



Egypt

Egypt: Scenario Comparisons

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

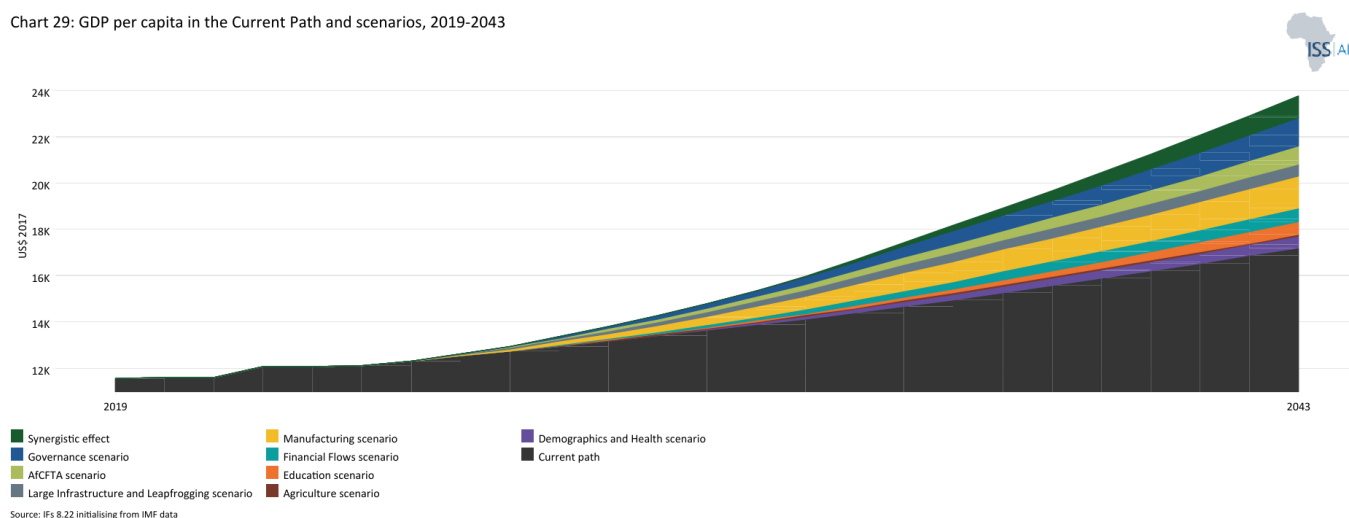


Chart 29 presents GDP per capita in purchasing power parity (PPP) in the Current Path and each of the eight sectoral scenarios, plus the synergistic effect. The data is from 2019 to 2043.

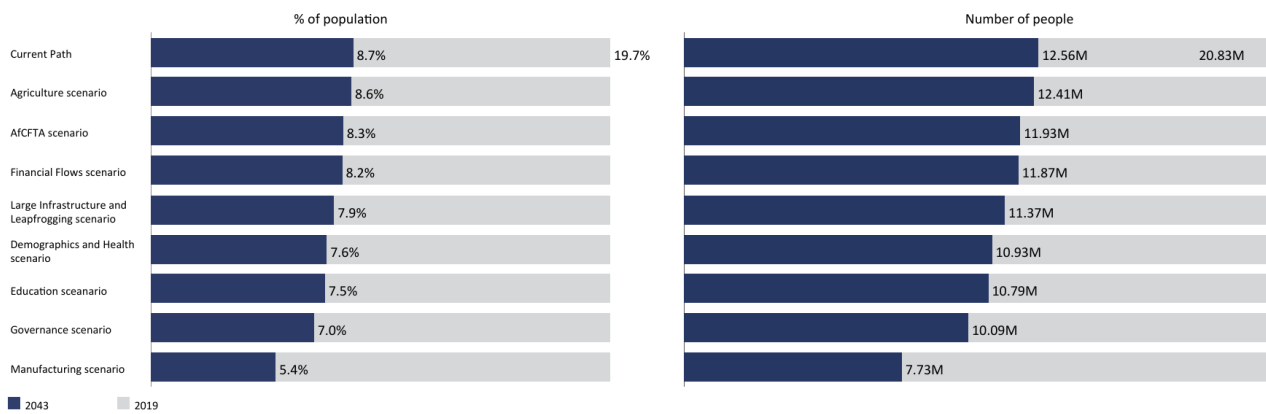
The cumulative impact of better education, health, infrastructure, leapfrogging, etc. means an additional benefit that we refer to as the synergistic effect.

