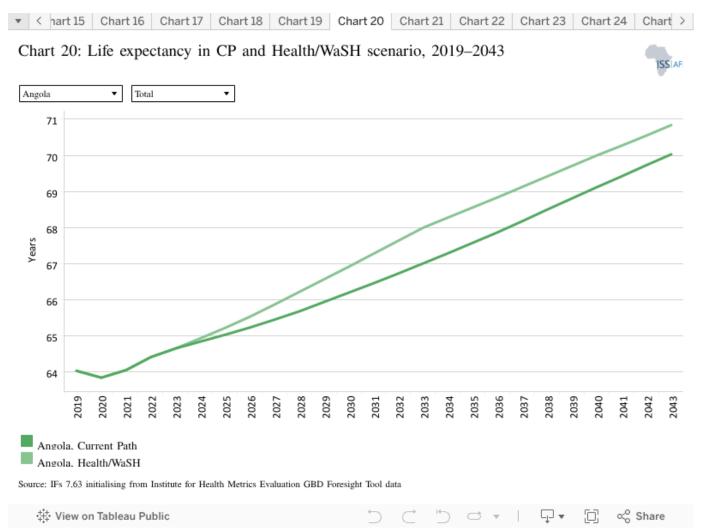
In the Current Path forecast, Angola's average incomes will outpace those of other lower middle-income countries in Africa and reach US\$7 060 by 2030 and US\$9 205 by 2043. In the Demographic scenario, average incomes grow just slightly more quickly, reaching US\$9 376 by 2043 (US\$171 greater than the amount projected on the Current Path). That the Demographic scenario only achieves a modest improvement in incomes — and only in the long term — shows that more concerted efforts by the government to improve livelihoods will be necessary to improve Angolans' quality of living.



On the Current Path, the poverty rate will fall from the 2019 estimate of 60% to 55% by 2030 and 45% by 2043. Meanwhile, the number of Angolans living on less than US\$3.20 per day will continue to grow for the coming decades owing to rapid population growth, reaching 30 million people by 2043.

The improved child and maternal health outcomes modelled in the Demographic scenario only modestly improve Angola's poverty outlook. In the Demographic scenario, the number of Angolans living on less than US\$3.20 per day still continues to grow through our forecast horizon of 2043. It also shows that the poverty rate falls only slightly more quickly in the Demographic scenario than in the Current Path forecast. The modest effect of the Demographic scenario on Angolan poverty speaks not only to the pervasiveness of poverty — especially rural poverty — in the country, but also to the need for coordinated efforts that include education, health, and infrastructure initiatives to address it.



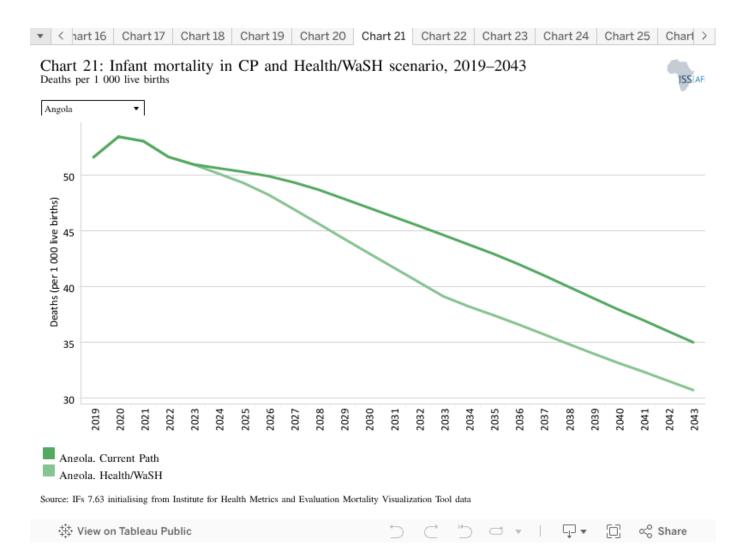


This section presents reasonable but ambitious improvements in the Health/WaSH scenario, which include reductions in the mortality rate associated with both communicable diseases (e.g. AIDS, diarrhoea, malaria and respiratory infections) and non-communicable diseases (NCDs) (e.g. diabetes), as well as improvements in access to safe water and better sanitation. The acronym WaSH stands for water, sanitation and hygiene.

The intervention is explained here in the thematic part of the website.

Life expectancy in Angola has improved dramatically from just 39 years in 1975 to 64 years in 2019 and is expected to improve to 70 years by 2043. However, despite these improvements, Angola lags behind the average for lower middle-income African countries in this key measure of quality of life. In 2019, the average person in lower middle-income Africa lived to be just over 67 years old.

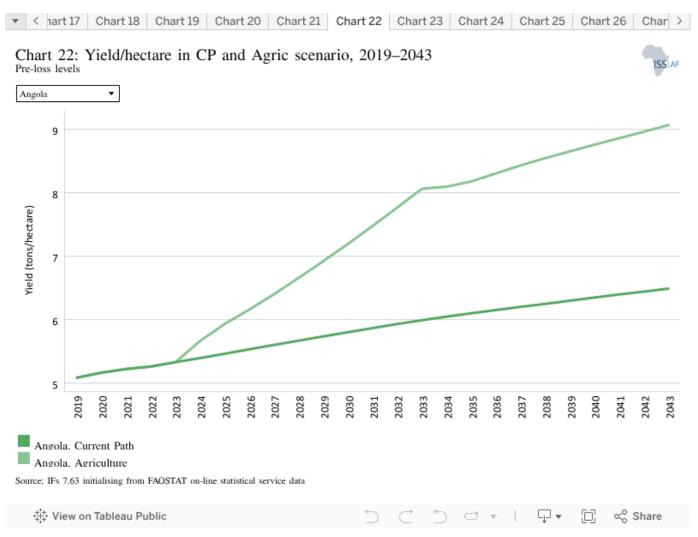
The improved health outcomes and access to water and sanitation modelled in the Health/WaSH scenario only slightly improve life expectancy in Angola as compared to the Current Path forecast, and only over the long term. Even in the Health/WaSH scenario, Angolans do not live as long as the average individual in lower middle-income Africa, underscoring the need for more than just health and sanitation improvements in the country.



In 2019, an estimated 52 infants out of every 1 000 live births did not survive beyond their first year. This rate is higher than the average for lower middle-income Africa and extremely high compared to developed countries (for example, the U.S. had an infant mortality rate of 5.6 in 2019). In the Current Path forecast, the infant mortality rate will fall to 38 deaths per 1 000 live births by 2035 and approximately 35 by 2043. At that point, the infant mortality rate in Angola should be similar to the average rate for lower middle-income countries in Africa.

In the Health/WaSH scenario, Angola's infant mortality rate falls more rapidly to 43 deaths per 1 000 live births in 2030 and 30.8 deaths by 2043. Although this forecast marks an improvement over the Current Path, it suggests that Angola will still be far from reaching the Sustainable Development Goal to reduce the under-five mortality rate to at least 25 deaths per 1 000 live births by 2030.





The Agriculture scenario represents reasonable but ambitious increases in yields per hectare (reflecting better management and seed and fertiliser technology), increased land under irrigation and reduced loss and waste. Where appropriate, it includes an increase in calorie consumption, reflecting the prioritisation of food self-sufficiency above food exports as a desirable policy objective.

The intervention is explained here in the thematic part of the website.

The data on yield per hectare (in metric tons) is for crops but does not distinguish between different categories of crops.

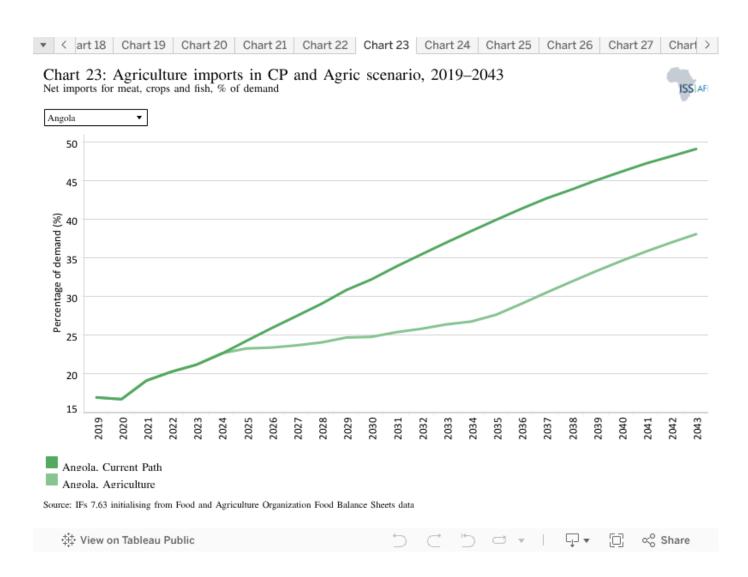
Angola's agricultural sector performs far below its potential, which its low agricultural yields reflect. Only 2% of Angola's cropland is equipped for irrigation (88 793 hectares), while 0.2% is actually irrigated (11 600 hectares). In recent years, agriculture's share of Angola's economy has grown rapidly, however, averaging 4.9% a year during the 2011-2017 period.

On the Current Path, yields will increase only modestly from the 2019 estimate of 5 tons per hectare to 6.5 tons by 2043. In the Agriculture scenario, they increase more rapidly to 7.2 tons per hectare by 2030 and about 9 tons by 2043, marking a significant improvement over the Current Path forecast.

Developing Angola's agricultural sector faces a number of barriers, key among them being the lack of land tenure security

among subsistence farmers, fertilizer costs, the enduring threat of landmines, climate change and deforestation. According to the World Bank's Angola Country Climate and Development Report (CCDR), yields of major crops will be negatively impacted through, amongst others, shorter and more concentrated rainy seasons, higher temperatures, increased droughts, and water scarcity. Without security of tenure, small-scale farmers cannot access credit to invest in better seeds, implements and facilities that could improve yields. The country needs to redouble its efforts to transition from subsistence farming go climate-resilient farming.

In June 2022, the government announced the start of construction of a US\$2 billion industrial complex to produce fertilizer in the Zaire province, to be completed in 2026. Production will meet local demand as well as for export purposes.

