



# Algeria

## Scenario Comparisons

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## Scenario Comparisons

Chart 29: GDP per capita in Current Path and scenarios, 2019-2043

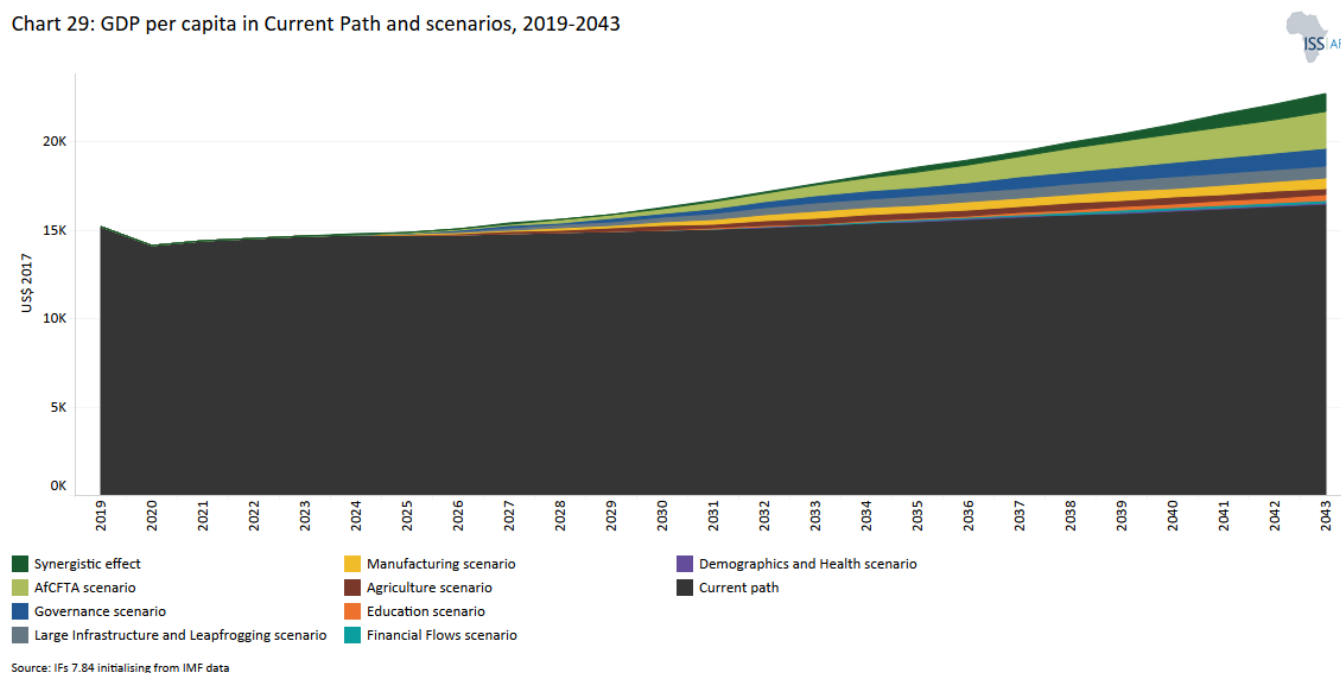


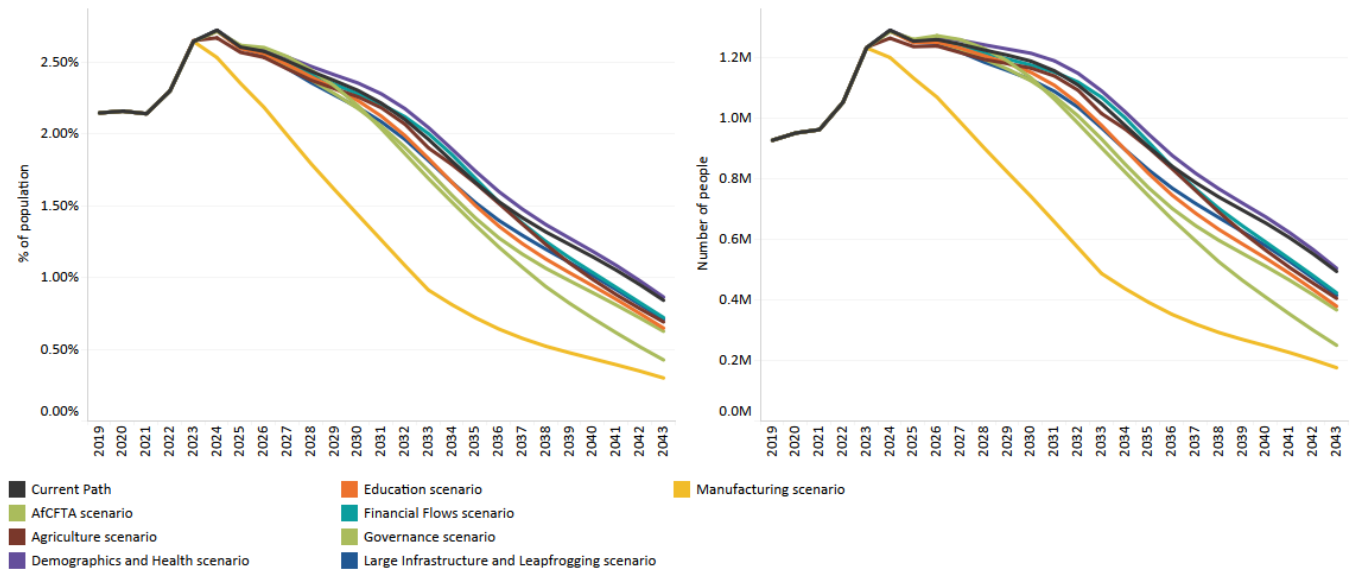
Chart 29 presents a stacked area graph on the contribution of each scenario to GDP per capita from 2019 to 2043.

The cumulative impact of better education, health, infrastructure, leapfrogging, etc. means an additional benefit in our modelling that we refer to as the synergistic effect.

In the Combined scenario, Algeria's GDP per capita will increase to US\$22 727 by 2043. This will be US\$6 293 (or 38.3%) higher than the US\$16 437 in the Current Path.

The scenarios with the greatest impact on GDP per capita in Algeria by 2043 will be the AfCFTA, followed by the Governance scenario and Large Infrastructure and Leapfrogging scenario. In the AfCFTA scenario, Algeria's GDP per capita will increase by US\$1 711 (or 10.4%) relative to the Current Path by 2043. The Governance and Large Infrastructure and Leapfrogging scenarios will increase Algeria's GDP per capita by US\$981 (6.0%) and US\$676 (4.1%) relative to the Current Path by 2043. These scenarios illustrate the potential economic growth and improvements in living standards under different development paths.

Chart 30: Poverty in Current Path and scenarios, 2019-2043



Source: Ifs 7.84 initialising from UNPD population prospects estimate, WDI and PovcalNet data

Chart 30 presents the impact of each scenario on extreme poverty by 2043. The user can select the number of extremely poor people or percentage of the population.

The Combined scenario impacts on poverty in Algeria, where 3 000 Algerian people will be living in extreme poverty at US\$3.20 per day in 2043. Thus, 391 000 Algerian people will be lifted out of extreme poverty at US\$3.20 per person per day relative to the Current Path of 394 000 Algerian people in 2043. This is equivalent to a decline of 99.2 percentage points compared to the Current Path of about 394 000 people (or 0.7% of the 58million in the Algerian population) in 2043.

Extreme poverty at the US\$3.20 per person per day threshold is reduced most significantly by the Manufacturing scenario, followed by the AfCFTA scenario. In the Manufacturing scenario, 288 000 Algerians will be lifted out of extreme poverty relative to the Current Path by 2043. The AfCFTA scenario will reduce extreme poverty in Algeria by 52.5% (or 187 000 people) relative to the Current Path.