The scenario with the greatest impact on GDP per capita in Egypt by 2043 is the Manufacturing scenario followed by the Governance scenario and the AfCFTA scenarios. In the Manufacturing scenario, Egypt's GDP per capita will increase to US\$18 580 by 2043. This is an increase of US\$1 390 or 8.1% more than the Current Path. Manufacturing is generally a large engine of economic growth. Thus, a robust manufacturing sector is crucial to achieve sustained growth and significantly improve the population's living standard in Egypt.

In the Governance scenario, GDP per capita for Egypt will rise to US\$18 400 by 2043, representing a 7.3% increase over the Current Path for that year. It means that the Governance scenario can raise GDP per capita in Egypt by an additional US\$1 250 by 2043. Good governance in the form of adherence to the rule of law, reduced corruption, improved transparency and accountability and political stability can undoubtedly inspire investor confidence in the economy and attract more FDI into Egypt which is currently low in Egypt, can lead to growth.

In the AfCFTA scenario, Egypt's GDP per capita (PPP) will increase to US\$17 970 by 2043, which represents an increase of US\$780 (or 4.5%) compared to the projections on the Current Path in the same year. A regional free trade area such as the 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 Egypt's exports, as it provides access to a much larger market and improves the country's manufacturing sector through competition. Thus, the AfCFTA scenario could lead to more rapid economic growth, increased employment in key sectors and reduce poverty.

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



Source: IFS 8.22 initialising from UNPD population prospects estimate, WDI and PovcalNet data

Chart 30 presents poverty in the Current Path and for each scenario from 2019 to 2043. The user can select the number of extremely poor people or the percentage of the population.

In 2015, the World Bank adopted the measure of US\$1.90 per person per day (in 2011 prices using GNI), also used to measure progress towards achieving SDG 1 of eradicating extreme poverty. In 2022, the World Bank updated the US\$1.90 to US\$2.15 in 2017 constant dollars. They are:

- US\$3.20 for lower-middle-income countries, in 2017 values.
- US\$5.50 for upper-middle-income countries, now US\$6.85 in 2017 values.
- US\$22.70 for high-income countries. The Bank has not yet announced the new poverty line in 2017 US\$ prices for high-income countries.

The Manufacturing scenario has the greatest potential to reduce extreme poverty in Egypt. In this scenario, the number of poor people will decline to 7.7 million (equivalent to 5.4% of the population), compared to the Current Path of 12.5 million people (8.7%) 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 Egypt by an additional 4.8 million people.

The Governance scenario has the second-largest impact on poverty reduction in Egypt. In this scenario, 10.1 million people will live in extreme poverty by 2043, constituting 7% of the population. This will be 1.7 percentage points lower than the Current Path and equivalent to a reduction of about 2.3 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.

The Education scenario has the third-largest impact on poverty reduction in Egypt. In the scenario, 10.8 million people (constituting 7.5% of the population) will live in extreme poverty by 2043. This will be 1.2 percentage points lower than the Current Path, and equivalent to a reduction of about 1.8 million people living in extreme poverty. Education is an important tool to reduce extreme poverty. Increasing access and quality of education equips people with the requisite skills to either start a business or acquire a job which increases their income and ultimately improves their living standards. A recent report by UNESCO confirms that if students in low-income countries have at least basic reading skills, 171 million people can escape extreme poverty.