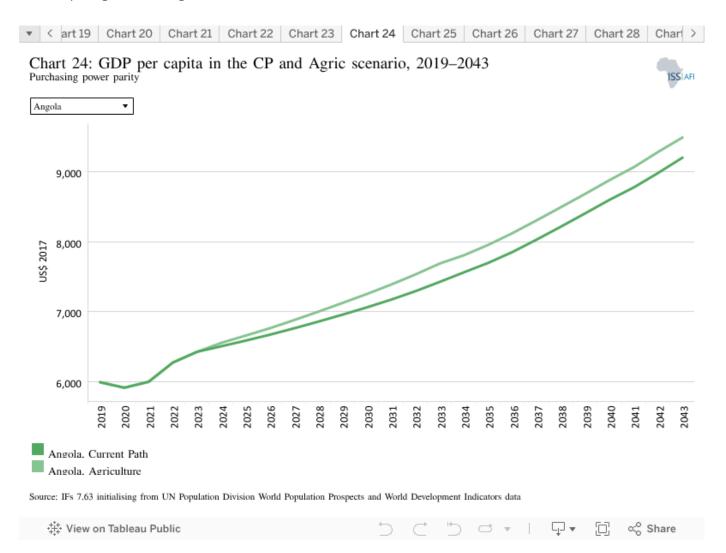


Agricultural import dependence is a key element of food insecurity; countries highly dependent on agricultural imports, especially of foods that can be grown domestically, are vulnerable to international commodity price shocks.

In 2019, Angola depended on agricultural imports to meet an estimated 17% of domestic demand. Meanwhile, lower middle-income Africa, on average, depends less on agricultural imports than Angola — a dynamic projected to continue over the forecast horizon. In the Current Path forecast, Angola's agricultural import dependence will increase rapidly over the coming decades: by 2043, the nation is projected to depend on agricultural imports to meet half of its domestic food demand.

In the Agriculture scenario, the import dependence outlook is brighter, but still concerning from a food security

perspective. The improved agricultural production modelled in this scenario helps to stabilise the country's dependence on agricultural imports over the medium term. However, Angola's population is among the youngest and fastest growing in the world, and greater investments in the agricultural sector will be necessary to keep its dependence on food imports from deepening over the long term.



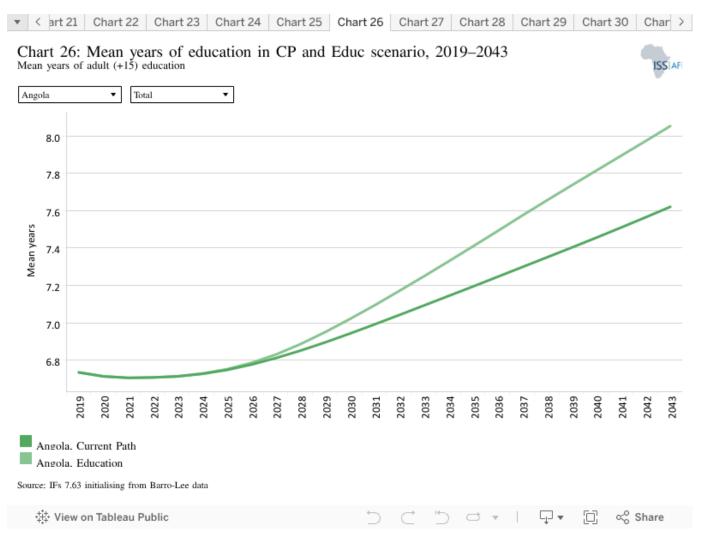
On the Current Path, Angola's average incomes will outpace those of other lower middle-income countries in Africa and reach US\$7 060 by 2030 and US\$9 205 by 2043. The improved agricultural productivity modelled in the Agriculture scenario helps to improve average incomes slightly more rapidly, but only slightly: by 2043, GDP per capita is projected to reach US\$9 494 in the Agriculture scenario — only US\$289 greater than the Current Path forecast. More coordinated efforts that span sectors — governance, agriculture, education, health, infrastructure — are needed to improve Angola's average incomes more rapidly.



On the Current Path, the poverty rate will fall from the 2019 estimate of 60% to 55% by 2030 and 45% by 2043. Meanwhile, the number of Angolans living on less than US\$3.20 per day will continue to grow for the coming decades owing to rapid population growth, reaching 30 million people by 2043.

The improved agricultural productivity modelled in the Agriculture scenario helps to slightly reduce poverty in Angola over the long term but does not make a substantial difference. In the Agriculture scenario, the extreme poverty rate falls more rapidly to 53% in 2030 and 43% by 2043. However, the Angolan population is among the youngest and fast growing in the world. Because of this, the number of extremely poor Angolans continues to grow through 2043 in the Agriculture scenario, reaching nearly 29 million people by that year.





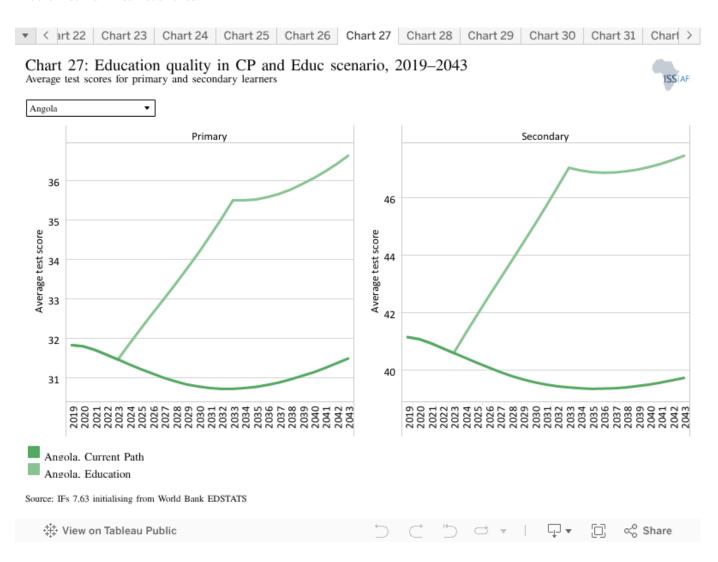
The Education scenario represents reasonable but ambitious improved intake, transition and graduation rates from primary to tertiary levels and better quality of education. It also models substantive progress towards gender parity at all levels, additional vocational training at secondary school level and increases in the share of science and engineering graduates.

The intervention is explained here in the thematic part of the website.

In 2019 it is estimated that the average Angolan adult (+15 years of age) had achieved 6.7 years of education. In 2014 (the latest year of available data), the average adult above the age of 25 in Angola had completed four years of schooling. Nationally, nearly one-third of Angolan adults had not received any education, and in that category, 70% were women. A quarter of Angola's population 25 years and older had received an incomplete primary education; 15% had completed primary; 13% had completed lower secondary, while another 13% had also completed upper secondary; and, lastly, only 2.6% had attained a bachelor's degree or equivalent.

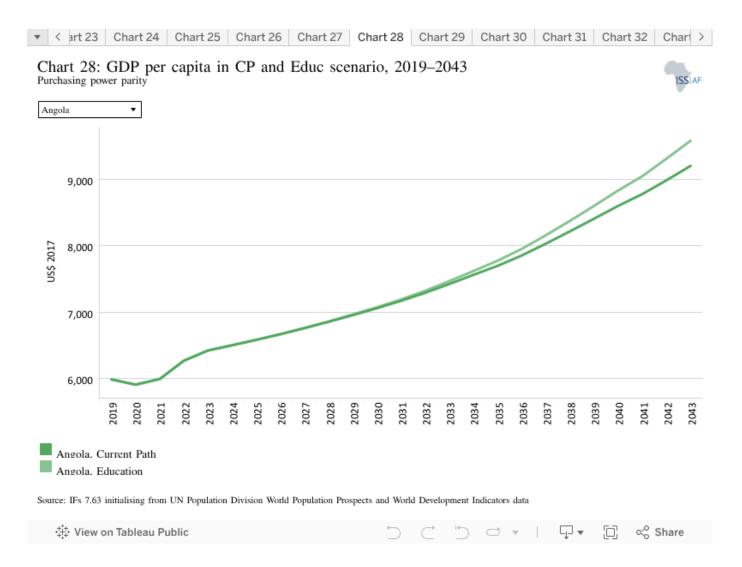
These concerning low levels of educational attainment reflect the challenges faced by Angola's education system, particularly at the primary level. A lack of well-trained teachers and limited infrastructure undermine the quality of education, a problem fuelled by underspending on education.

In the Current Path forecast, the average Angolan adult in 2030 will have 6.9 years of education; in 2043, 7.6 years. Meanwhile, in the Education scenario, educational attainment is slightly higher: by 2043, the average Angolan adult will have achieved 8.1 years of education. Even in the Education scenario, Angola lags slightly behind the average for lower middle-income African countries.

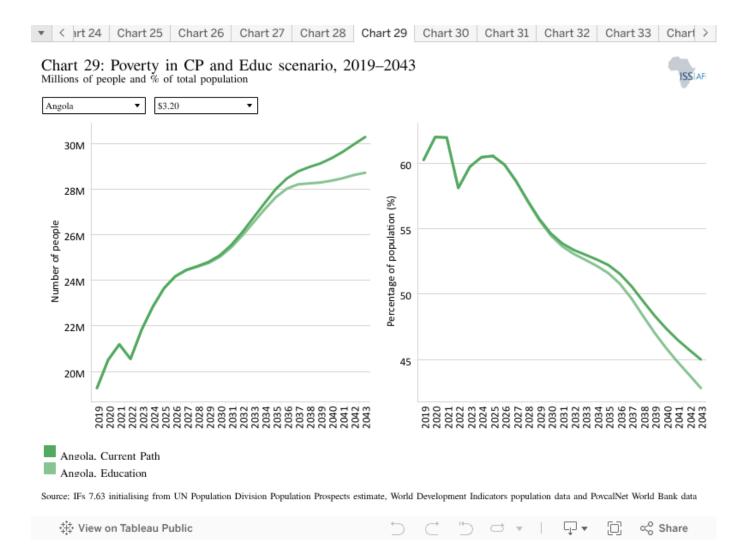


Average test scores are a good indicator of the quality of an educational system. In Angola, both primary and secondary test scores are lower than the average for lower middle-income African countries, speaking to the challenges facing Angola's education system, which include poor infrastructure and underspending on education. These test scores are not projected to improve in the Current Path forecast.

Conversely, in the Education scenario, average test scores for both primary and secondary learners improve by nearly 90% for both primary and secondary learners by 2043 and eventually surpass the average for lower middle-income Africa.



