



Senegal

Senegal: Comparisons

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

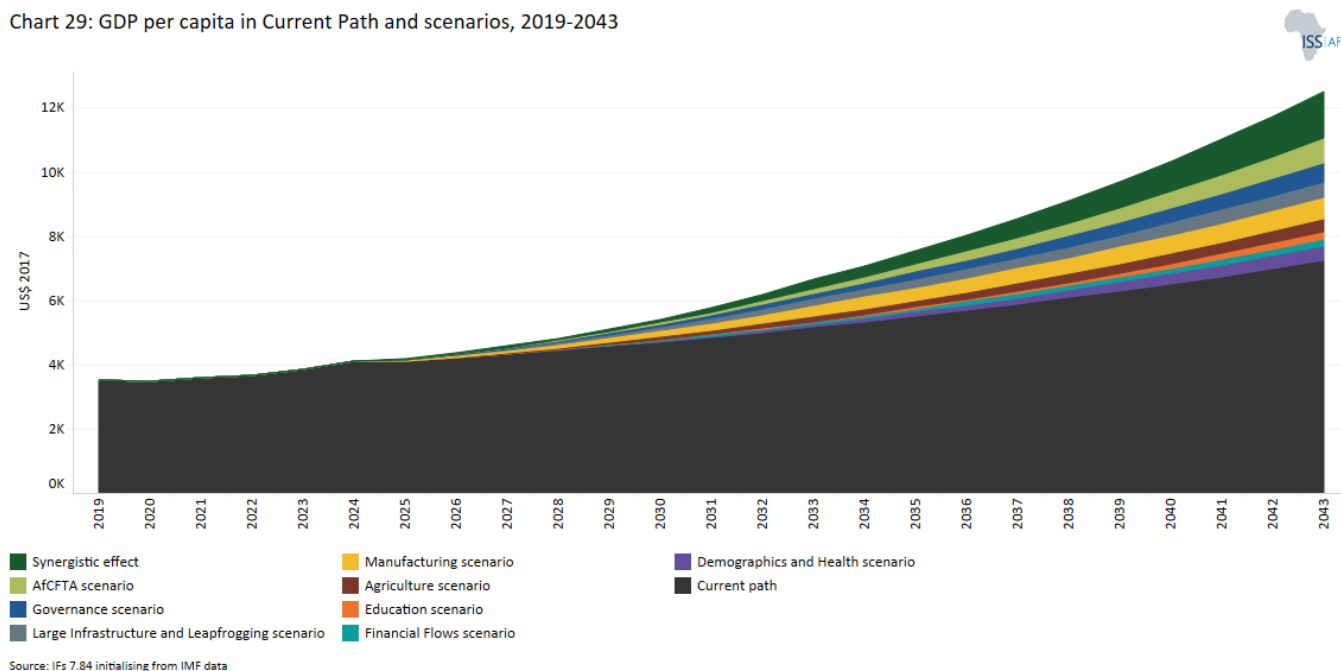


Chart 29 presents a stacked area graph on the contribution of each scenario to GDP per capita. The cumulative impact of better education, health, infrastructure, leapfrogging, etc. means an additional benefit in the integrated IFs forecasting platform that we refer to as the synergistic effect.