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

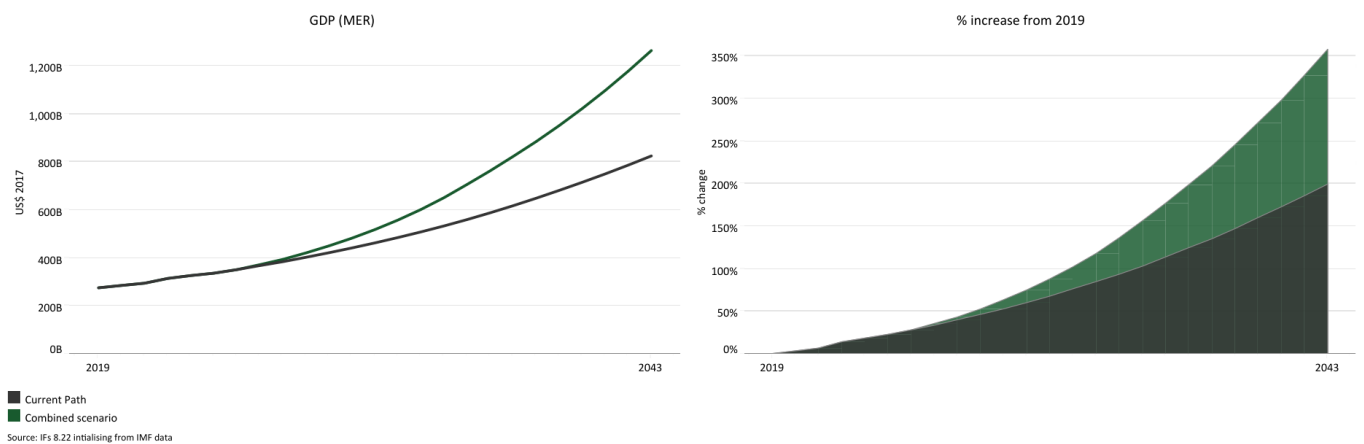


Chart 31 presents GDP in the Current Path and in the Combined scenario, from 2019 to 2043. The data is in US\$ 2017 and at market exchange rates (MER).

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, Egypt's GDP will rise to US\$1.3 trillion. This will exceed the Current Path of US\$825.7 billion, meaning that the Combined scenario will increase the size of the economy by an additional US\$439.3 billion by 2043—an increase of 53.2% compared to the Current Path.

Similarly, in the Combined scenario, GDP per capita for Egypt will increase to US\$23 760 by 2043. This will be US\$6 570 more than the US\$17 190 on the Current Path, meaning that the materialisation of the Combined scenario could significantly improve the living standard of the Egyptian population. GDP per capita in this scenario will be almost three times the Current Path average of US\$7 942 for lower-middle-income countries in Africa by 2043. The massive economic growth in the Combined scenario indicates that an integrated development push across development sectors is the best way to achieve sustained inclusive growth and development in Egypt.