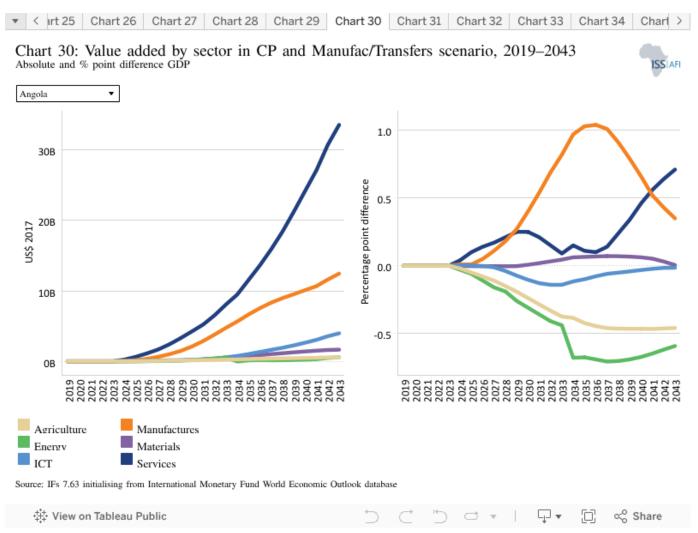
On the Current Path, Angola's average incomes will outpace those of other lower middle-income countries in Africa and reach US\$7 060 by 2030 and US\$9 205 by 2043. The Education scenario helps to improve average incomes in Angola, but only over the long term. By 2043, average incomes reach US\$9 584 in the Education scenario, marking an increase of US\$379 over the Current Path forecast.



On the Current Path, the poverty rate will fall from the 2019 estimate of 60% to 55% by 2030 and 45% by 2043. Meanwhile, the number of Angolans living on less than US\$3.20 per day will continue to grow for the coming decades owing to rapid population growth, reaching 30 million people by 2043.

One of the key drivers of poverty in Angola is deprivation of education. However, improving education alone will not substantially alleviate Angola's widespread and pervasive poverty. In the Education scenario, the number of Angolans continues to grow over the forecast horizon, reaching 28.7 million people by 2043 — only about 1.6 million fewer people than is forecast on the Current Path and approximately 9 million more people than in 2019.





The Manufacturing/Transfers scenario represents reasonable but ambitious manufacturing growth through greater investment in the economy, investments in research and development, and promotion of the export of manufactured goods. It is accompanied by an increase in welfare transfers (social grants) to moderate the initial increases in inequality that are typically associated with a manufacturing transition. To this end, the scenario improves tax administration and increases government revenues.

The intervention is explained here in the thematic part of the website.

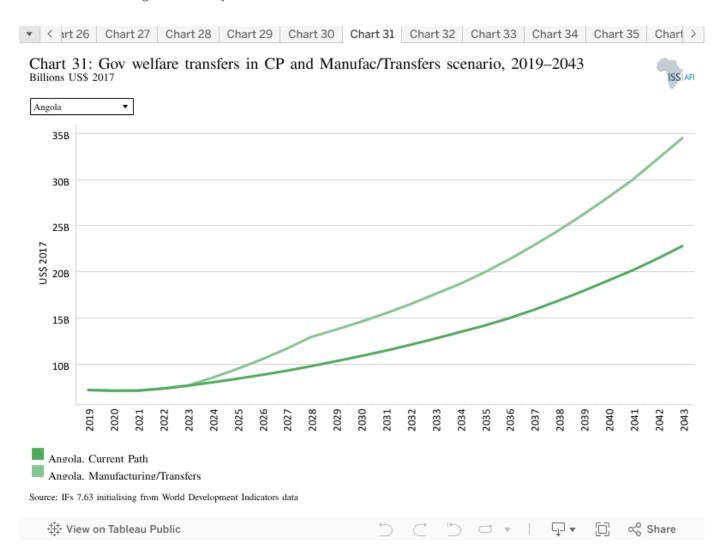
Chart 30 should be read with Chart 8 that presents a stacked area graph on the contribution to GDP and size, in billion US\$, of the Current Path economy for each of the sectors.

Crude oil exports dominate the Angolan economy. Recognising that hydrocarbons alone cannot sustain sufficient economic growth to improve the livelihoods of Angola's growing population, the Angolan government has embraced the need to enhance other sectors such as agriculture, manufacturing and tourism as drivers of future growth. Agriculture, which has historically contributed as much as 13% (1998) and as little as 5% (2008), comprised roughly 12.5% of GDP in 2019. The contribution of the services sector has ranged from 21% of GDP in 1999 to 49% in 2009 and has since remained in the 46%–51% band. Manufacturing contributed less than 15% in 2019.

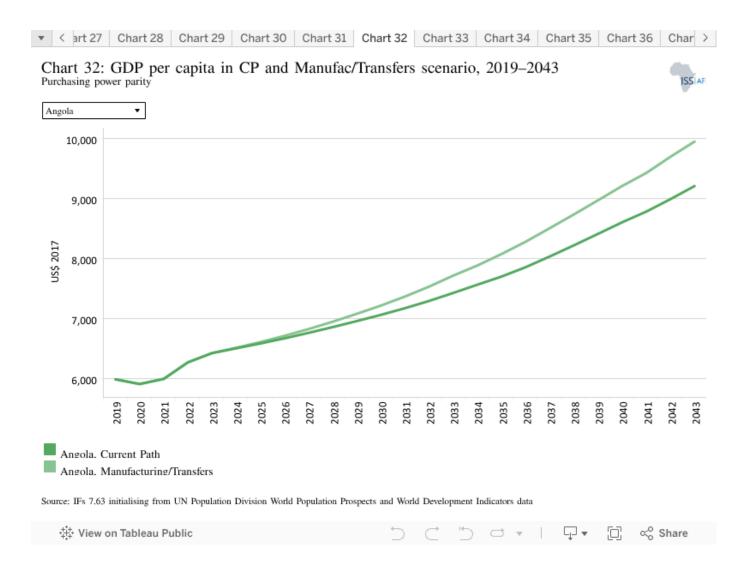
In the Current Path forecast, the value-added contributions of the services sector, manufacturing sector, ICT and materials sectors are projected to continue growing in both relative and absolute terms.

Although the absolute contributions of agriculture and energy are also set to increase, their value added as a per cent of GDP will decline.

In the Manufacturing/Transfers scenario, manufactures' contribution to GDP grows the most relative to the Current Path forecast. However, in the long-term, the contribution of services to GDP also grows, experiencing the biggest leap from the late-2030s onward. However, services, followed by manufactures, experience the most significant growth in their absolute contribution to the Angolan economy.

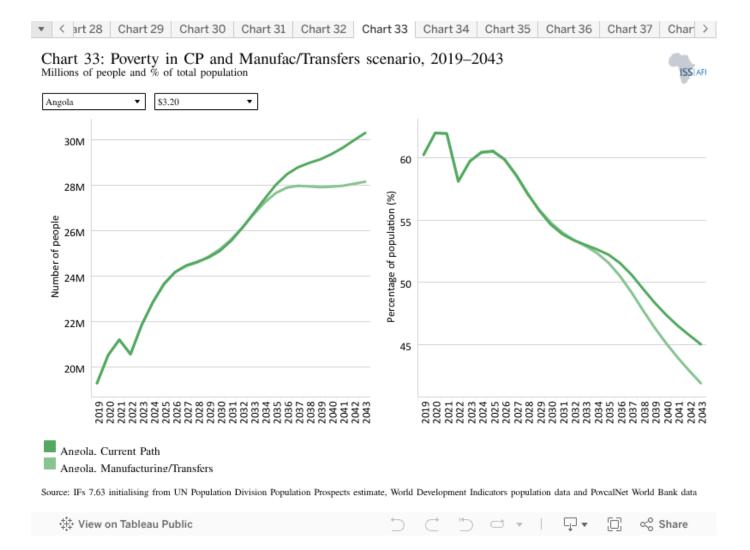


There is a growing literature on the success of cash transfer programmes to combat poverty. In the Manufacturing/Transfers scenario, cash transfers from the Angolan government to vulnerable populations increase from 5.2% (US\$7.18 billion) of GDP in 2019 to 6.7% (US\$14.56 billion) in 2030 and 7.8% (US\$34.5 billion) in 2043. Conversely, in the Current Path forecast, transfers do not exceed 6% of GDP over the forecast horizon.



On the Current Path, Angola's average incomes will overtake those of other lower middle-income countries in Africa and reach US\$7 060 by 2030 and US\$9 205 by 2043.

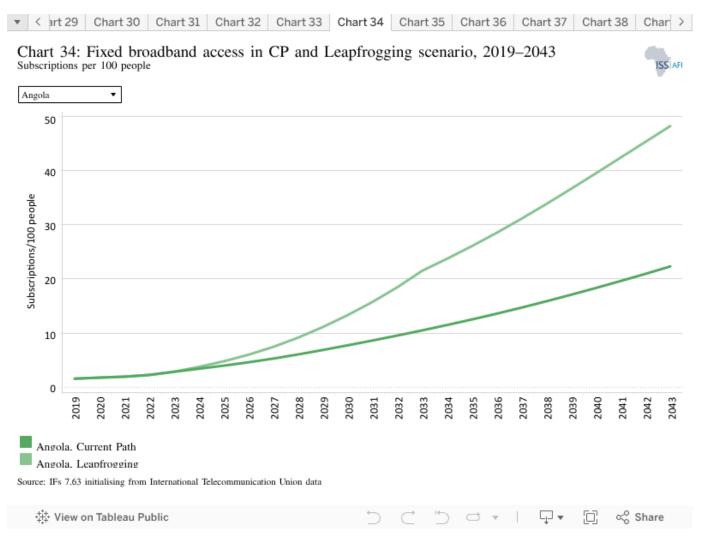
In the Manufacturing/Transfers scenario, average incomes in Angola increase more rapidly than on the Current Path, reaching US\$7 220 by 2030 and US\$9 945 by 2043 — US\$740 greater than the Current Path forecast. This growth in GDP per capita in the Manufacturing/Transfers scenarios evidences the positive impact of cash transfers to vulnerable populations — and of the growing Angola's manufacturing sector — on incomes over the long term.



Poverty is among Angola's most pervasive challenges, especially in rural areas. In the Current Path forecast, the poverty rate will fall from the 2019 estimate of 60% to 55% by 2030 and 45% by 2043. Meanwhile, the number of Angolans living on less than US\$3.20 per day will continue to grow for the coming decades owing to rapid population growth, reaching 30 million people by 2043.

While the poverty rate falls more quickly in the Manufacturing/Transfers scenario than on the Current Path, the number of poor Angolans still grows through the late-2030s before stabilising around 28 million people. Lifting more Angolans out of poverty in the short term will require more dramatic, concerted efforts from the government to address its ailing infrastructure, widespread corruption, and struggling educational and health systems.