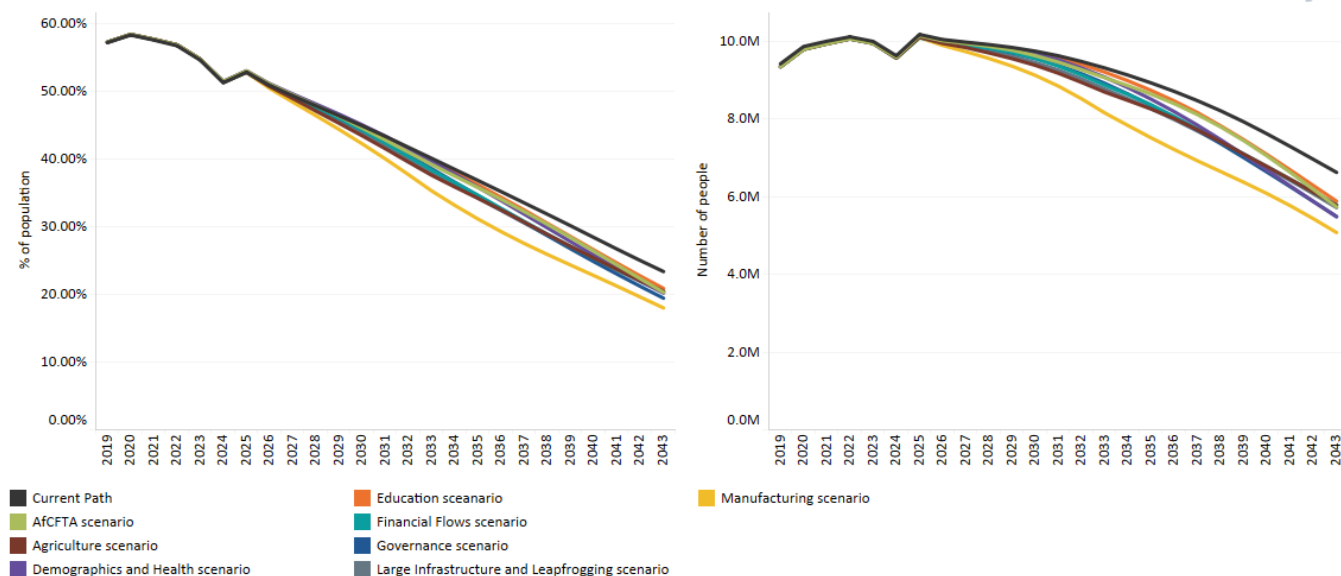
By 2043, the scenarios with the greatest impact on GDP per capita in Senegal will be the AfCFTA scenario, followed by the Manufacturing scenario and Governance scenario. In the AfCFTA scenario, Senegal's GDP per capita (PPP) will increase to US\$8 016 by 2043, which represents an increase of US\$777.2 (or 10.7%) compared to the projections on the Current Path in 2043. It means that Senegal has considerable potential to increase its GDP per capita if it takes advantage of the full implementation of trade agreements. The high impact of the Free Trade scenario in improving the standard of living in Senegal is not surprising, given that trade between African countries has considerable benefits. A regional free trade area such as AfCFTA increases trade openness, accelerating technology diffusions in the country and thereby improving productivity and innovation activities. This ultimately leads to welfare gains as resources flow to their most productive uses and lower consumer prices. It could also increase Senegal's exports as it provides access to a much larger market and improves the country's manufacturing sector through competition, which could lead to more rapid economic growth and increased employment in key sectors.

In the Manufacturing scenario, Senegal's GDP per capita is estimated to increase to US\$7 918 by 2043. This is an increase of US\$623 or 9.4% compared to the Current Path forecast. Manufacturing is the engine of economic growth according to the economist Nicolas Kaldor (Kaldor's engine of growth hypothesis). It is historically the largest provider of jobs as it has backward and forward linkages with other sectors and transforms the productivity structures across the economy. It is therefore not surprising that the Manufacturing scenario leads to such an improvement in GDP per capita. Thus, a robust manufacturing sector is crucial to achieve sustained growth and significantly improve the population's living standard in Senegal.

In the Governance scenario, GDP per capita for Senegal is projected to rise to US\$7 846.9 by 2043, representing an 8.4% increase over the Current Path forecast for that year. It means that the Governance scenario can raise GDP per capita in Senegal by an additional US\$558 by 2043. Good governance and political stability can inspire investor confidence in the

economy and attract more FDI into Senegal, which can lead to growth. Likewise, good governance in the form of adherence to the rule of law, reduced corruption and improved transparency and accountability can lead to more rapid economic growth. As a result, if Senegal can retain its peace and security and promote good governance, it will catalyse the country on the path of sustained economic growth.

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 per cent of the population.

The Manufacturing scenario has the greatest potential to reduce extreme poverty in Senegal. In the scenario, the number of poor people is projected to decline to 5.1 million (equivalent to 18% of the population), compared to the Current Path forecast of 6.6 million people (22.8%) by 2043. It means that an aggressive industrialisation that is supported by social protection measures such as welfare transfers has the potential to reduce extreme poverty in Senegal by an additional 1.5 million people.

The Governance scenario has the second largest impact on poverty reduction in Senegal. In the scenario, 5.5 million people are projected to live in extreme poverty by 2043, constituting 19.5% of the population. This will be 3.4 percentage points lower than the Current Path forecast and equivalent to a reduction of about 1.1 million people living in extreme poverty. Certainly, better governance ensures that public resources are utilised in an efficient manner to address the needs of the people instead of being diverted into individual pockets, which will impact poverty reduction significantly.

In the Demographics and Health scenario, 20.2% of the Senegalese population are expected to be living in extreme poverty by 2043, making it the scenario with the third largest impact on poverty reduction. This means that extreme poverty in this scenario will be 3.2 percentage points below the Current Path forecast. The reduction in extreme poverty in this scenario follows from the decline in the fertility rates and Senegal's smaller population as well as increased infant survival and better healthcare access compared with its Current Path forecast. As the population size declines, the benefit to the economy increases, which ultimately reduces extreme poverty.

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

In the Combined Agenda 2063 scenario, both the number and proportion of poor people in Senegal will significantly decline. By 2043, about 863 000 people in the country will be living in extreme poverty, representing only 3.2% of the population. This means that, compared to the Current Path forecast, 5.6 million more people could be lifted out of poverty by 2043 in this scenario. This is equivalent to a decline of 20.2 percentage points compared to the Current Path forecast of 23.4% in 2043. In addition, the projected proportion of poor people in Senegal in the Combined Agenda 2063 scenario will be 35 percentage points below the average (38.3%) for lower-middle-income African countries by 2043.

