



# Stagnation or Growth? Algeria's development pathway to 2040

## Special Report

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## Summary

- Poor governance—i.e. inefficient bureaucracy, corruption and cronyism—is one of the biggest challenges to Algeria's progress. [Jump to Governance and the deep state](#)
- Reform of Algeria's economic system is long overdue as the country missed the opportunity to diversify during its oil revenue boom. [Jump to Economy](#)
- The status quo and hyper-regulation of the business environment hamper Algeria's economic potential.
- The extensive subsidy system is unsustainable and has created an inflexible and cumbersome economy of dependence. [Jump to Achievements and the problem of subsidies](#)
- There is a mismatch between the skills of the Algerian labour force and the needs of the market. [Jump to Education](#)
- The country's large working-age population does not translate into rapid growth and it is not leveraging the potential of trade with its neighbours, instead remaining dependent upon trade with the European Union. [Jump to Trade](#)
- Algeria relies heavily on food imports, which are volatile and susceptible to international supply chain disruptions and price fluctuations. This is especially important in light of declining foreign exchange reserves. [Jump to Trade](#)
- The impact of climate change will strain water supplies and agricultural productivity. [Jump to Agriculture, climate change and access to water](#)

## Recommendations. [Jump to Conclusion](#)

The government of Algeria should:

- promote good governance, i.e. transparency and accountability, and greater inclusivity in a more democratic society.
- reform the economy to allow greater economic freedom, inclusivity, competition, economic diversification and a conducive investment climate—key among these reforms are lowering investment barriers and promoting merit and efficiency.
- create an environment favourable to the private sector and entrepreneurship to boost creativity, competition and job creation.
- take advantage of its technological potential to promote a digital economy.
- do more to reduce subsidies that benefit the wealthy while promoting better-targeted social safety net programmes that effectively help the poor.
- boost domestic agricultural production to promote food security and reduce dependence on food imports.
- leverage its potential for regional trade and economic integration.
- improve the quality of education to ensure a better skills match with the needs of the market and allow greater flexibility in the language of instruction.
- ensure better management of strained resources like water and implement a sustainable shift to renewable energy.

## Introduction

Algeria finds itself at a crossroads: the country needs comprehensive social, economic and governance reforms to rebuild its fractured social contract and end the ongoing stalemate between the *Hirak* movement and the regime.

The country also has to manage the impact of the COVID-19 pandemic and the plunge in oil prices, which has decimated government revenues and cut the state budget by roughly 50%.

For many, the political uncertainty and rising social tensions reflect the long-running and increasingly unsustainable economic, political and social system that has come to characterise Algeria. This system has marginalised large sections of the population.

Using the International Futures (IFs) forecasting system, we project that Algeria will achieve a modest average gross domestic product (GDP) growth rate of 1.8% between 2020 and 2040.

Given the country's closed and state-led economic system, dependence on hydrocarbons, the drop in oil prices, high unemployment rates and the generous yet ineffective subsidy system, this growth rate is insufficient to adequately improve the incomes and livelihoods of most Algerians.

The country is in desperate need of comprehensive structural reform towards an opportunity-based economy hinged on a legitimate government that acts in the interests of all its citizens.

Moreover, Algeria faces other pressures in terms of its limited natural resources like water and the impact of climate change, which will worsen the country's already poor agricultural yields and high dependence on imported foodstuffs.

The country's working-age population as a portion of its total population has stagnated and Algeria needs more capital (through savings and investments) if it wants to improve productivity and incomes. Also crucial are better technology and modern management practices.

In addition, Algeria has not completely weathered the storm of domestic and regional terrorist threats coming from Tunisia, Libya, Niger and Mali. Its security apparatus, particularly the army, which has thus far dealt effectively with these threats, remains on high alert.

The country missed its chance to diversify its economy in recent decades characterised by high revenues on the back of oil prices. The current socio-political uncertainty, worsened by the impact of the COVID-19 pandemic, might heighten if policymakers fail to act quickly and decisively. In fact, the World Bank has recently reclassified Algeria from an upper- to a lower middle-income country.

Comprehensive structural reforms are needed to advance good governance, as well as transform and modernise the economic system to tear down market barriers, accelerate economic growth and create greater social cohesion in the country.