Chart 31: GDP (MER) in Current Path and Combined Agenda 2063 scenario, 2019-2043

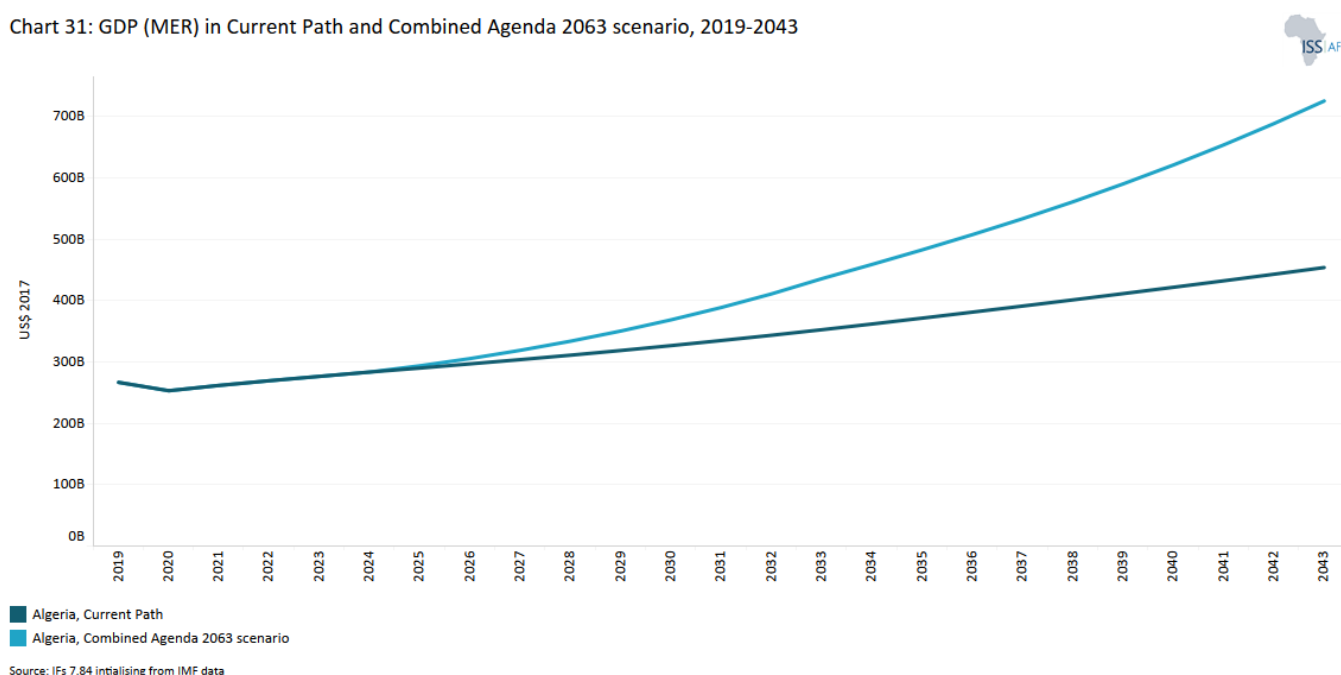


Chart 31 compares the size of the economy in the Current Path with the Combined scenario at market exchange rates (MER).

The Combined scenario consists of the combination of all eight sectoral scenarios, namely Governance, Demographics and Health, Education, Large Infrastructure and Leapfrogging, Agriculture, Manufacturing, AfCFTA and Financial Flows.

In the Combined scenario, Algeria's economy will be US\$271.3 billion (or 59.8%) larger than when compared to the Current Path of about US\$453.5 billion in 2043. The AfCFTA scenario will have the largest impact on Algeria's economy by 2043 as it will increase Algeria's GDP by US\$71.3 billion (or 15.7%) relative to the Current Path.

Chart 32: Value added by sector in Current Path and Combined Agenda 2063 scenario, 2019-2043