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

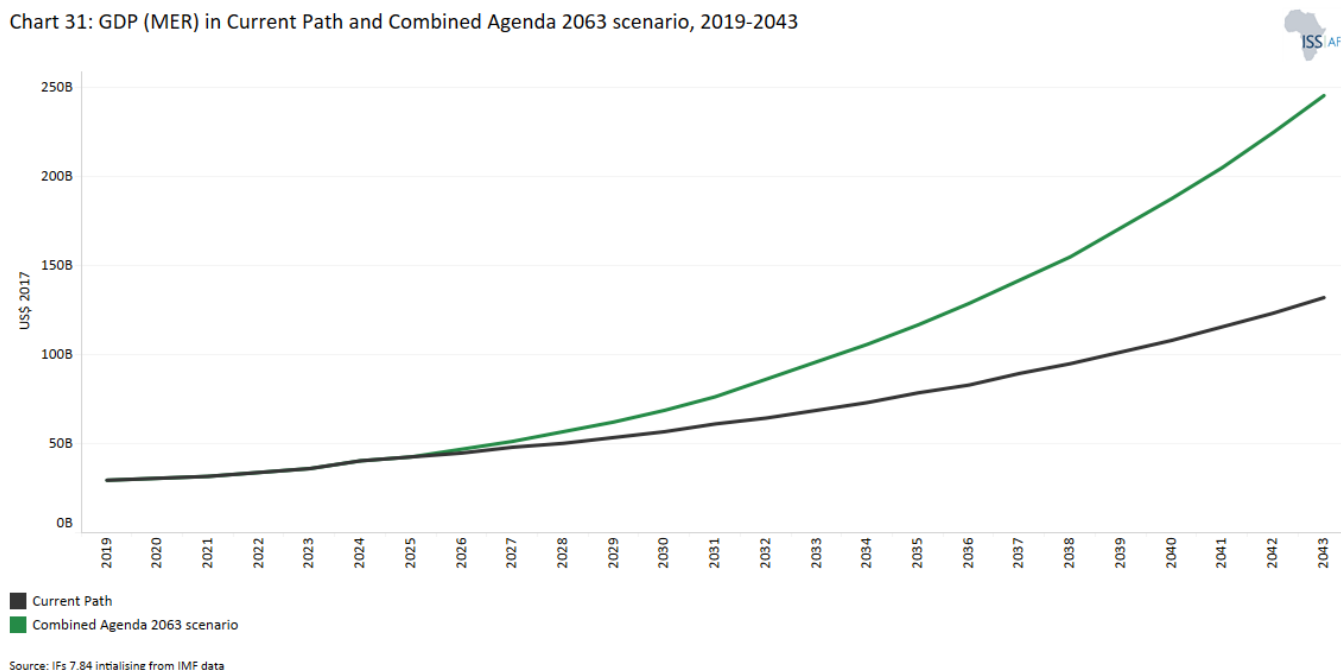


Chart 31 compares the size of the economy in the Current Path with the Combined Agenda 2063 scenario at market exchange rates (MER).

The Combined Agenda 2063 scenario consists of the combination of all eight sectoral scenarios, namely Governance, Demographics and Health, Education, Infrastructure/Leapfrogging, Agriculture, Manufacturing and Leapfrogging, AfCFTA and Financial Flows.

Senegal’s GDP is projected to rise to US\$245.6 billion in the Combined Agenda 2063 scenario, representing an increase of 729% from 2019 to 2043. This will exceed the Current Path forecast of US\$132 billion, meaning that the Combined Agenda 2063 scenario will increase the size of the economy by an additional US\$113.7 billion by 2043 — an increase of 86% compared with the Current Path forecast.

Similarly, in the Combined Agenda 2063 scenario, the GDP per capita of Senegal is estimated to increase to US\$12 502 by 2043. This will be US\$5 263, or 73%, more than the projection of US\$7 239 in the Current Path forecast, meaning that the materialisation of the Combined Agenda 2063 scenario could significantly improve the living standard of the Senegalese population. The projected GDP per capita in this scenario will be US\$3 600, or 40.4%, more than the Current Path forecast average for lower-middle-income countries in Africa by 2043. The massive economic growth projected in the Combined Agenda 2063 scenario indicates that an integrated development push across all development sectors is the best way to achieve sustained inclusive growth and development in Senegal.