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

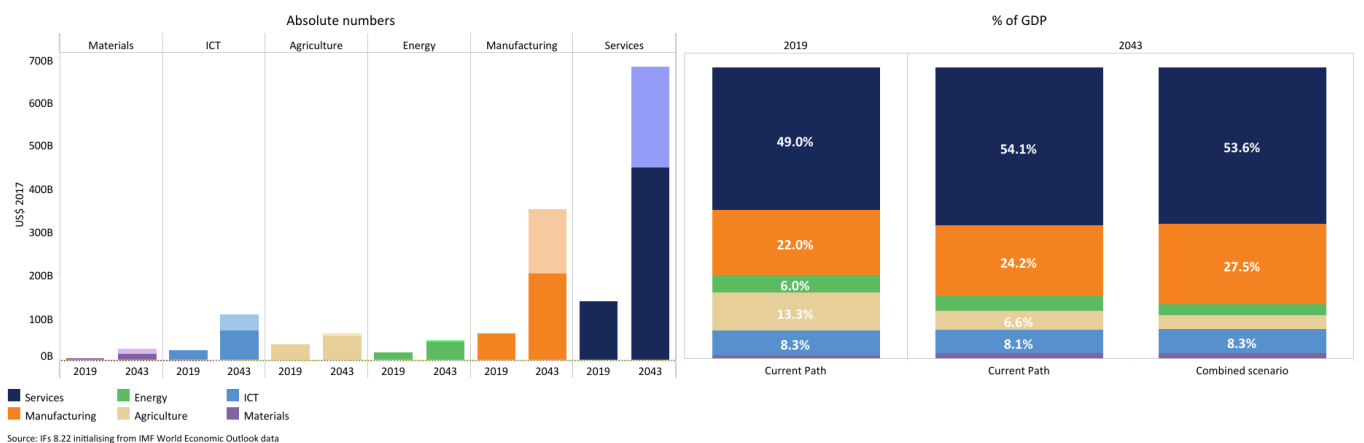


Chart 32 presents the value added by sector in the Current Path and in the Combined scenario from 2019 to 2043. The

data is in US\$ 2017 and as a percentage of GDP.

By 2043, the service sector will still be the largest contributor to GDP at 53.6% (valued at US\$678.1 billion), almost US\$231.3 billion more than the Current Path of US\$446.8 billion (representing 54.1%). The manufacturing sector will be the second-largest contributor to GDP in the scenario by 2043 with a share of 27.5% (equivalent to US\$348.0 billion)—higher than the Current Path of 24.2% (US\$200.0 billion). The manufacturing sector will contribute most, providing an additional US\$148 billion. Although the share of the agriculture sector will decline to 4.9% it will increase in size to US\$61.4 billion in the Combined scenario compared to 6.6% (valued at US\$54.2 billion) in the Current Path in 2043. In the Combined scenario, the share of ICT and materials will rise above the Current Path to constitute 8.3%, and 2.0% of GDP respectively while the share of energy of 3.7% of GDP will be below the Current Path. However, in absolute terms each sector will experience an increase in size.

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

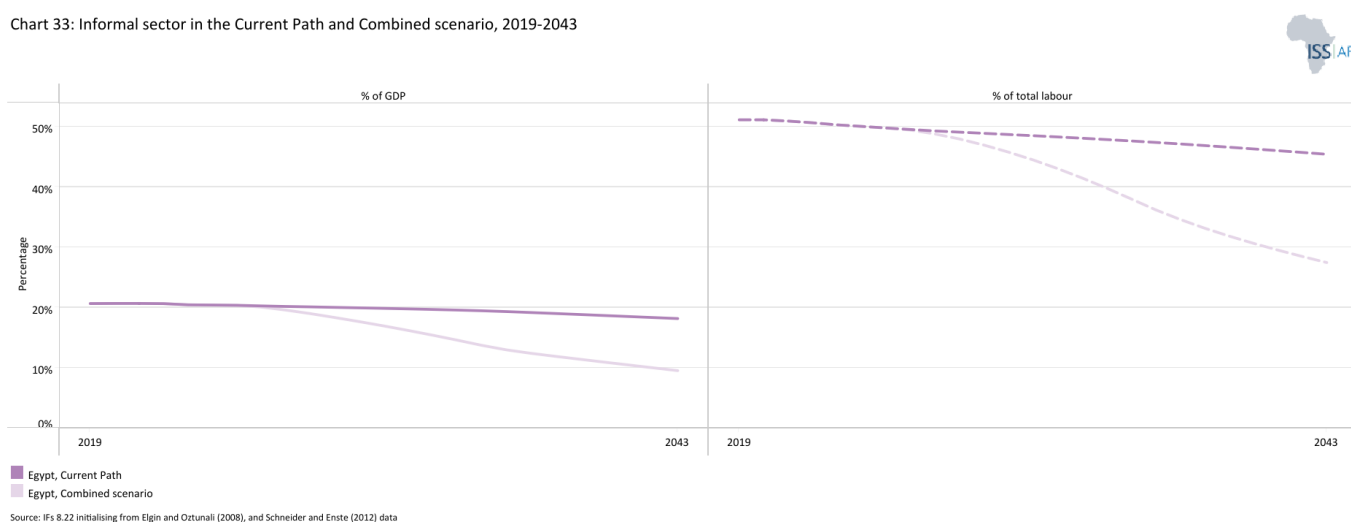


Chart 33 presents the size of the informal sector as a percentage of the total economy in the Current Path and in the Combined scenario, from 2019 to 2043.