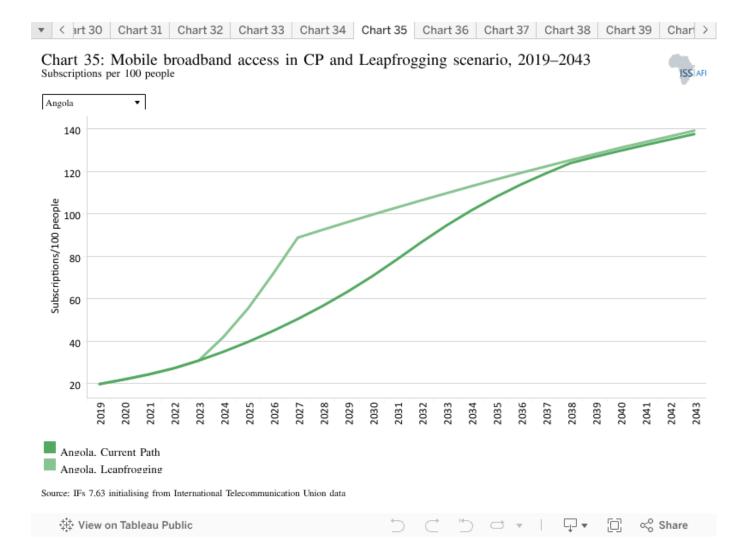


The Leapfrogging scenario represents a reasonable but ambitious adoption of and investment in renewable energy technologies, resulting in better access to electricity in urban and rural areas. The scenario includes accelerated access to mobile and fixed broadband and the adoption of modern technology that improves government efficiency and allows for the more rapid formalisation of the informal sector.

The intervention is explained here in the thematic part of the website.

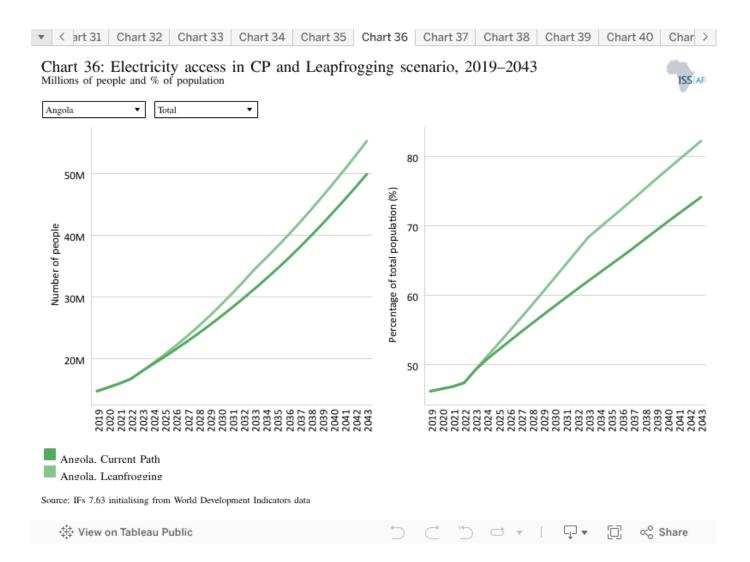
Fixed broadband includes cable modem Internet connections, DSL Internet connections of at least 256 KB/s, fibre and other fixed broadband technology connections (such as satellite broadband Internet, ethernet local area networks, fixed-wireless access, wireless local area networks, WiMAX, etc.).

Broadband subscriptions, which are important for economic growth, regional integration, and human development more broadly, are very limited, with fewer than 2 fixed broadband subscriptions per every 100 Angolans in 2019, which is lower than the African average of 3 subscriptions for every 100 people. Subscriptions increase in the Current Path forecast, but only modestly, reaching 22 subscriptions for every 100 people by 2043. The Leapfrogging scenario features a much more rapid uptake of this technology, with 13 subscriptions for every 100 people in 2030 and 48 by 2043.



Mobile broadband refers to wireless Internet access delivered through cellular towers to computers and other digital devices.

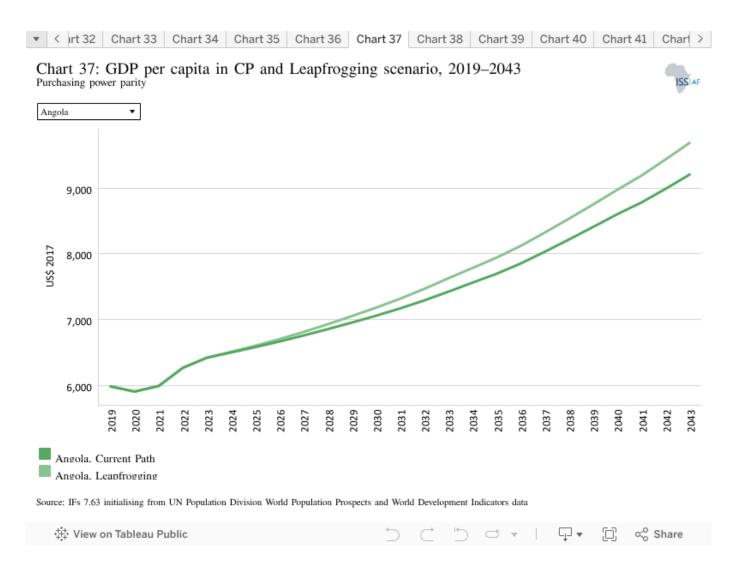
With an estimated 20 mobile broadband subscriptions per 100 people, mobile phone ownership in Angola is lower than the average for lower middle-income Africa. Mobile broadband subscriptions have the potential to improve the quality of life of vulnerable or marginalised populations who have little access to health, educational and economic resources. In the Current Path forecast, mobile phone ownership grows at a steady pace, reflecting the rapid uptake of technology in many developing countries. In the Leapfrogging scenario, mobile broadband subscriptions grow dramatically in the short term to 100 per 100 people by 2030 and 139 by 2043.



At present, Angola's ailing basic infrastructure — including energy infrastructure — does not meet the needs of the country's growing and urbanising population.

In 2019, less than half of all Angolans had access to electricity. Many estimates contend that the access rate may actually be much lower. As little as 8% of the rural population has access to electricity, while roughly 43% of the urban population has access. Because the government struggles to generate and distribute uninterrupted electricity, residents and businesses rely heavily on petrol or diesel generators.

In the Leapfrogging scenario, the electricity access rate grows slightly more rapidly than in the Current Path forecast, reaching nearly 78% by 2043, compared to 74% on the Current Path. This translates into an additional three million Angolans having access to electricity in 2043.



On the Current Path, Angola's average incomes will outpace those of other lower middle-income countries in Africa and reach US\$7 060 by 2030 and US\$9 205 by 2043.

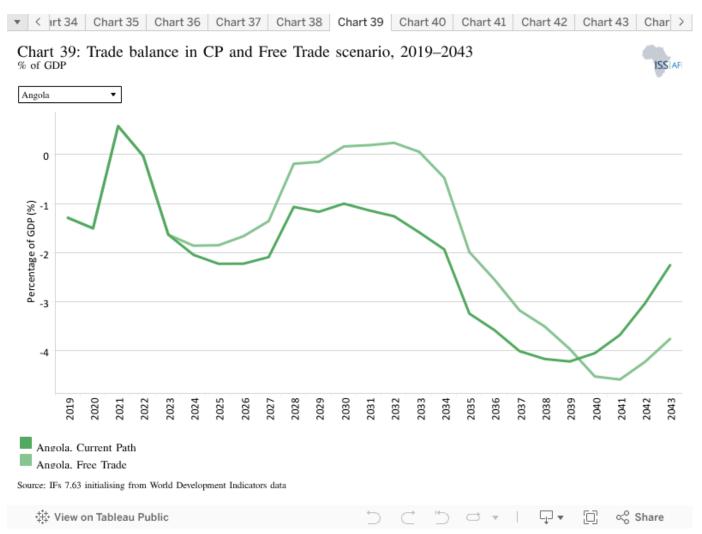
Owing to the expanded access to electricity in both rural and urban areas modelled in the Leapfrogging scenario, average incomes grow more quickly than on the Current Path. In the Leapfrogging scenario, average incomes reach US\$7 180 by 2030 and US\$9 686 by 2043, which is US\$481 greater than the Current Path forecast for that year. The greater electricity access of the Leapfrogging scenario has the potential to significantly improve livelihoods in Angola, primarily by granting more Angolans access to healthcare, education, and economic resources.



In the Leapfrogging scenario, extreme poverty remains a growing problem for Angola over the forecast horizon, with the number of Angolans living on less than US\$3.20 per day growing until the late-2030s before stabilising. However, this forecast offers a more optimistic picture than the Current Path forecast, on which the number of poor Angolans continues to grow through to 2043 and beyond.

That being said, approximately two out of five Angolans are projected to be living in extreme poverty in the Leapfrogging scenario by 2043 — a dramatic improvement over the 2019 poverty rate of roughly 60%, but gravely concerning, nonetheless. More than expanded electricity access will be needed to more dramatically reduce poverty in the country.





The Free Trade scenario represents the impact of the full implementation of the African Continental Free Trade Area (AfCFTA) by 2034 through increases in exports, improved productivity and increased trade and economic freedom.

The intervention is explained here in the thematic part of the website.

The trade balance is the difference between the value of a country's exports and its imports. A country that imports more goods and services than it exports in terms of value has a trade deficit, while a country that exports more goods and services than it imports has a trade surplus.

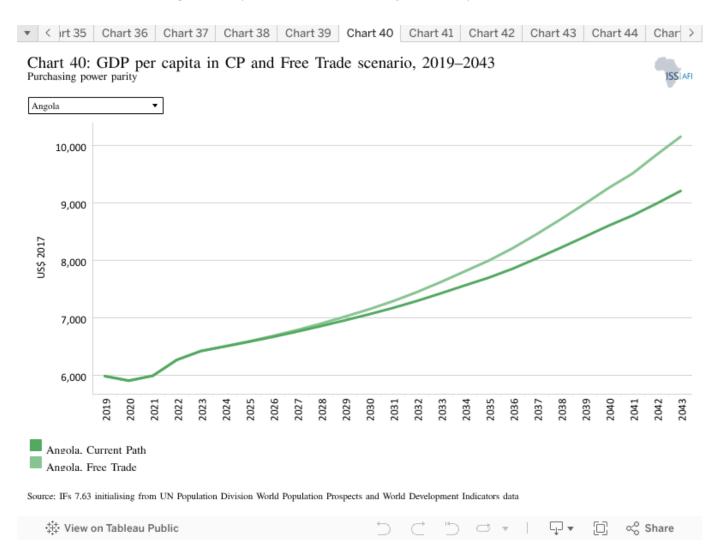
Angola's primary export is crude oil; in fact, the 1.57 million barrels of oil per day that Angola sent abroad in 2017 accounted for more than 95% of export earnings. Diamonds contributed most of the remaining 5%. Most of this oil is exported to China (Angola is the third largest crude oil supplier to China), and in the fourth quarter of 2020, India, Italy and Thailand followed behind China as the main destinations of Angolan oil.