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

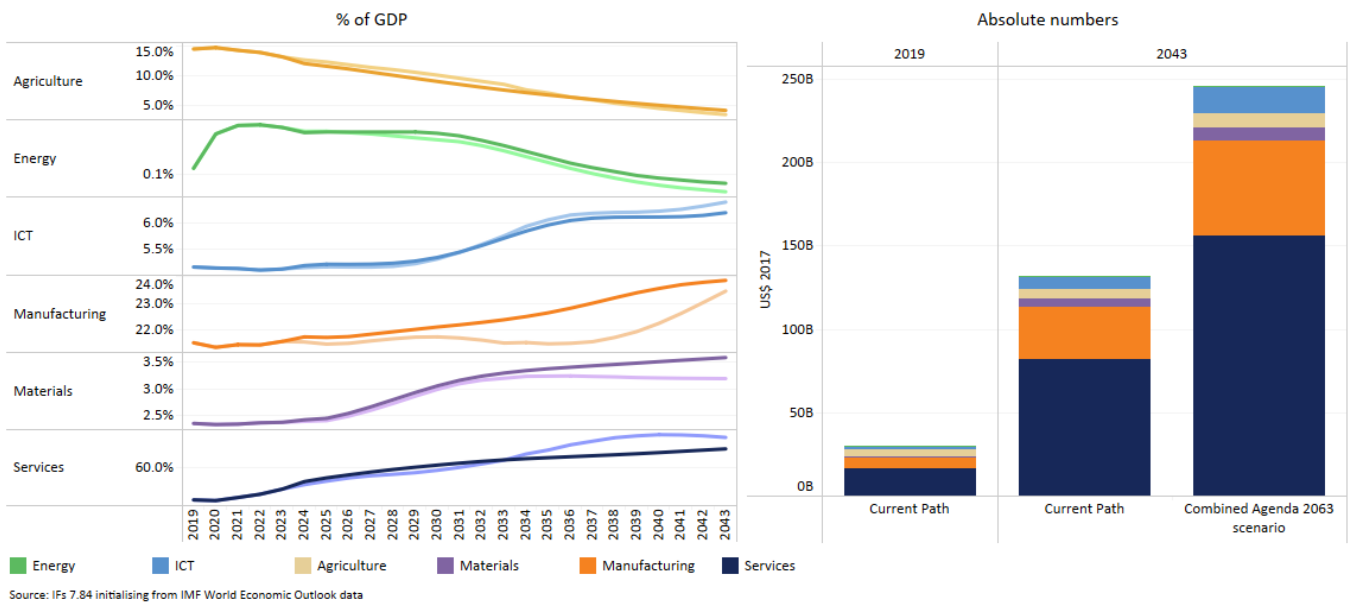
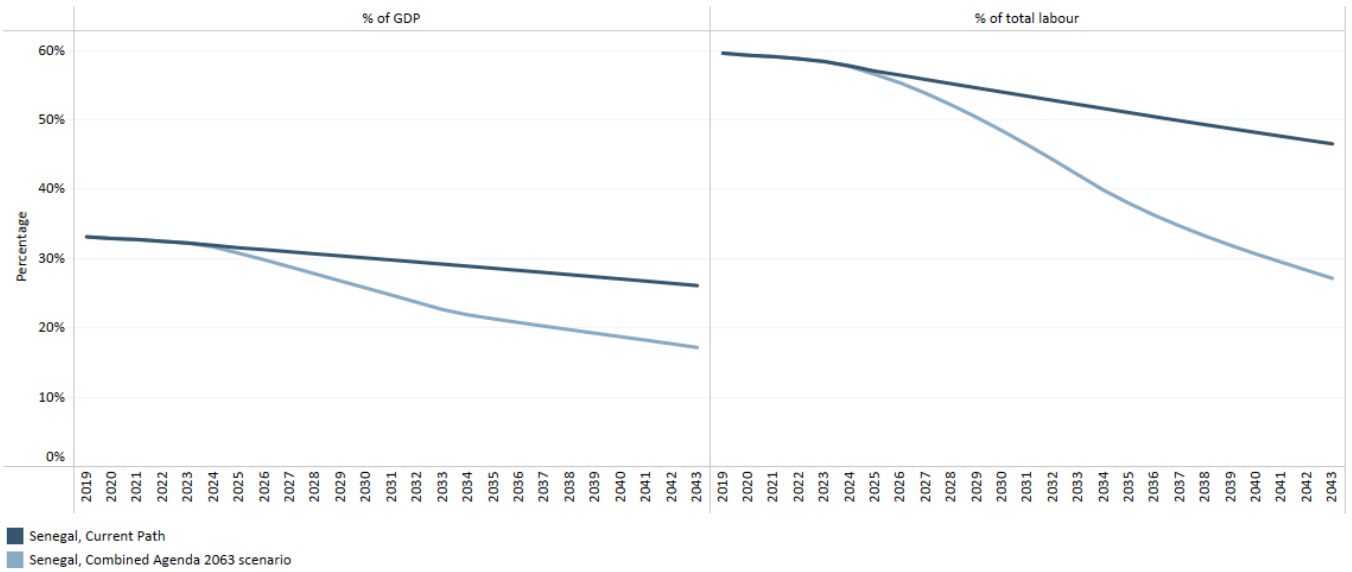


Chart 32 presents the change in the economy's structure, comparing the Current Path forecast with the Combined Agenda 2063 scenario from 2019 to 2043.

The IFs platform 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.