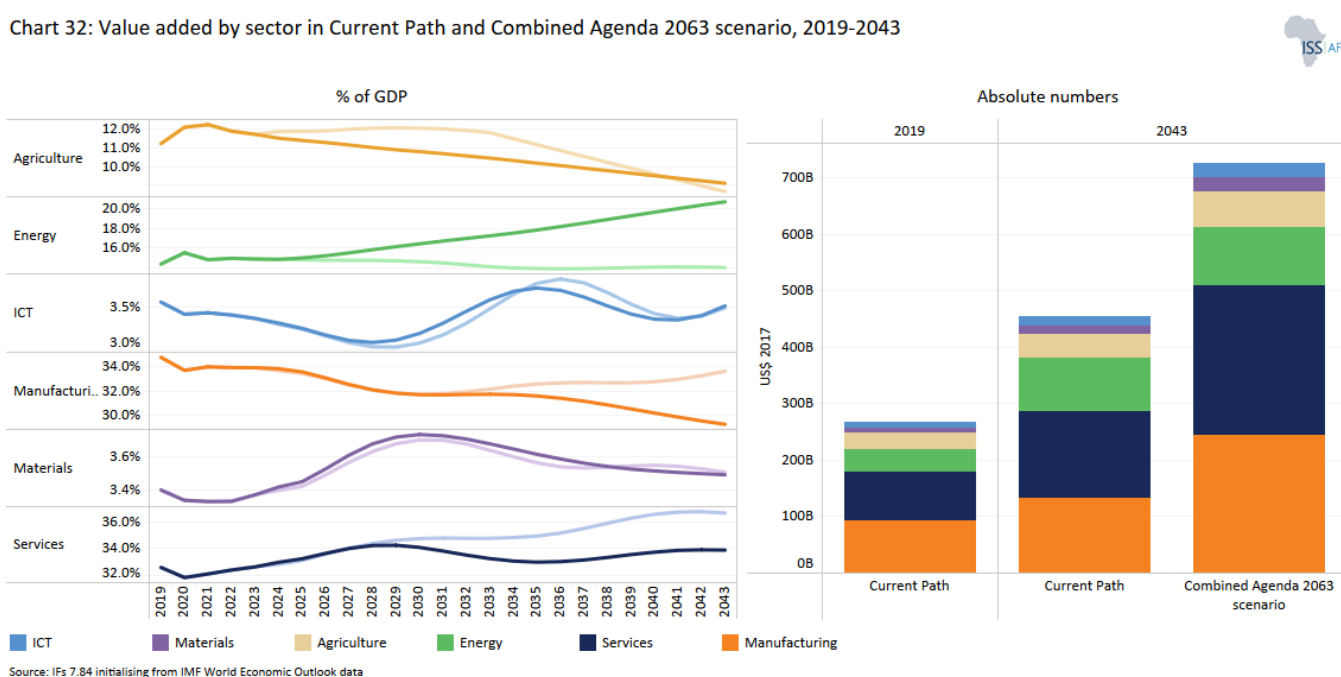


Chart 32 presents the change in the economy's structure, comparing the Current Path with the Combined scenario from 2019 to 2043, in US\$ 2017 and % of GDP.

Our modelling uses data from GTAP to classify economic activity into six sectors: agriculture, energy, materials (including mining), manufacturing, services and information and communication technologies (ICT). Most other sources use a threefold distinction between only agriculture, industry and services, with the result that data may differ.

The Combined scenario anticipates notable growth in Algeria's economy, with the service and manufacturing sectors playing prominent roles in this economic expansion. By 2043, total value added by all sectors will increase from about US\$453.5 billion in the Current Path to US\$724.9 billion in the Combined scenario.

The service sector will make the largest contribution to the economy of Algeria relative to the Current Path and will continue to have the largest share contribution to the GDP of Algeria. The service sector will contribute about US\$111.8 billion to the economy of Algeria relative to the Current Path in 2043. This will increase the sector's contribution to GDP from 33.9% (Current Path) to 36.6% in the scenario.

The service sector will be followed by the manufacturing sector, which will contribute US\$111.2 billion relative to the Current Path in 2043. This will increase the manufacturing sector contribution to 33.7% of GDP, about 4.4 percentage points increase relative to the Current Path.

Chart 33: Informal sector in Current Path and Combined Agenda 2063 scenario, 2019-2043