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 Egypt will decline to 9.6% of GDP valued at US\$120.9 billion. At this rate, the contribution of the informal economy will be lower than the Current Path at 18.2% (valued at US\$150.4 billion) and significantly below the average for lower-middle-income countries in Africa at 26.3%. Likewise, the size of the informal labour force in Egypt will decline. By 2043, the size of the informal labour sector will be about 5.3 million below the Current Path of 16.1 million. This constitutes 27.5% of the total labour force instead of 45.5% in the Current Path, reflecting the steady formalisation of the Egyptian economy that will also improve state capacity through more tax revenue.

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

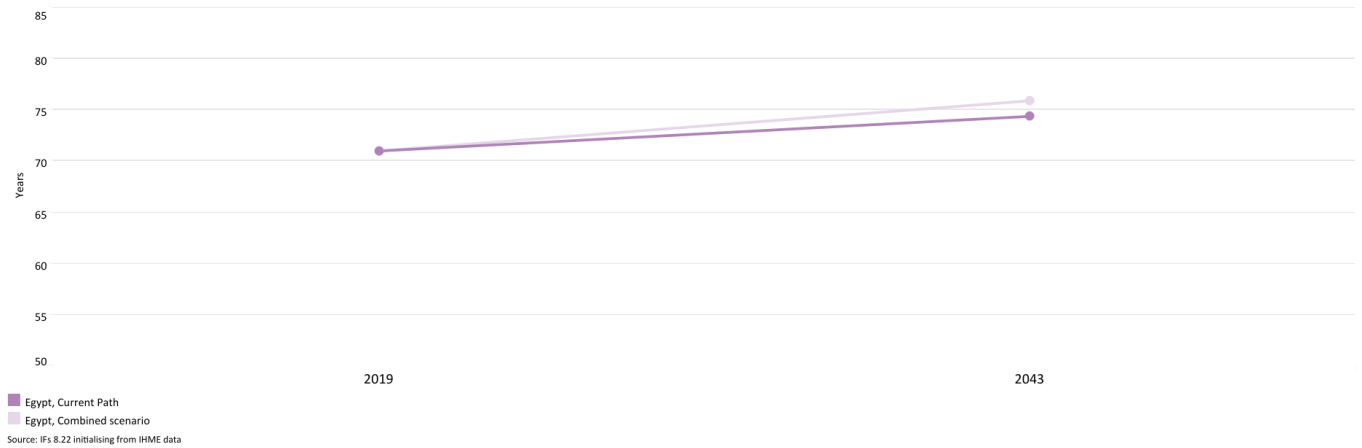


Chart 34 compares life expectancy in the Current Path with the Combined scenario from 2019 to 2043.

Life expectancy measures the average lifespan of individuals in a country. In 2023, the average life expectancy at birth in Egypt was 71.5 years, which was about 1.5 years higher than the average for the country's income-group peers in Africa. This stemmed from the country's ability to reduce chronic malnutrition and communicable diseases. However, non-communicable diseases such as cardio-vascular-related illnesses, stroke, cancer, diabetes, and respiratory infections remain a problem in the country. Women in Egypt generally live 1.7 years longer (72.4 years) than men (70.6 years). On the Current Path, life expectancy will increase to 74.4 years by 2043, which will be higher than the average of 72.8 years for lower-middle-income African countries. In the Combined scenario, life expectancy will increase to about 75.9 years by 2043, which will be 1.5 years more than the country's Current Path in the same year. In both the Combined scenario and the Current Path, women will live about 1.3 years longer than men by 2043.