In spite of its oil resources, refined oil is one of Angola's top imports. Angola relies heavily on imported fuel, largely due to a lack of refineries. But natural gas production has grown dramatically in recent years, from 337 billion cubic feet (BCF)

(equivalent to 56.3 MBOE, or million barrels of oil equivalent) in 2007 to 413 BCF (69 MBOE) in 2016. And Angola boasts vast reserves: in early 2018, Angola had 10.9 trillion cubic feet (1.82 BBOE, or billion barrels of oil equivalent) of proven natural gas reserves, accounting for 2% of Africa's proven reserves and 0.2% of global proven reserves.

In the Current Path forecast, Angola will continue to run a trade deficit, primarily due to the country's limited oil reserves and heavy dependence on imported fuel and agricultural goods. In the Free Trade scenario, Angola continues to run a trade deficit, but this deficit is smaller than on the Current Path. Improving trade conditions in Angola will require addressing its inhospitable business and trade climate. Indeed. Angola is among the most difficult countries for businesses. The World Bank ranked Angola as 177th among 190 economies in its Ease of Doing Business Index in 2020, down four places from the previous year. The index ranks countries based on the extent to which the regulatory environment is conducive to business operations and the protection of property rights. Meanwhile, the Fraser Institute's Index of Economic Freedom ranked Angola the 13th least economically free country in the world in 2019.

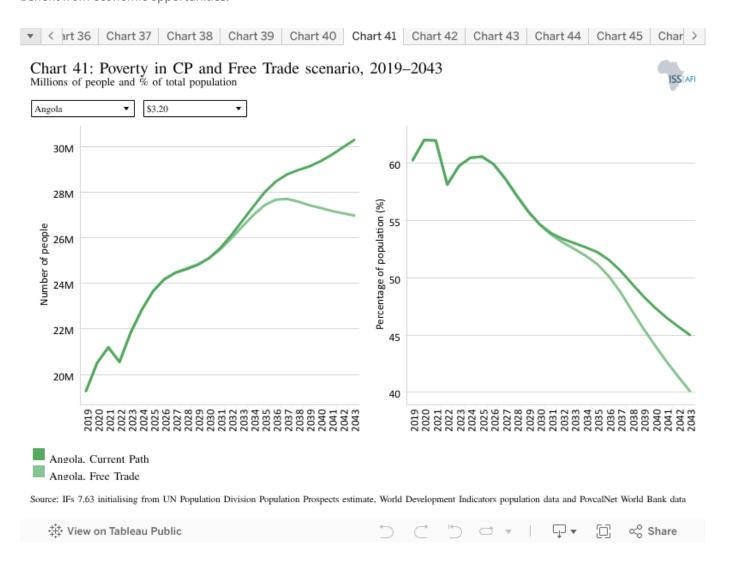
To improve these dismal rankings, the government needs to carry out a raft of reforms across every sector of government to allow for a more facilitating domestic private sector and eventually attract the private sector from elsewhere.



On the Current Path, Angola's average incomes will outpace those of other lower middle-income countries in Africa and reach US\$7 060 by 2030 and US\$9 205 by 2043.

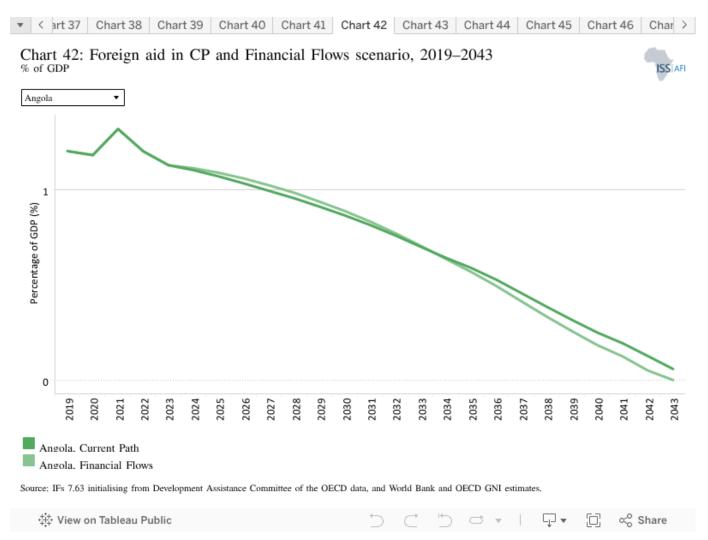
The increased economic freedom, productivity and exports modelled in the Free Trade scenario raise average incomes significantly over the medium- and long-term. By 2043, GDP per capita is projected to be US\$943 greater in the Free Trade

scenario than on the Current Path, reflecting the importance of economic freedom and productivity to incomes in Angola. Indeed, the country is a difficult environment for businesses to flourish, making it challenging for Angolans to find and benefit from economic opportunities.



The greater economic freedom and improved productivity and exports in the Free Trade scenario do not substantially reduce poverty in Angola, and only take effect in the long term. By 2043, Angola's poverty rate falls to 40% in the Free Trade scenario — five percentage points lower than the Current Path forecast for that year (45%). This reduction in the poverty rate translates into roughly 3.3 million fewer extremely poor Angolans in 2043 compared to the Current Path forecast for that year.

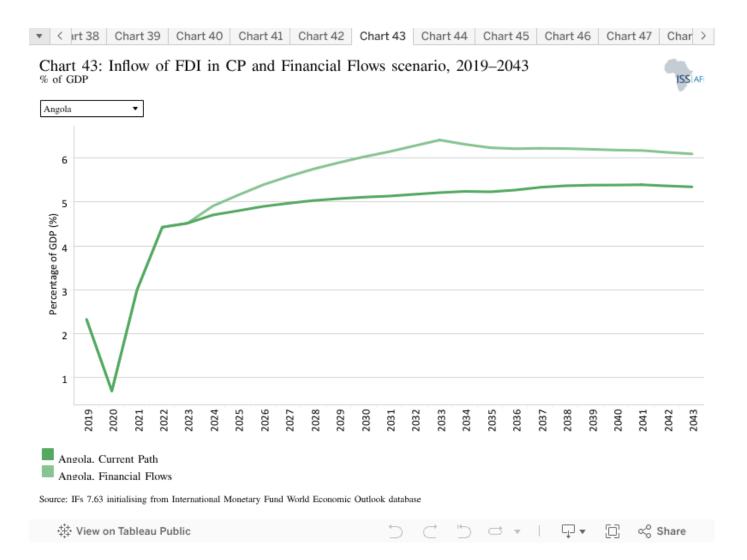
Financial Flows scenario



The Financial Flows scenario represents a reasonable but ambitious increase in worker remittances and aid flows to poor countries, and an increase in the stock of foreign direct investment (FDI) and additional portfolio investment inflows to middle-income countries. We also reduced outward financial flows to emulate a reduction in illicit financial outflows.

The intervention is explained here in the thematic part of the website.

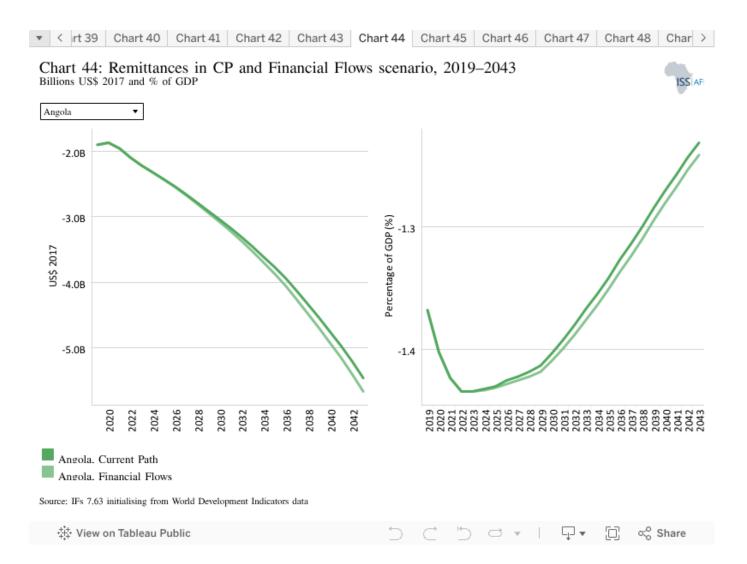
Because of its oil wealth and perceptions of corruption, Angola has not been a major aid recipient since the end of the Cold War. In the Financial Flows scenario, foreign aid to Angola slightly increases over the next decade, making up approximately 1% of GDP in 2030. Aid, if used effectively, can play an important role in improving the livelihoods of people in developing countries by funding basic infrastructure, healthcare resources and other critical goods and services. It also modestly stimulates economic growth but because of its oil wealth and corruption, aid to Angola is forecast to decline by 2043.



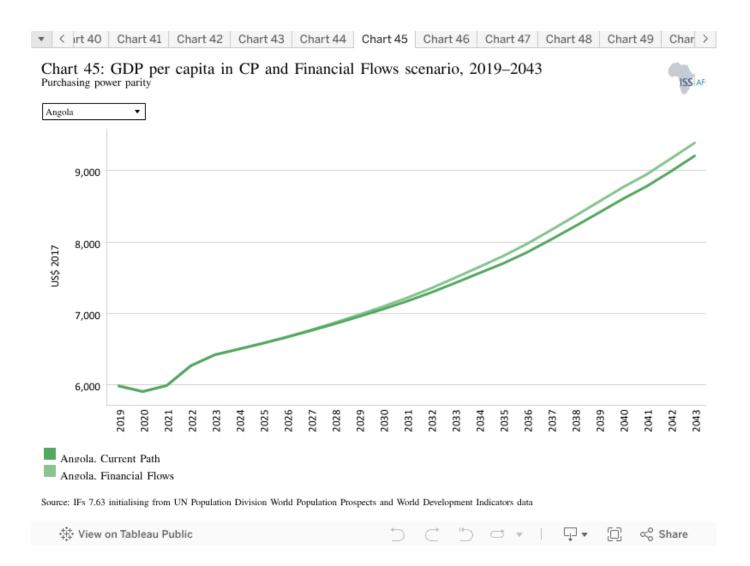
Angola is among the most difficult countries for businesses to operate in, yet, because of the attraction of its oil sector, receives significantly more foreign direct investment (FDI) than other lower middle-income countries in Africa. The World Bank ranked Angola as 177th among 190 economies in its Ease of Doing Business Index in 2020, down four places from the previous year. The index ranks countries based on the extent to which their regulatory environment is conducive to business operations and the protection of property rights. Meanwhile, the Fraser Institute's Index of Economic Freedom ranked Angola the 13th least economically free country in the world in 2017, just above Argentina, Yemen, and the Central African Republic.

In the Financial Flows scenario, FDI to Angola increases more rapidly than in the Current Path forecast, reaching over 6% of GDP in the mid-2030s. On the Current Path, FDI peaks at 5.4% of GDP in 2040.