By 2043, the service sector will still be the largest contributor to GDP at 63.4% (valued at US\$155.7 billion), slightly above the Current Path forecast of 62.1% (valued at US\$81.9 billion). The manufacturing sector will continue to be the second largest contributor to GDP in the scenario by 2043 with a share of 23.5% (equivalent to US\$57.6 billion), although still below the Current Path forecast of 23.9% (US\$31.5 billion). The share of the agricultural sector will marginally decline to 3.5% (valued at US\$8.6 billion) in the Combined Agenda 2063 scenario compared to 4.2% (valued at US\$5.5 billion) in the Current Path in 2043. In the Combined Agenda 2063 scenario, the share of the ICT and materials sectors will rise above the Current Path to constitute 6.4% and 3.6%, respectively, although the share of the energy sector will decline below the Current Path to 0.7%.

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

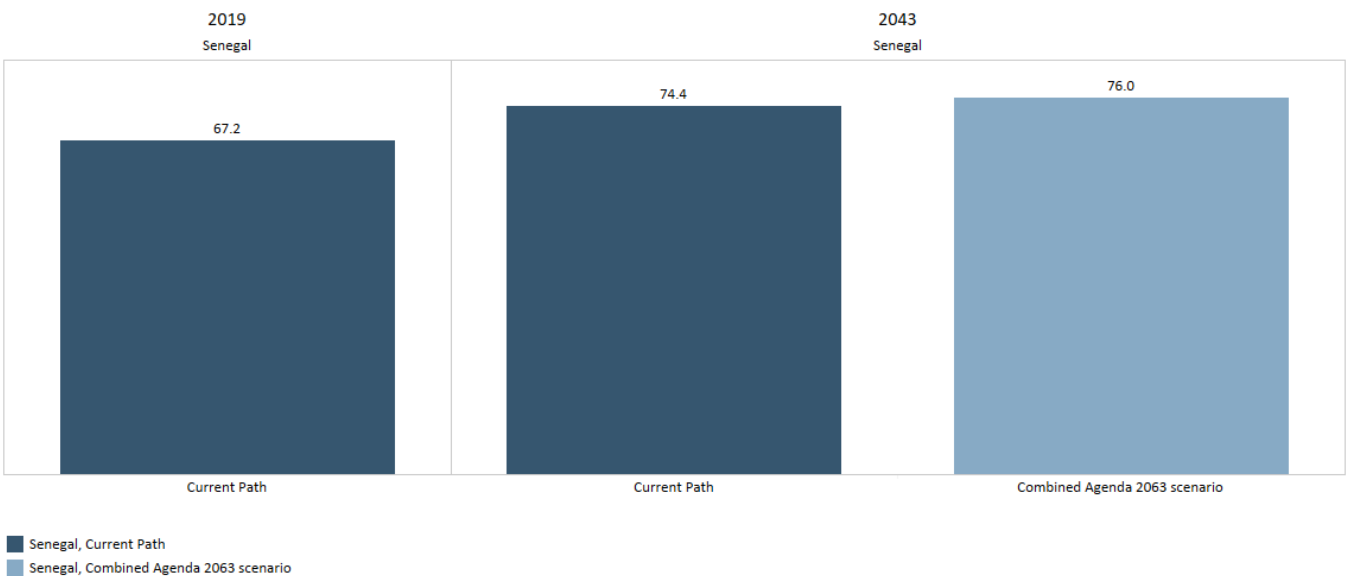


Source: IFS 7.84 initialising from Elgin and Oztunali (2008), and Schneider and Enste (2012) data

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

By 2043, the size of the informal sector in Senegal will decline to 17.2% of GDP although its absolute value will rise to US\$42.2 billion. At this rate, the contribution of the informal economy will be lower than the projected 26.1% (valued at US\$34.4 billion) on the Current Path and below the average of lower-middle-income countries in Africa at 26.1%. Likewise, the size of the informal labour force in Senegal will decline. By 2043, there will be about 1.7 million fewer people working in the informal sector in the Combined Agenda 2063 scenario compared to the Current Path. This will correspond to informal labour constituting 27.1% of total labour in the Combined Agenda 2063 scenario instead of 46.5% in the Current Path, reflecting the anticipated improvement in state capacity through more tax revenue.

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



Source: IFS 7.84 initialising from IHME data

Chart 34 compares life expectancy in the Current Path forecast with the Combined Agenda 2063 scenario.

The quality of a nation's health system can be gauged through indicators such as life expectancy, maternal mortality and infant mortality, among others. Life expectancy measures the average lifespan of individuals in a country. In 2019, the average Senegalese person was expected to live to 67.2 years, which was almost on par with the average of 67.6 years for the country's income-group peers in Africa. Women in Senegal generally live longer (68.9 years) than men (65.6 years) meaning the average woman in Senegal lives 3.3 years more than men.