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

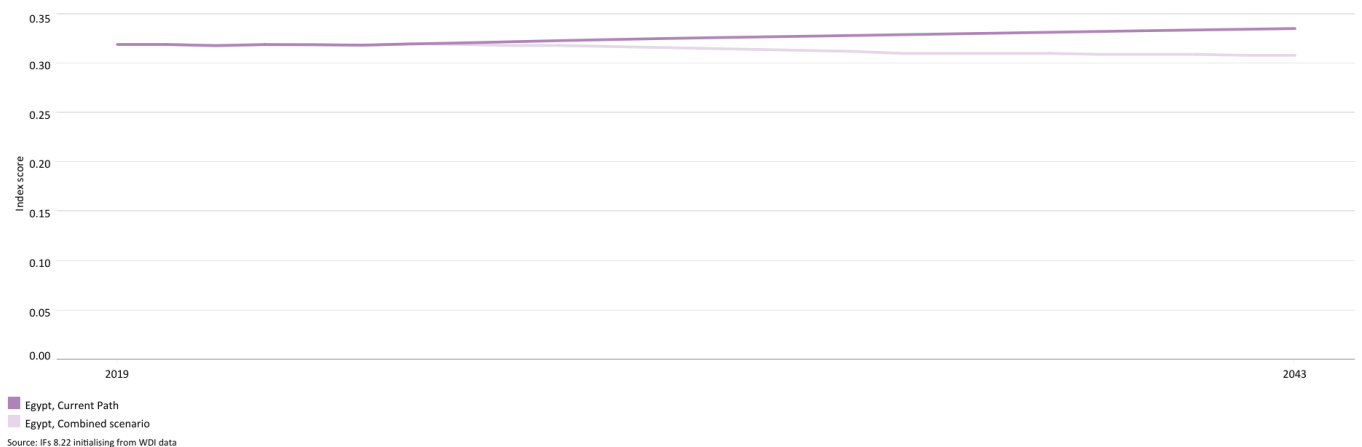


Chart 35 compares the Gini coefficient in the Current Path with the Combined scenario from 2019 to 2043.

In 2023, Egypt's Gini coefficient was 0.32 compared to the average of 0.39 of the lower-middle-income country in Africa. This makes Egypt the third least unequal country among the 24 lower-middle-income countries in Africa after Guinea and Algeria. However, studies have shown that the level of inequality in the country is probably underestimated and if left unaddressed could fuel social unrest and instability. This is particularly due to the size of Egypt's rising youth bulge and limited opportunities. To reduce income inequality, the Government of Egypt has undertaken policies related to subsidies

(in particular food subsidies), increasing the minimum wage and introducing progressive taxation. The Government has also pursued **efforts** to promote localised development in regions and inclusiveness in government opportunities.

On the Current Path, income inequality in Egypt will increase with a Gini coefficient of 0.34 by 2043. In the Combined scenario, inequality in Egypt will be slightly lower than the Current Path with a Gini coefficient of 0.31 by 2043. This means that economic growth in the Combined scenario will be broadly shared. The Manufacturing scenario has the greatest potential to reduce income inequality in Egypt followed by the Education and Agriculture scenarios.