To become more attractive to investors, the government needs to carry out a raft of reforms across every sector of government to allow for a more facilitating domestic private sector and eventually attract the private sector from elsewhere.



Large remittance inflows can reduce poverty. However, like South Africa, Angola experiences net outflows. In 2019, nearly US\$2 billion was estimated to leave the country. This trend will continue throughout the forecast horizon in the Current Path forecast. In the Financial Flows scenarios, this trend intensifies: more money leaves Angola in this scenario than on the Current Path, with nearly US\$5.7 billion, or 1.2% of GDP, leaving the country in 2043.



On the Current Path, Angola's average incomes will overtake those of other lower middle-income countries in Africa and reach US\$7 060 by 2030 and US\$9 205 by 2043.

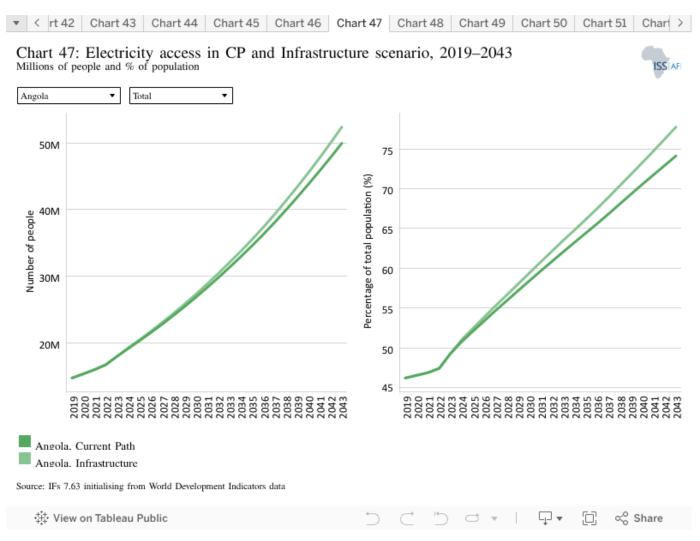
The increased flows of aid and investment to Angola modelled in the Financial Flows scenario have a modest impact on incomes in Angola. By 2043, the GDP per capita would be US\$9 387 — an additional US\$182 over the Current Path forecast of US\$9 205 for that year. To more substantially improve livelihoods in Angola, a more cross-cutting approach that addresses other urgent needs (water and sanitation infrastructure and basic health resources, for example) is necessary.



Trade openness will reduce poverty in the long term after initially increasing it due to the redistributive effects of trade. Most African countries export primary commodities and low-tech manufacturing products, and therefore a continental free trade agreement (AfCFTA) that reduces tariffs and non-tariff barriers across Africa will increase competition among countries in primary commodities and low-tech manufacturing exports. Countries with inefficient, high-cost manufacturing sectors might be displaced as the AfCFTA is implemented, thereby pushing up poverty rates. In the long term, as the economy adjusts and produces and exports its comparatively advantaged (lower relative cost) goods and services, poverty rates will decline.

More than just increased flows of foreign money to Angola is necessary to meaningfully reduce Angola's dire poverty. In the Financial Flows scenario, the number of Angolans living on less than US\$3.20 per day grows through the forecast horizon at only a slightly slower pace than on the Current Path. As a multidimensional phenomenon, poverty requires a multidimensional solution.





The Infrastructure scenario represents a reasonable but ambitious increase in infrastructure spending across Africa, focusing on basic infrastructure (roads, water, sanitation, electricity access and ICT) in low-income countries and increasing emphasis on advanced infrastructure (such as ports, airports, railway and electricity generation) in higher-income countries.

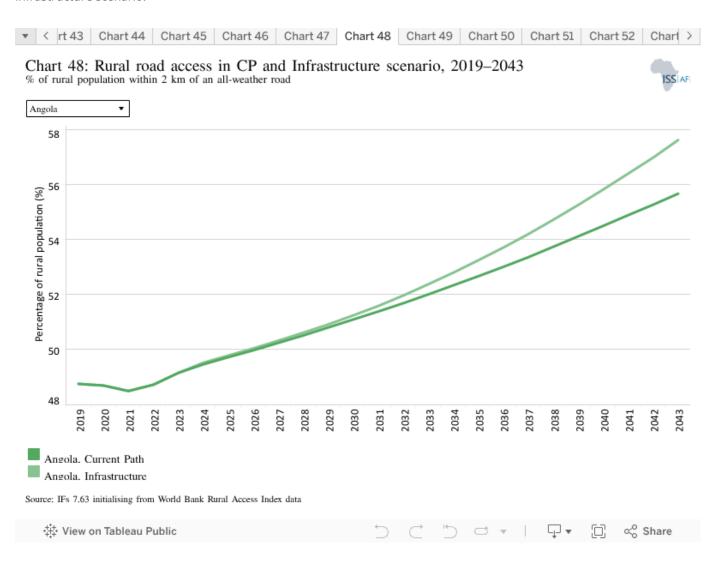
Note that health and sanitation infrastructure is included as part of the Health/WaSH scenario and that ICT infrastructure and more rapid uptake of renewables are part of the Leapfrogging scenario. The interventions there push directly on outcomes, whereas those modelled in this scenario increase infrastructure spending, indirectly boosting other forms of infrastructure, including that supporting health, sanitation and ICT.

The intervention is explained here in the thematic part of the website.

Angola's ailing basic infrastructure does not meet the needs of the country's growing and urbanising population.

In 2019, less than half of all Angolans (14.8 million people) had access to electricity. As little as 8% of the rural population and 43% of the urban population has access. Because the government struggles to generate and distribute uninterrupted electricity, residents and businesses rely heavily on petrol or diesel generators.

In the Infrastructure scenario, the increased infrastructure spending modestly improves electricity access in Angola. By 2043, an additional 3.6% of the Angolan population (approximately 2.4 million people) have access to electricity in the Infrastructure scenario.

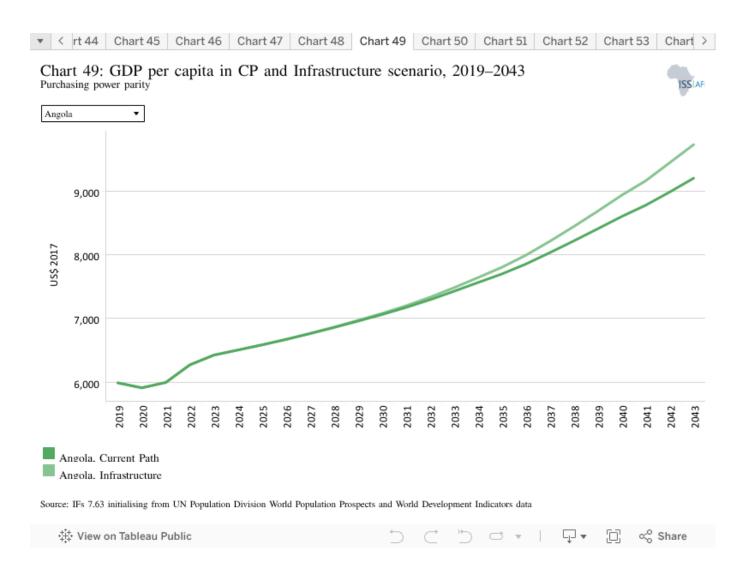


Indicator 9.1.1 in the Sustainable Development Goals refers to the proportion of the rural population who live within 2 km of an all-season road and is captured in the Rural Access Index.

Angola has invested heavily in rehabilitating its roads since the end of the civil war, but poor road maintenance appears to remain a challenge, although there is little data regarding Angola's transport infrastructure. In general, roads in Angola's coastal regions are in better condition than those in the inland regions. There are reportedly very few active weighbridges and widespread public concern over the safety of bridges and roads and insufficient regulation and inspection, hindering further expansion of the road transport industry. In 2018, Angola ranked 159th of 167 countries globally on the World Bank's Logistics Performance Index, partly due to the poor conditions of trade- and transport-related infrastructure.

Angola's road network reportedly totals 76 000 km, marking an improvement over the 2011 estimate of 62 560 km and better than the 72 323 km reported in the 1970s. Available data suggest that an estimated 10% of Angola's roads were paved between 1975 and 2001, which then improved to 16% in 2013 and 24% in 2018.

In the Current Path forecast, the share of the rural population within 2 km from an all-weather road will improve from the 2019 estimate of 49% to 56% in 2043. The Infrastructure scenario presents a more optimistic picture, in which this percentage increases to 58% by 2043.



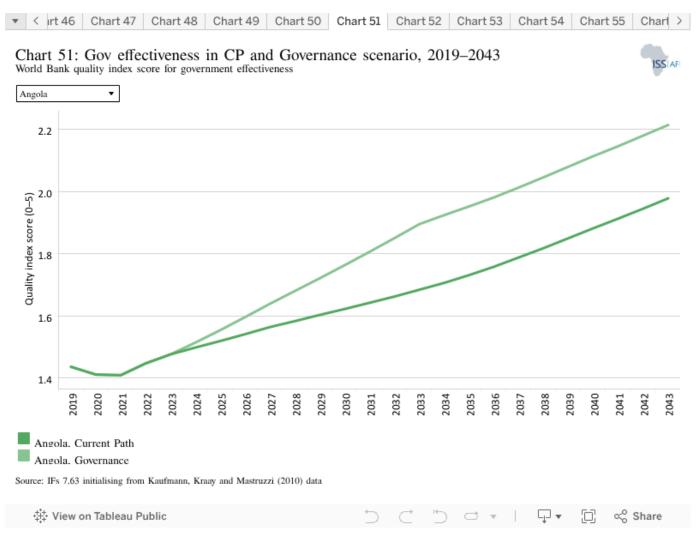
On the Current Path, Angola's average incomes will overtake those of other lower middle-income countries in Africa and reach US\$7 060 by 2030 and US\$9 205 by 2043.

In the Infrastructure scenario, Angola's GDP per capita grows at a faster rate than on the Current Path. However, the increased infrastructure spending modelled in the Infrastructure scenario only impacts Angola's average income from 2030 onward. By 2043, GDP per capita reaches US\$9 732 — US\$528 greater than the Current Path forecast for that year.



Because the Infrastructure scenario emulates more spending on more advanced infrastructure such as rail and ports, the scenario does little to alleviate Angola's widespread poverty. In both the Current Path forecast and in the Infrastructure scenario, the number of Angolans living on less than US\$3.20 per day continues to grow through the forecast horizon.





The Governance scenario represents a reasonable but ambitious improvement in accountability and reduces corruption, and hence improves the quality of service delivery by government.

The intervention is explained here in the thematic part of the website.

As defined by the World Bank, government effectiveness 'captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies'.