On the Current Path, life expectancy will increase to 74.5 years by 2043, which will be slightly higher than the average of 73.1 years for lower-middle-income African countries. In the Combined Agenda 2063 scenario, life expectancy is expected to increase to 76.1 years by 2043, which will be about two years more than the country's Current Path forecast. In both the Combined Agenda 2063 scenario and the Current Path forecast, women will be expected to live more than four years longer than men by 2043, in line with global trends.

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

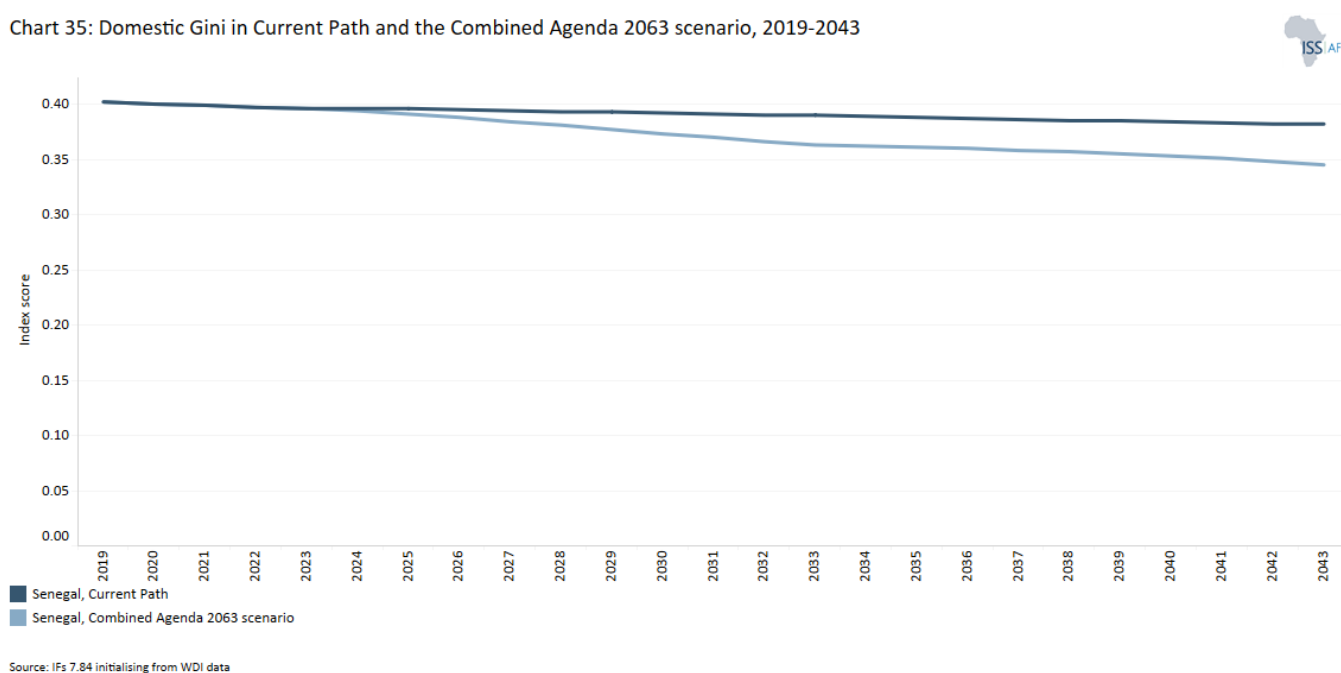


Chart 35 compares the Gini coefficient in the Current Path forecast with the Combined Agenda 2063 scenario.

High levels of income 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.^[1] Historically, inequality in Senegal has been lower than the average of its income-group peers in Africa.