Chart 36: Carbon emissions in the Current Path and Combined scenario, 2019-2043
Million tons of carbon (note, not CO₂ equivalent)

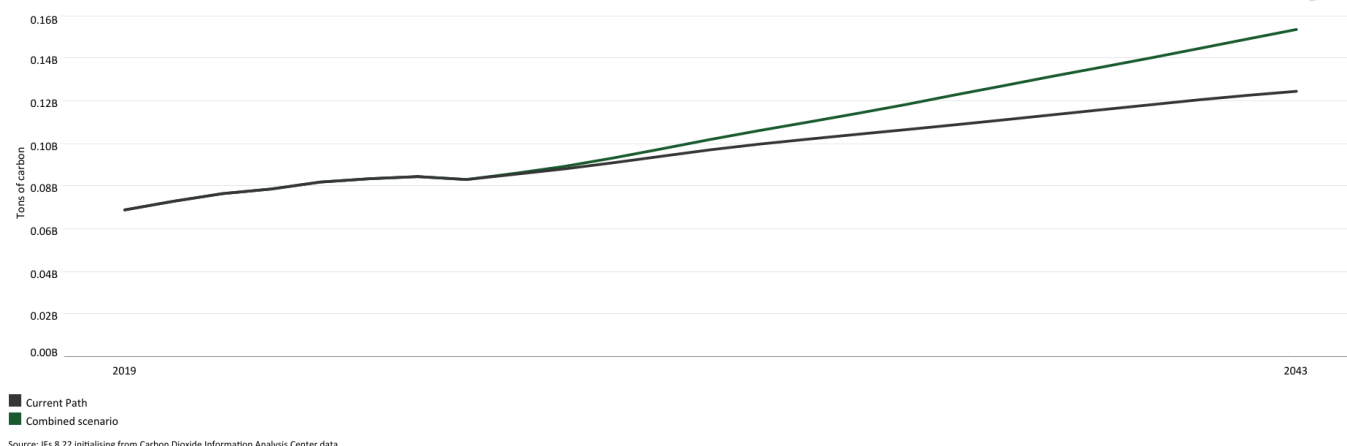


Chart 36 compares carbon emissions in the Current Path with the Combined scenario from 2019 to 2043. Note that the data is in million tons of carbon, not CO₂ equivalent.

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

Compared to most African countries, Egypt has relatively higher levels of emissions. In 2023, Egypt released about 82 million tons of carbon from fossil fuel use, from the 21 million tons it recorded in 1990. This makes it the 2nd-largest emitter of carbon in Africa after South Africa and largest emitter among the 24 lower-middle-income African countries. Its carbon emission alone constitutes 31% of the total emission from the lower-middle-income countries in Africa. This high level of carbon emission can partly be attributed to the high production of gas and oil in the country, coupled with a relatively higher level of industrial activity. Other sources of carbon emission in the country are transportation, industry, and real estate, as well as cement production.

The country faces serious climate change risks. Flooding due to rising sea levels is affecting the Nile River Delta where Egypt grows most of its crops. About **12% to 15%** of the country's fertile arable land in the Nile Delta will be negatively affected by sea level rise and salt water intrusion. Moreover, hotter temperatures and reduced rainfall will reduce agricultural productivity (including livestock rearing and fishing activities) by **15%–20%** by 2050. Egypt's National Strategy for Adaptation to Climate Change and Disaster Risk Reduction released in 2011 lays out a strategy that gives a framework of its adaptation policy to deal with the effects of climate change. The **'Green' constitution** predicated on the principle of sustainable environment and development as a human right also recognises and promotes responsible and rational use of the country's natural resources while ensuring food security for Egyptians.

On the Current Path, carbon emissions from fossil fuels will increase rapidly to 125 million tons by 2043. The Manufacturing and AfCFTA scenarios are the most carbon-intensive as they involve aggressive production of low-end

manufacturing goods that will imply more fossil fuel use. On the other hand, the Demographics and Health and Agriculture scenarios are the least carbon-intensive scenarios in Egypt. In the Combined scenario, Egypt's total carbon emissions will rise to 154 million tons—23.2% higher than what is estimated in the Current Path in the same year. The materialisation of the Combined scenario and achieving sustainable economic development will come at the cost of more carbon emissions in Egypt. Therefore, pursuing rapid economic growth in Egypt can lead to more environmental pollution in the long run. 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 the Current Path and Combined scenario, 2019-2043