## Purpose and Scope

This report uses the International Futures modelling platform to analyse Algeria's current state of development and most likely development pathway to 2040. The Current Path forecast is followed by the development of four scenario components into a positive Algerian Dream (*Rêve algérien*) scenario. In the Algerian Dream, the country sets itself on a prosperous and more equitable pathway under a legitimate and democratic government.

The project is conducted by the African Futures and Innovation (AFI) programme at the Institute for Security Studies (ISS) in Pretoria, South Africa, with the support of the Netherlands Institute of International Relations, Clingendael, and the Frederick S. Pardee Center for International Futures at the University of Denver.

Our research indicates that governance issues, and the consequent policy framework that has defined the economic order, lie at the root of most of Algeria's challenges. That is where we start with our analysis.

### Chart 1: Comparison groups

To create comparisons across countries and regions, the report uses the World Bank's classification of economies into low-income, lower middle-income, upper middle-income and high-income groups for 2020—2021.[1] The World Bank now classifies Algeria as one of 22 lower middle-income economies in Africa.

Where Algeria is compared to the averages for lower middle-income Africa or globally, it is excluded from the group, hence the use of the terms 'other lower middle-income countries' (OLMICs). Also, when comparing Algeria to averages for upper middle-income countries (UMICs) we have removed Libya and China because the former has unreliable data and the latter's population and economic size skew averages.

Algeria straddles various identities that complement income-based comparisons. It is at once part of Africa, North Africa, the Middle East and North Africa (MENA) region, and the Maghreb, and shares many characteristics with all of them. For this reason, we use the global upper middle-income groups for most comparative purposes but also use regions such as sub-Saharan Africa where appropriate.

For the purposes of this report, North Africa consists of Algeria, Egypt, Libya, Mauritania, Morocco and Tunisia. The Maghreb has a similar composition but excludes Egypt. MENA consists of Algeria, Bahrain, Djibouti, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Syria, Tunisia, the United Arab Emirates and Yemen.

All euro numbers are in 2019 values.

## Algeria's current development trajectory

### *Governance and the deep state*

In addition to the scars of the brutal civil conflict in Algeria (from December 1991 to February 2002), the country's political system has become increasingly lethargic and its economic framework is performing poorly. The economy has been bedevilled by overregulation, cronyism, corruption, lack of innovation and dependence on a rapidly declining hydrocarbon industry.

Like many other societies in North Africa, Algerians show increasing disenchantment with a political system that prevents many from participating in gainful economic activities.[1] This widespread dissatisfaction, coupled with an economic environment that offers few opportunities, has repeatedly triggered the formation of Islamist fundamentalist and extremist groupings in the country.

In response to the first wave of the Arab Spring, the government of Algeria (GoA) instituted a set of political reforms in 2011 in an attempt to undercut the rising tide of discontent. It ended a 19-year-old state of emergency, increased female representation in elective posts and expanded subsidies.[2] High oil prices allowed the government to increase spending on various social programmes in an effort to ensure stability.

However, later that year its eastern neighbour, Libya, descended into civil war in a region characterised by poor border control and rampant organised crime and smuggling.[3] It was only the size and efficiency of its large security establishment that allowed Algeria to contain the destabilising impact of the spread of weapons and the influx of terrorism.

Oil rents have allowed the regime to promote social stability and co-opt several opposition groups. State subsidies (which amounted to €62.8 billion in 2018)[4] cover a vast array of goods and services ranging from bread and milk to energy, water and social housing.

The drop in oil prices since 2014 has, however, constrained the ability of the state to implement social programmes and so dampen the impact of rising popular discontent. This disaffection is the product of years of economic stagnation, high unemployment, extreme labour market segmentation and chronic corruption.

Discontent peaked in February 2019, when then president Abdelaziz Bouteflika announced his intention to stand for a fifth presidential term in the April 2019 elections.[5] Long confined to a wheelchair, incapacitated and presiding over a government considered corrupt and elitist, his announcement triggered weekly protests by millions of Algerians in what became known as the *Hirak* movement.

With no signs of the protests abating, Bouteflika eventually announced that he would not seek re-election and then postponed the elections. This did not quell the protests and eventually the military forced his resignation.

For over a year Algerians protested twice a week and promised to keep doing so until the country achieved what they considered to be 'genuine reform'. This included a complete overhaul of the regime and free and fair elections. The establishment of a new electoral authority also failed to halt the protests.