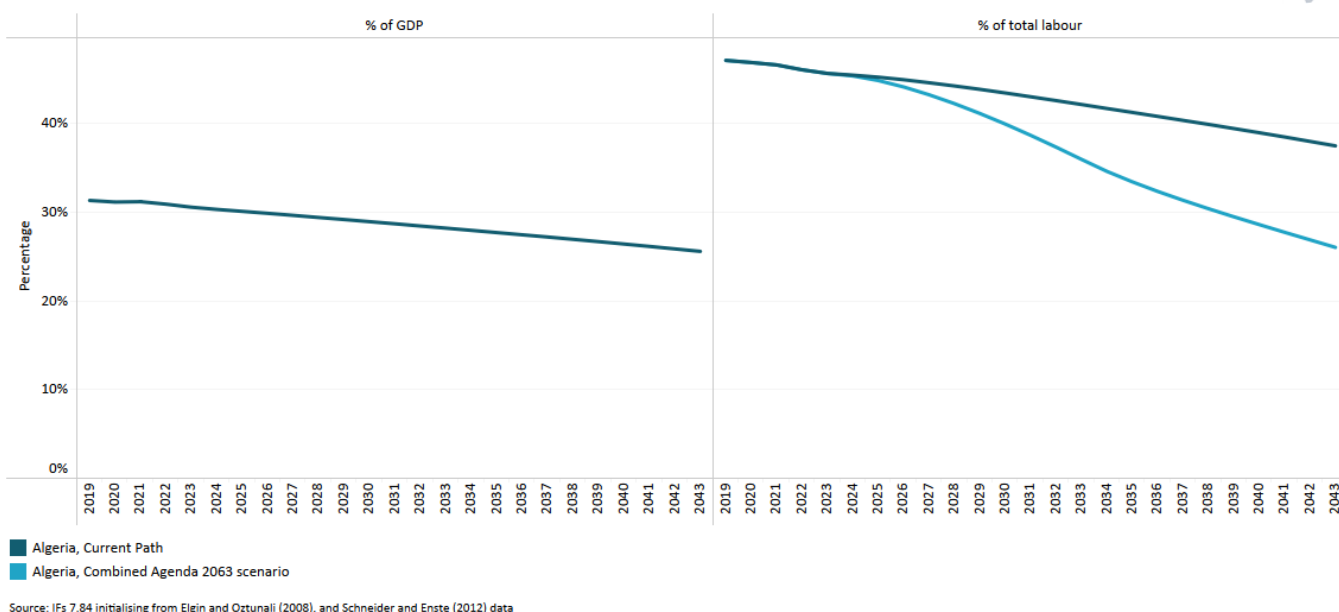


Chart 33 presents the size of the informal sector as a % of GDP or % labour force. Data on the contribution of the informal sector is often estimated and should be treated with care.

The Combined scenario will also have a positive impact on the size of the informal sector in Algeria. By 2043, the share of the informal economy as a percentage of GDP will drop by about 8.2% relative to the Current Path of 25.6%. This shows that greater economic freedom, gradually diversifying away from hydrocarbons, good governance and access to opportunities in the overall economic system can encourage formalisation. This in turn expands the revenue base of Algeria.

Chart 34: Life expectancy in Current Path and Combined Agenda 2063 scenario, 2019-2043

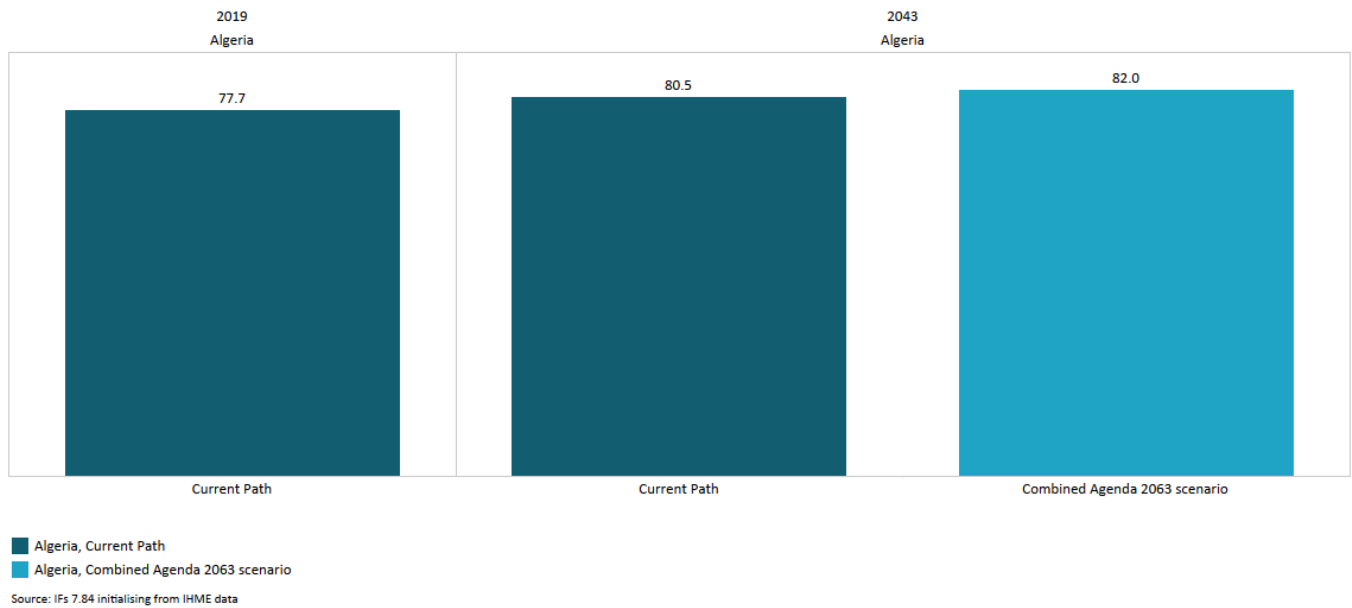


Chart 34 compares life expectancy in the Current Path with the Combined scenario from 2019 to 2043.