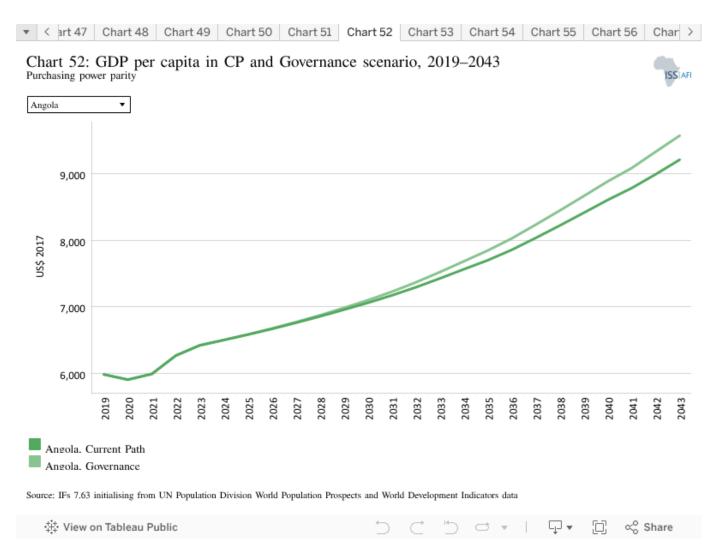
Chart 51 presents the impact of the interventions in the Governance scenario on government effectiveness.

Upon his election in August 2017, President Lourenço inherited a government bureaucracy that performs poorly on most governance indicators, a party that is generally suspicious if not hostile to businesses and comfortable with its reliance on income from oil, and a closed economy that discourages engagement in agriculture or indeed in small business. Angola's poor score of 1.44 out of a possible 5 in 2019 on the World Bank's Government Effectiveness Index reflects these issues and shows that the country is lagging behind the average of 1.89 for lower middle-income Africa.

Typical of resource-dependent countries, Angola's oil wealth has led to rent-seeking and corruption. Reports on

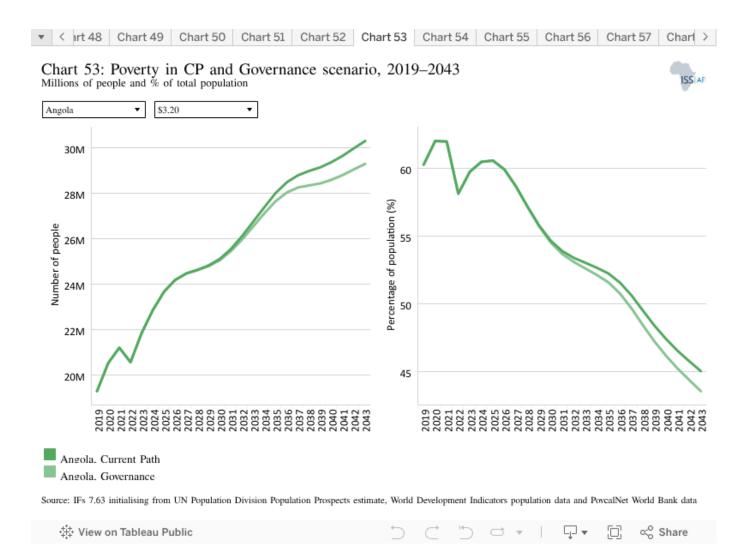
conspicuous consumption abound as do tales of the extent to which a small elite has appropriated the country's wealth. According to Transparency International's Corruption Perception Index, in 2021 Angola was ranked the 44th most corrupt country in the world.

In the Current Path forecast, Angola's score on the Government Effectiveness Index will only reach 1.89 — the 2019 average for lower middle-income Africa — in 2040. In the Governance scenario, government effectiveness in Angola improves more quickly than on the Current Path but does not catch up with the rest of lower middle-income Africa. To dramatically improve government effectiveness, the Angolan government must, above all, commit to greater transparency and adopt a zero-tolerance policy towards corruption.



On the Current Path, Angola's average incomes will outpace those of other lower middle-income countries in Africa and reach US\$7 060 by 2030 and US\$9 205 by 2043. In the Governance scenario, average incomes grow just slightly more quickly, reaching US\$9 566 by 2043 (US\$160 greater than the Current Path projection for that year).

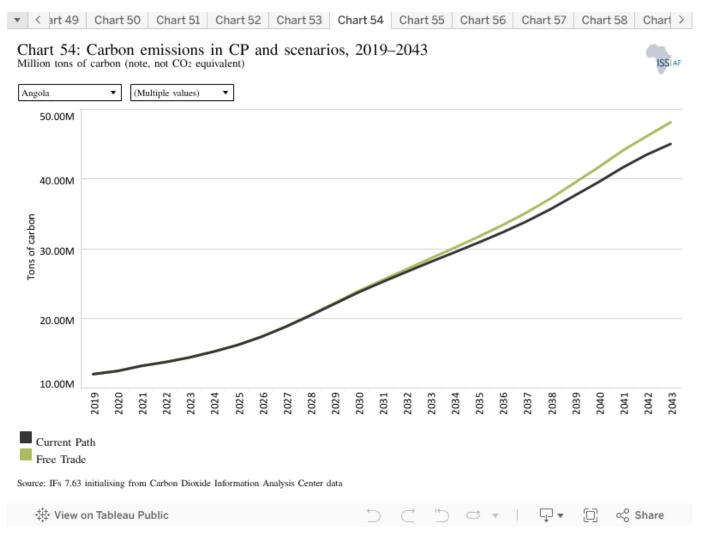
The relatively modest impact of the interventions modelled in the Governance scenario on average incomes in Angola illustrate that a whole-of-government approach to reducing poverty and improving livelihoods is necessary.



In 2019, three out of every five Angolans (over 19 million people) were living in extreme poverty. On the Current Path, the percentage of the Angolan populations living in poverty will decrease slightly to 45% by 2043, but the absolute number of poor people in Angola will continue to grow owing to rapid population growth.

The improved governance modelled in the Governance scenario only modestly reduces levels of extreme poverty in Angola. In fact, even in the Governance scenario, the number of extremely poor people in Angola continues to grow over the coming decades before stabilising around 29 million people in 2040.



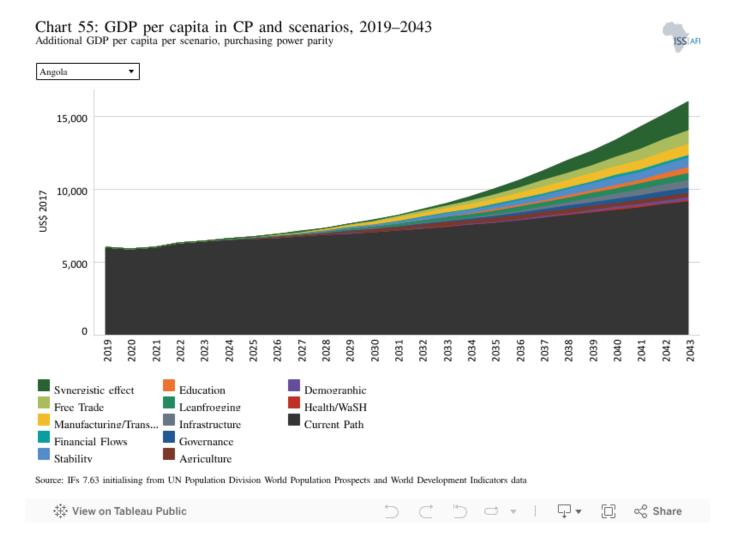


This section presents projections for carbon emissions in the Current Path for Angola and the 11 scenarios. Note that IFs uses carbon equivalents rather than CO2 equivalents.

Unsurprisingly, Angola's energy sector is responsible for the majority of the country's carbon emissions, followed by the agriculture sector, although low by comparative levels. Angola emitted an estimated 12 million tons of carbon in 2019. In the Current Path forecast, the country will emit 45.1 million tons of carbon in 2043. In the other scenarios, Angola's emissions diverge only modestly from the Current Path, and in all scenarios, carbon emissions double by 2030 and exceed 40 million tons of carbon by 2043. While the expected growth of industry and manufacturing in Angola contributes to this projected increase in emissions, demographic growth plays an important role: generally speaking, as populations and economies grow, so too does demand for carbon-intensive goods and services, such as vehicles.

The Angolan government is participating in the global effort to reduce greenhouse gas emissions. As part of the Paris Climate Accords, Angola pledged to reduce its greenhouse gas emissions by 35% by 2030 by promoting renewable energy, among other measures. It is yet to be seen whether the Angolan government will be capable of mustering the political will to curb its aggressive pursuit of oil.

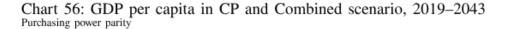




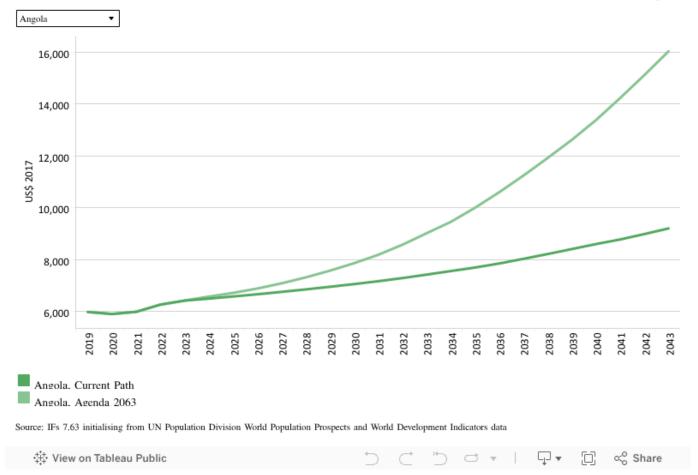
The Combined Agenda 2063 scenario consists of the combination of all 11 sectoral scenarios presented above, namely the Stability, Demographic, Health/WaSH, Agriculture, Education, Manufacturing/Transfers, Leapfrogging, Free Trade, Financial Flows, Infrastructure and Governance scenarios. The cumulative impact of better education, health, infrastructure, etc. means that countries get an additional benefit in the integrated IFs forecasting platform that we refer to as the synergistic effect. Chart 55 presents the contribution of each of these 12 components to GDP per capita in the Combined Agenda 2063 scenario as a stacked area graph.

Each scenario explored thus far impacts average incomes in Angola to different degrees. Of all the scenarios, Free Trade increases GDP per capita the most dramatically, raising average incomes by approximately US\$940 in 2043. In the Stability scenario, incomes also grow substantially more quickly than on the Current Path given its impact on positive investor confidence, increased investment flows and large reductions in defence expenditure from 3.1% of GDP in 2019 to 1.5% of GDP in 2043

Of course, the combined impact of all the scenarios together is significantly greater than each of the scenarios individually. And, when combining scenarios in IFs, the phrase "the sum is greater than its parts" applies. The synergistic effect of the combined scenarios is projected to add an additional US\$1 969 to GDP per capita in 2043. This finding speaks to the beneficial effect of concerted, cross-cutting government approaches to seemingly intractable problems, such as extreme poverty.