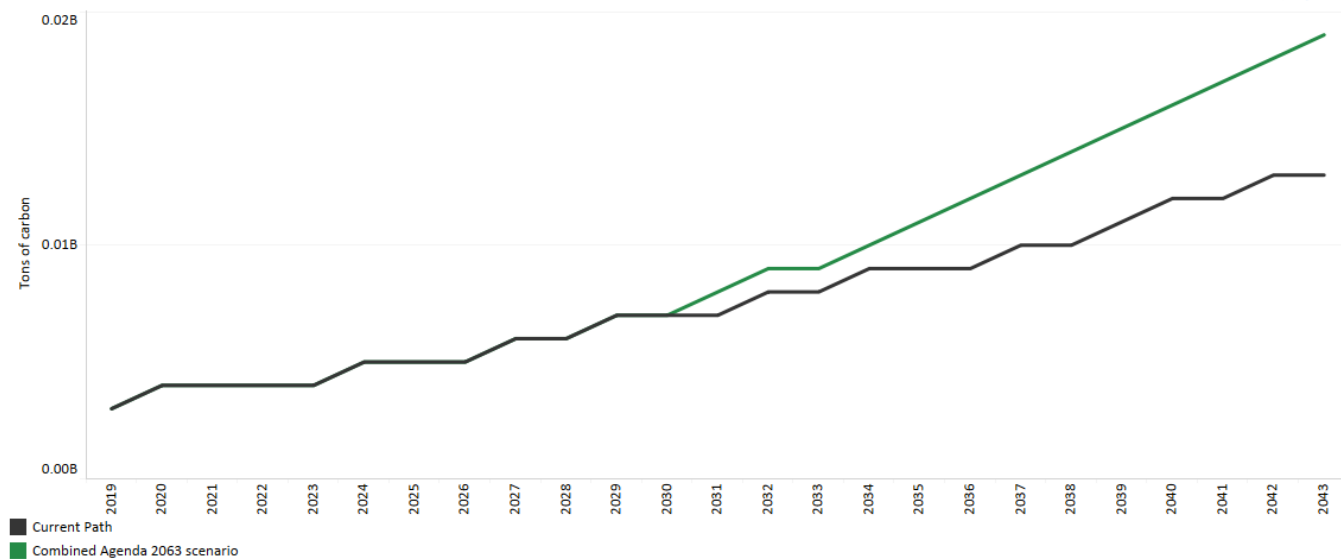
In 2019, Senegal's Gini coefficient was 0.40, compared to the average of 0.50 for the lower-middle-income countries in Africa. This makes the country the seventh least unequal country among the 23 lower-middle-income countries in Africa. On the Current Path, income inequality in Senegal is projected to fall with a Gini coefficient of 0.38 By 2043. In the Combined Agenda 2063 scenario, reduction in inequality in Senegal in the long term will be quicker than the Current Path forecast with a Gini coefficient of 0.34 by 2043. This means that economic growth in the Combined Agenda 2063 scenario will be broadly shared and to the benefit of many.

The Manufacturing scenario has the greatest potential to reduce income inequality in Senegal followed by the Education and Agriculture scenarios. This indicates that the quickest way for the Senegalese authorities to reduce income inequality

is through social transfers and investment in the education and agricultural sectors.

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

Million tons of carbon (note, not CO₂ equivalent)



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

Chart 36 compares carbon emissions in the Current Path forecast with the Combined Agenda 2063 scenario.

Since carbon dioxide (CO₂), carbon monoxide (CO) and methane (CH₄) have different molecular weights, IFs uses carbon. Many other sites and calculations use CO₂ equivalent.

Like most African countries, carbon emissions are very low in Senegal, piling in comparison to large emitters in Africa such as South Africa. This is partly due to the country's underdeveloped manufacturing sector. In 2019, Senegal released about 3.4 million tons of carbon from fossil fuel use, reflecting the low levels of carbon emissions in the country. This makes it the 15th largest emitter of carbon in Africa and 11th largest emitter among the 23 low-income African countries.

Deforestation is a major contributor to carbon emissions in the country. To mitigate this and to advance sustainable land management, Senegal has developed reforestation programmes. Also, to stop desertification and store carbon, the 'Great Green Wall' effort plans to plant tens of thousands of hectares of trees throughout the Sahel, including Senegal. Senegal's carbon emissions are also influenced by the transportation industry. The government has been putting policies into place to support environmentally friendly modes of transportation, such as investing in infrastructure for public transportation and promoting the use of electric vehicles.

The government also works with groups like the Global Environment Facility (GEF) and the United Nations Development Programme (UNDP) to carry out climate-related projects and obtain funding for sustainable development efforts.^[3] Despite these initiatives, Senegal faces difficulties in lowering its carbon emissions due to population increase, urbanisation and economic development. However, the government's dedication to sustainable development and renewable energy, together with outside assistance, points to a promising future for the nation's efforts to combat climate change and reduce carbon emissions.

On the Current Path, carbon emissions from fossil fuels are projected to increase more than fourfold to 13.5 million tons by 2043 from the low base in 2019. The AfCFTA and Manufacturing scenarios are the most carbon-intensive as they involve aggressive manufacturing of low-end manufacturing goods that will imply more fossil fuel use. On the other hand, the

Demographics and Health and Education scenarios are the least carbon-intensive scenarios in Senegal.

In the Combined Agenda 2063 scenario, Senegal's total carbon emissions will rise to 19 million tons, 46.2% more than what is estimated in the Current Path forecast in the same year. The materialisation of the Combined Agenda 2063 scenario and achieving sustainable economic development will come at the cost of more carbon emissions in Senegal although this is relatively slow. However, the country can rely on its huge renewable energy potential to pursue a green development pathway.