In the Combined scenario, life expectancy at birth in Algeria will increase to about 82 years by 2043, which will be about 1.5 years higher than the country's Current Path in the same year.

Chart 35: Domestic Gini in Current Path and the Combined Agenda 2063 scenario, 2019-2043

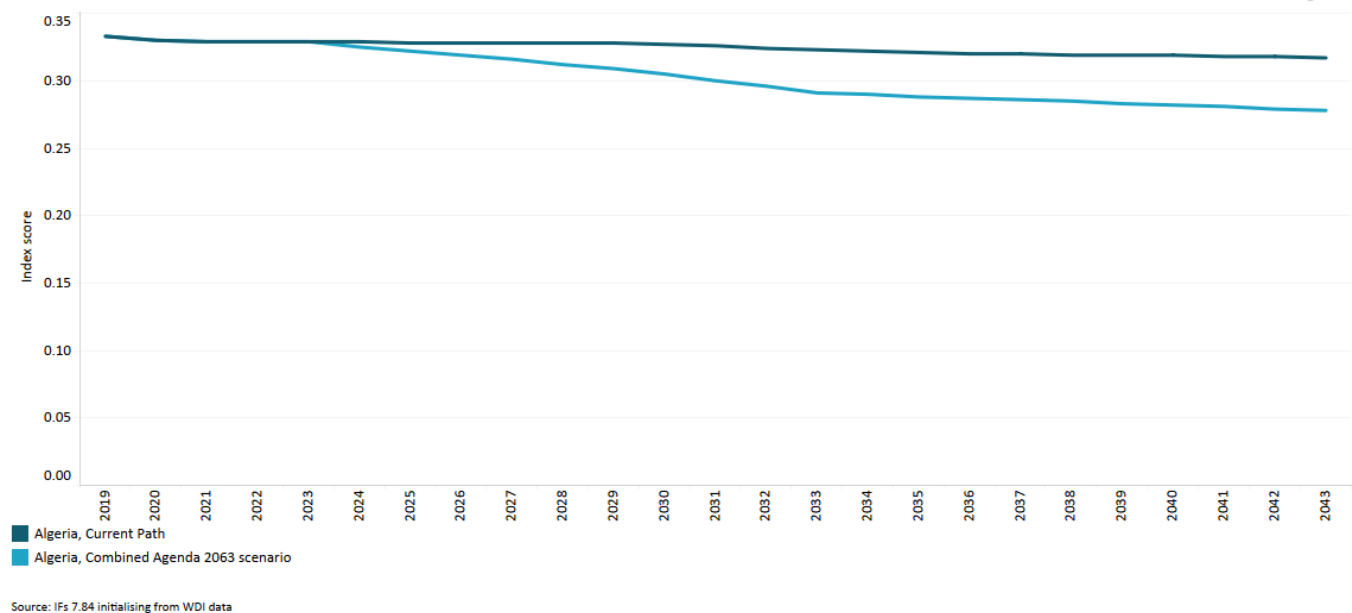


Chart 35 compares the Gini coefficient in the Current Path with the Combined scenario from 2019 to 2043.