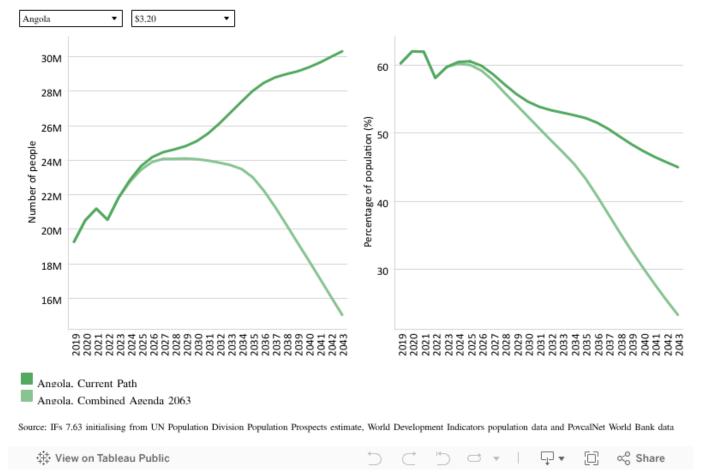


Whereas Chart 55 presents a stacked area graph on the contribution of each scenario to GDP per capita as well as the additional benefit or synergistic effect, Chart 56 presents only the GDP per capita in the Current Path forecast and the Combined Agenda 2063 scenario.

The GDP per capita increases dramatically in the Combined Agenda 2063 scenario, whereas they grow fairly slowly on the Current Path. In the Combined Agenda 2063 scenario, the GDP per capita increases to US\$7 864 by 2030, marking an over 11.4% increase over 2019 (US\$7 061). By 2040, the GDP per capita will more than double from 2019 levels and reach a projected US\$16 023 in 2043. Such a dramatic increase in the GDP per capita in Angola would transform livelihoods in the country.







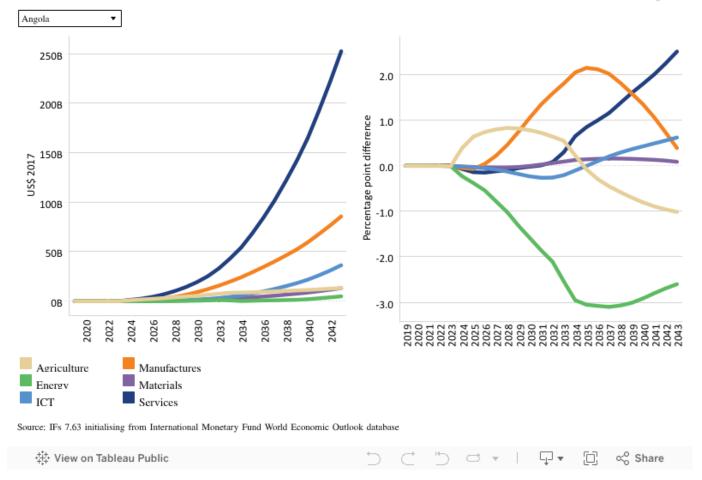
Poverty remains a pervasive and widespread challenge across Angola. In the Current Path forecast, the number of Angolans living under the extreme poverty line of US\$3.20 per day will continue to grow at least through 2043, at which point over 30 million people are projected to be extremely poor. Meanwhile, Angola's poverty rate remains high on the Current Path: the share of Angolans living in extreme poverty will not fall below 50% until the late 2030s. This is a dire projection that calls for immediate action from the Angolan government to provide basic goods, services, and economic opportunities to its citizens.

The future is far more optimistic in the Combined Agenda 2063 scenario. In this scenario, the number of extremely poor people in Angola increase to approximately 24 million people in the late-2020s before falling to roughly 18.2 million in 2040 and 15 million in 2043. Meanwhile, the share of Angolans living in extreme poverty falls to roughly 18% by 2040 and 15% by 2043.

Chart 58: Value added by sector in CP and Combined scenario, 2019–2043

Absolute and % point difference GDP





See Chart 8 to view the Current Path forecast of the sectoral composition of the economy.

The value added of the sectors of Angola's economy varies between the Current Path forecast and the Combined Agenda 2063 scenario. The two main ways to measure differences in sectors' contribution to GDP are in 1) percentage points and 2) absolute value (dollars).

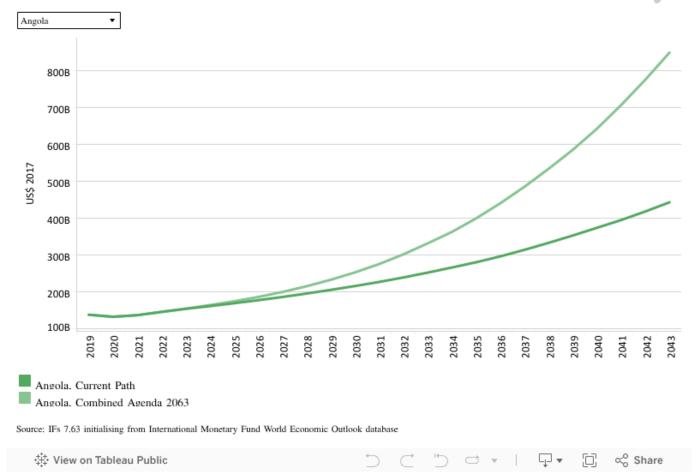
From the perspective of percentage points, service, ICT and manufactures are the sectors that experience the greatest increase in their contributions to the Angolan economy in the Combined Agenda 2063 scenario compared to the Current Path. Conversely, the energy sector experiences the most significant reduction in its contribution to GDP in percentage terms. By the mid-2030s, the energy sector experiences a roughly three percentage point reduction in its contribution to the economy.

However, because the Angolan economy grows far more quickly in the Combined Agenda 2063 scenario than on the Current Path, the value added of all sectors in absolute terms is greater in the Combined Agenda 2063 scenario. Of all the sectors, services and manufactures experience the most significant increase in their absolute contribution to the economy. In 2040, services are projected to contribute US\$126 billion more to the economy in the Combined Agenda 2063 scenario than on the Current Path; manufactures, nearly US\$41 billion more.

Chart 59: GDP in CP and Combined scenario, 2019-2043

Billions US\$ 2017, market exchange rates

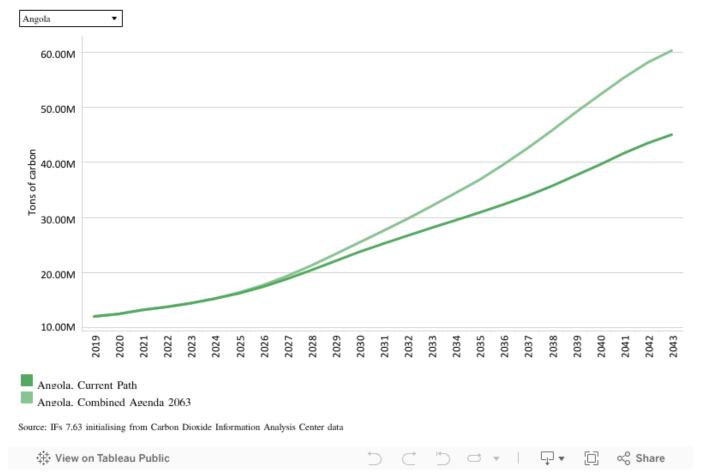




Owing to the many wide-ranging improvements modelled in the Combined Agenda 2063 scenario, the Angolan economy grows at a significantly faster rate than on the Current Path. By 2030, the Angolan economy is projected to be nearly US\$37 billion greater in the Combined Agenda 2063 scenario than on the Current Path. In 2043, the Angolan economy is projected to reach US\$849 billion, representing a near doubling over the Current Path forecast for that year (US\$443.3 billion).

Chart 60: Carbon emissions in CP and Combined scenario, 2019–2043 Million tons of carbon (note, not CO₂ equivalent)





In the Current Path forecast, Angola's carbon emissions — most of which are produced by the energy sector — will reach 45.1 million tons of carbon in 2043. In the other scenarios, Angola's emissions diverge only modestly from the Current Path, and in all scenarios, carbon emissions double by 2030 and exceed 40 million tons of carbon by 2043. While the expected growth of industry and manufacturing in Angola contributes to this projected increase in emissions, demographic growth plays an important role: generally speaking, as populations and economies grow, so too does demand for carbon-intensive goods and services, such as vehicles.

Angola's carbon emissions increase dramatically in the Combined Agenda 2063 scenario. The manufacturing, agricultural activity and infrastructure development modelled in the Combined Agenda 2063 scenario, while bringing about improvements in the quality of life for millions of Angolans, will all increase carbon emissions. In addition to increasing the rate and severity of climate change at the global level, carbon emissions severely, and often irreparably, damage local health outcomes. The Angolan government is participating in the global effort to reduce greenhouse gas emissions. As the nation works to improve the quality of life of its citizens, it must pursue less carbon-intensive growth and seek out environmentally conscious solutions. As part of the Paris Climate Accords, Angola pledged to reduce its greenhouse gas emissions by 35% by 2030 by promoting renewable energy, among other measures.

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About the authors

Dr Jakkie Cilliers is the ISS's founder and former executive director. He currently serves as chair of the ISS Board of Trustees, head of the African Futures and Innovation (AFI) programme at the Pretoria oce of the Institute, and is an extraodinary professor at the University of Pretoria. His 2017 best-seller Fate of the Nation addresses South Africa's futures from political, economic and social perspectives. His three most recent books, Africa First! Igniting a Growth Revolution (March 2020), The Future of Africa: Challenges and Opportunities (April 2021), and Africa Tomorrow: Pathways to Prosperity (June 2022) take a rigorous look at the continent as a whole.

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Scenarios and forecasting can help Africa identify and respond to opportunities and threats. The work of the African Futures & Innovation (AFI) program at the Institute for Security Studies aims to understand and address a widening gap between indices of wellbeing in Africa and elsewhere in the world. The AFI helps stakeholders understand likely future developments. Research findings and their policy implications are widely disseminated, often in collaboration with in-country partners. Forecasting tools inspire debate and provide insights into possible trajectories that inform planning, prioritisation and effective resource allocation. Africa's future depends on today's choices and actions by governments and their non-governmental and international partners. The AFI provides empirical data that informs short- and medium-term decisions with long-term implications. The AFI enhances Africa's capacity to prepare for and respond to future challenges. The program is headed by Dr Jakkie Cilliers.

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