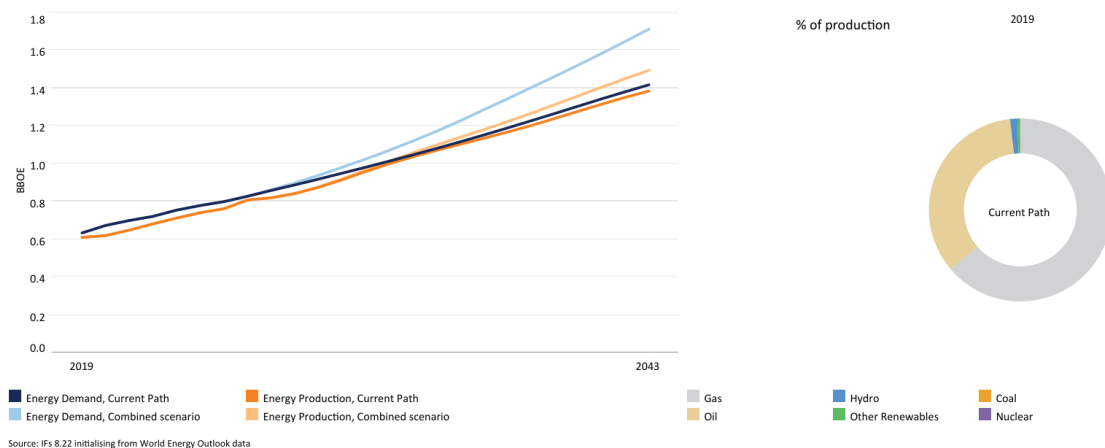


Chart 37 compares energy demand and production in the Current Path with the Combined scenario. Production is done in six types, namely oil, gas, coal, hydro, nuclear and other renewables. The data is converted into billion barrels of oil equivalent (BOE) to allow for comparisons. Note that energy production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

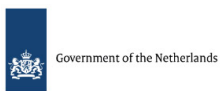
The total energy produced in Egypt in 2023 was equivalent to 711 million BOE. In the same period, total energy demand was 753 million BOE leading to an excess energy demand of 42 million BOE. On the Current Path, total energy demand will outgrow production so that by 2043, excess energy demand will be equivalent to 33 million BOE. Historically, oil has been the main source produced in Egypt followed by gas. In 1990, the total volume of oil produced constituted 85.8% of total production and valued at 312 BOE. This is followed by gas and hydro production which constituted 12.7% and 1.6% of total production respectively equivalent to 46 BOE and 6 BOE. However, by 2005, gas has overtaken oil to become the dominant energy produced in the country. In 2023, the total amount of gas produced in Egypt amounted to 487 million BOE, constituting about 68.5% of total energy production. This was complemented by oil production worth 209 million BOE representing 29.4% of total energy production. The country also produced negligible amounts of hydro, coal and other renewable energies to constitute the remaining 2% of total production.

On the Current Path, the production of oil will decline significantly which will be replaced by gas and other renewable energies. By 2043, gas production will amount to 1.1 billion BOE representing 79.7% of total production. The production of other renewable energies will account for 11.3% of total energy production in the country, representing 151 million BOE. This will be followed by the production of oil which will amount to 115 BOE equivalent to 8.4% with nuclear and hydro contributing negligible amounts to total production.

The Combined scenario shows an increase in energy demand, creating a larger energy deficit, with renewable energy becoming the dominant energy source, surpassing oil and gas. In the scenario, energy demand in Egypt will jump to 1.7 billion BOE, which will be 295 million BOE more than the Current Path. Although the total energy production of 1.5 billion BOE in the Combined scenario will be 109 million BOE more than the Current Path, it will fall short of the total demand. Indeed, by 2043, the excess demand for energy of 219 million BOE will be more than 6 times than the Current Path. The composition of energy production in the Combined scenario will not significantly differ from the Current Path.

Gas production will still constitute 79.4% of total production followed by other renewable energy (11.8%) and oil (8.2%) of total production.

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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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