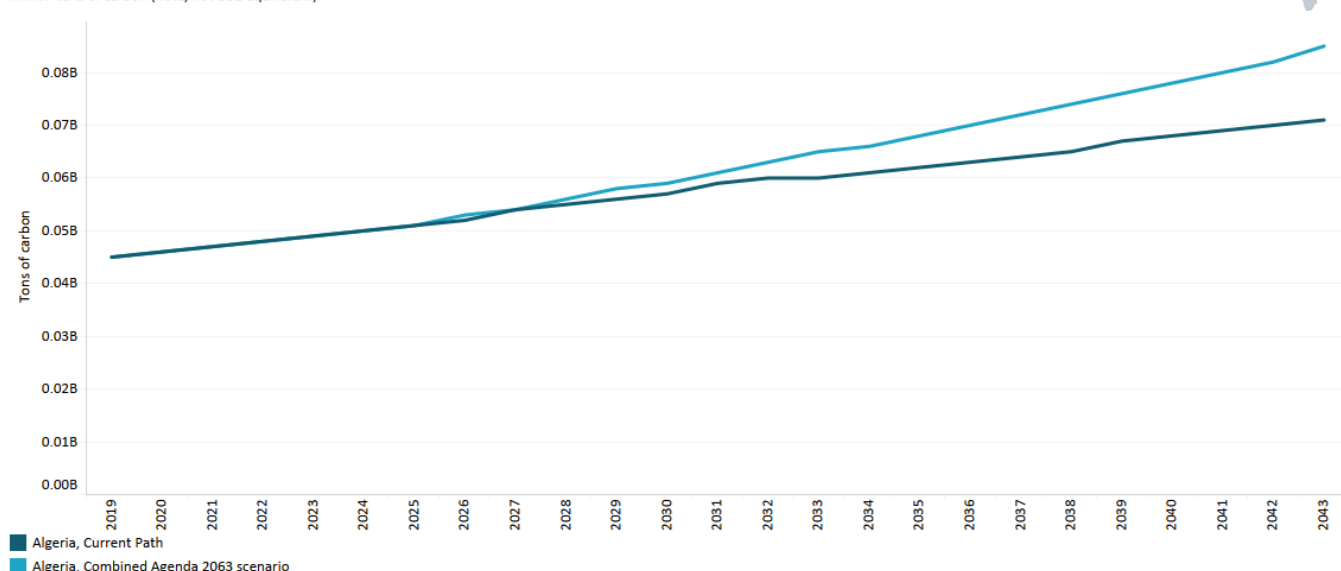
The benefits of economic growth may not be evenly distributed in a country due to inequality. High levels of inequality have many negative effects including a breakdown of social structure and cohesion which can result in instability. The Gini coefficient is the standard measure of the level of inequality in a country. A higher score depicts greater inequality while a

lower score shows a more equal country.

In the Combined scenario, inequality in Algeria will reduce more rapidly, reaching 0.28 by 2043, which means that the Combined scenario has the potential to reduce inequality in Algeria by 12.5% relative to the Current Path.

Chart 36: Carbon emissions in Current Path and in Combined Agenda 2063 scenario, 2019-2043

Million tons of carbon (note, not CO<sub>2</sub> equivalent)



Source: IFS 7.84 initialising from Carbon Dioxide Information Analysis Center data

Chart 36 compares carbon emissions in the Current Path with the Combined scenario from 2019 to 2043, in million tons of carbon (note, not CO<sub>2</sub> equivalent).

Carbon is released in many ways, but the three most important contributors to greenhouse gases are carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO) and methane (CH<sub>4</sub>). Since each has a different molecular weight, we use carbon. Many other sites and calculations use CO<sub>2</sub> equivalent.

In 2019, Algeria released 45 million tons of carbon, and in the Current Path will release 71 million tons by 2043. Although carbon emissions are set to increase with heightened economic activity, Algeria's carbon emissions come from a very low base compared to developed and emerging economies. Like many developing countries, Algeria will disproportionately suffer the impact of climate change, which it has contributed very little to. Nonetheless, the country must reduce its carbon footprint and move towards renewable energy for sustainable growth and to mitigate the impact of climate change.

In the Combined scenario, Algeria's total carbon emissions will increase to 85 million tons—19.2% higher than what is estimated in the Current Path by 2043. The AfCFTA, Manufacturing and Agriculture scenarios will be the leading contributors to increased carbon emissions.

The possible impacts of climate change on North Africa are not fully understood, but what is clear is that many factors interact and amplify other drivers and impacts. Nevertheless, the relationship between climate change, stresses on natural resources and increased risk of internal conflict is well established.