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

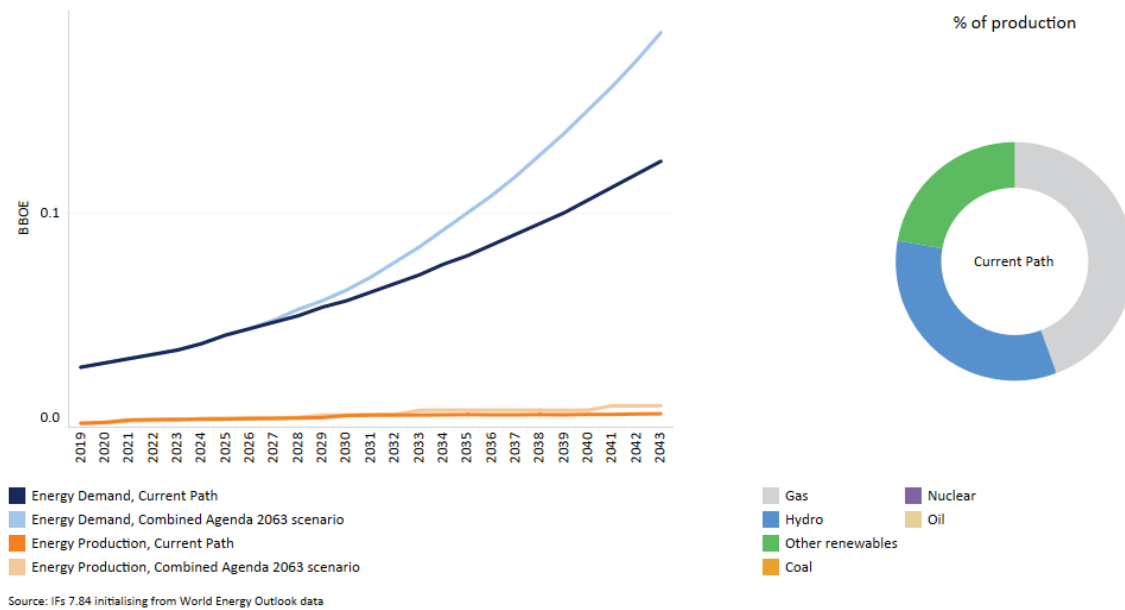


Chart 37 compares energy production in the Current Path forecast with the Combined Agenda 2063 scenario in six types, namely oil, gas, coal, hydro, nuclear and other renewables. The data is converted into billion barrels of oil equivalent (BBOE) to allow for comparisons between different sources. Note that energy production could be for domestic use or export.

According to the IFs forecast, the total energy produced in Senegal in 2019 was equivalent to 900 000 BOE. The main source of energy in Senegal is gas, followed by hydro and other renewables. In 2019, the total amount of gas produced in the country amounted to 400 000 BBOE, constituting 44.4% of total energy production. Senegal aims to boost the amount of renewable energy it can produce while reducing its reliance on fossil fuels, especially with its huge potential for producing solar and wind energy. To achieve this, the country has invested in hydroelectric, wind and solar power projects. The 'Plan Senegal Emergent' aims to achieve 30% of the nation's energy coming from renewable sources by 2030. To aid businesses offering solar-powered cooling, the government has also developed programmes like 'Scaling Up Renewable Energy (SURE) Senegal.' The government has also exempted all solar power kits for lighting, water pumps and water heating from customs taxes to promote renewable energy.

By 2043, the total amount of gas produced is projected to almost quadruple to 1.5 million BOE, with its share slightly increasing to 45.5% of total energy production in the Current Path. Hydro production constituted 33.3% (equivalent to 300 000 BOE) of total energy production in 2019 but is projected to rapidly decline to about 9.1% (valued at 300 thousand BOE) in 2043 in the Current Path. This can partly be attributed to the low investment in hydro energy, although its national

development indicates so. Other renewable energy production is currently estimated at 22.2% of total production is projected to grow rapidly to constitute 45.5% of total energy production (1.5 million BOE) by 2043 in the Current Path forecast.

In the same period, total energy demand of 28 million was far in excess of its total production. On the Current Path, total energy demand is projected to outgrow production such that by 2043, excess energy demand will be equivalent to 120.7 million BOE. It means that Senegal will rely heavily on importing energy to power its industrialisation agenda if the status quo remains.

In the Combined Agenda 2063 scenario, energy demand in Senegal will jump to 185 million BOE, which will be 60 million BOE more than the Current Path forecast. Although the total energy production of 1.7 million BOE in the Combined Agenda 2063 scenario will be 19.5 million BOE more than the Current Path forecast, it will fall significantly short of the total demand. Indeed, by 2043, the excess demand for energy of 179 million BOE will be 48.3% higher than the Current Path projections.

The share of other renewable energy in total energy production in the country will double to constitute 60% of total energy production to become the leading contributor. This will be 14.5 percentage points more than its contribution to total energy production in the Current Path. The share of gas in total production in the scenario will also be slightly above its contribution to total energy production in the Current Path. Consequently, the contribution of hydro to energy production in the scenario will decline compared to the Current Path by 2043.

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Mr Enoch Randy Aikins joined the AFI in May 2021. Before that, Enoch was a research and programmes officer at the Institute for Democratic Governance in Accra. He also worked as a research assistant (economic division) with the Institute for Statistical Social and Economic Research at the University of Ghana. Enoch's interests include African politics and governance, economic development, public sector reform, poverty and inequality. He has an MPhil in economics from the University of Ghana, Legon.

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