Chart 37: Energy demand and production by type in Current Path and Combined Agenda 2063 scenario, 2019-2043

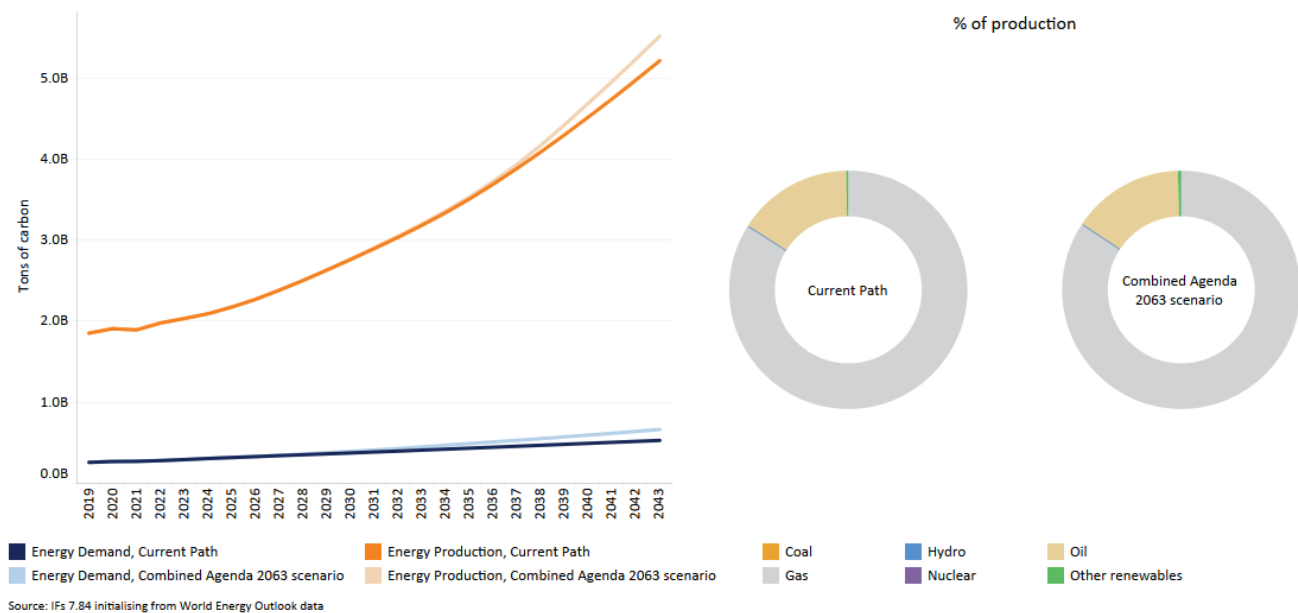


Chart 37 compares energy production in the Current Path with the Combined scenario in six types, namely oil, gas, coal, hydro, nuclear and other renewables. The data is converted into billion barrels of oil equivalent (BOE) to allow for comparisons. Note that energy production could be for domestic use or for export.

Algeria has large and varied reserves of fossil fuels but the main resources of the country are gas and oil. The most widely produced energy source in Algeria is gas, which also dominates primary energy consumption, followed by oil. In 2019, the total amount of gas produced in Algeria amounted to 554 million BOE, constituting about 59.8% of total energy production in that year. In the Current Path, the production will increase to about 2.2 billion BOE by 2043.

In 2021 oil reserves amounted to 12.2 billion barrels, and gas reserves were 4.503 Tcm (roughly 30 BBOE). Coal reserves were estimated at 65 million short tons in 2021. Converted to tons of oil equivalent, in 2021 proved reserves of conventional hydrocarbons in Algeria were: gas – 70.4%, oil – 28.9% and coal – 0.7%. Algeria also has a significant potential for the development of renewable energy. The unconventional natural resource matrix was: shale gas – 96% (5.7 billion BOE) and tight oil – 4%.

In 2019, Algeria's total energy production was 926 million BOE. In the Current Path, it will produce a total of 2.6 billion BOE by 2043, which is an increase of 1.68 billion BOE compared to 2019.

About 370 million BOE of oil was produced in 2019, which accounted for about 40% of total energy production. The production will increase to about 406 million BOE by 2043.

Algeria possesses a noteworthy potential for renewable energy development, particularly in unconventional resources like shale gas. These figures and forecasts illustrate the country's energy landscape and its potential for growth and diversification in the energy sector.



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## About the authors

**Dr Blessing Chipanda** joined the African Futures and Innovation (AFI) programme in January 2023. Before joining the ISS he worked as an assistant lecturer/research assistant at the University of Pretoria, Department of Economics. He is particularly interested in tasks within the wider realm of international trade, development economics, public policy, monetary policy, and econometric modelling. Equally interested in economic and socio-economic activities that impact social welfare. Blessing has a PhD in economics from the University of Pretoria, South Africa.

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