The election that took place on 12 December 2019 was a dismal and widely boycotted affair. The candidates were all perceived to be part of the same political establishment that gave rise to protestors' discontent. Former prime minister Abdelmadjid Tebboune, a perceived loyalist of the ousted president, won the presidential vote with the lowest voter turnout in the country's history.[6]

With the arrival of COVID-19, street demonstrations have been banned but protestors have vowed to resume marching, with the possibility of escalation.[7] The *Hirak* movement is now faced with both a pandemic and police repression as it struggles to maintain its momentum.[8]

The sustained anti-government protests have extended beyond demands for change in leadership and bridge religious, ethnic and tribal divisions in an unprecedented display of unity of purpose.

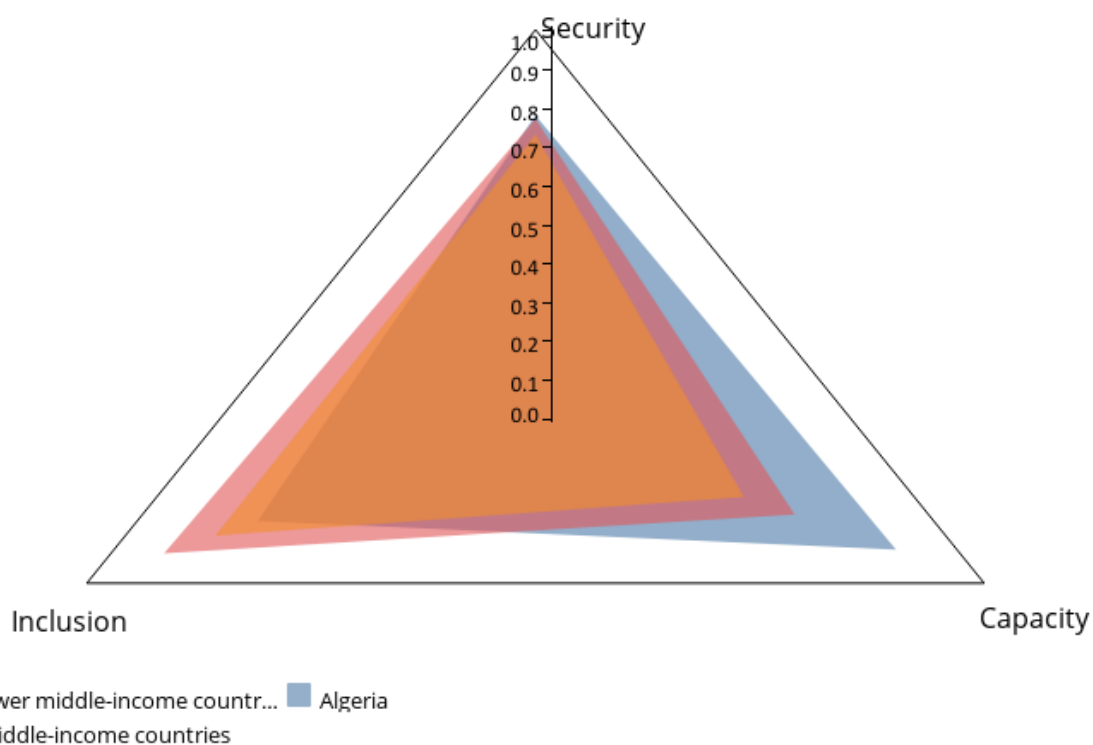
The demands are wide-ranging, including a broad-based renewal of the social contract, the dissolution of the ruling elite and their control of the economy, and the end of the dominant role of the military in political and economic matters. Other demands include more democracy, rule of law, individual freedom and equal opportunity. Exactly how this is to be achieved is less clear.[9]

To date, the protests have generally been non-violent, but the impact of COVID-19 will inevitably increase the sense of desperation among Algerians, many of whom are deeply distrustful of the government. The potential for violence is high.[10]

Regardless of the domestic situation, it is clear that governance in Algeria is out of step with its peers globally.

Within IFs, governance consists of three dimensions, namely security, capacity and inclusion. Each is constructed out of a series of subsidiary data and indices. Chart 2 compares Algeria, OLMICs and UMICs in 2020. Whereas Algeria does well compared to UMICs in the security and capacity dimension, it trails in terms of inclusion, which consists of broad elements of democracy, gender empowerment and youth participation.

**Chart 2: Algeria vs Other lower middle-income countries and Upper middle-income countries on IFs governance triangle in 2020**



Source: IFs version 7.53

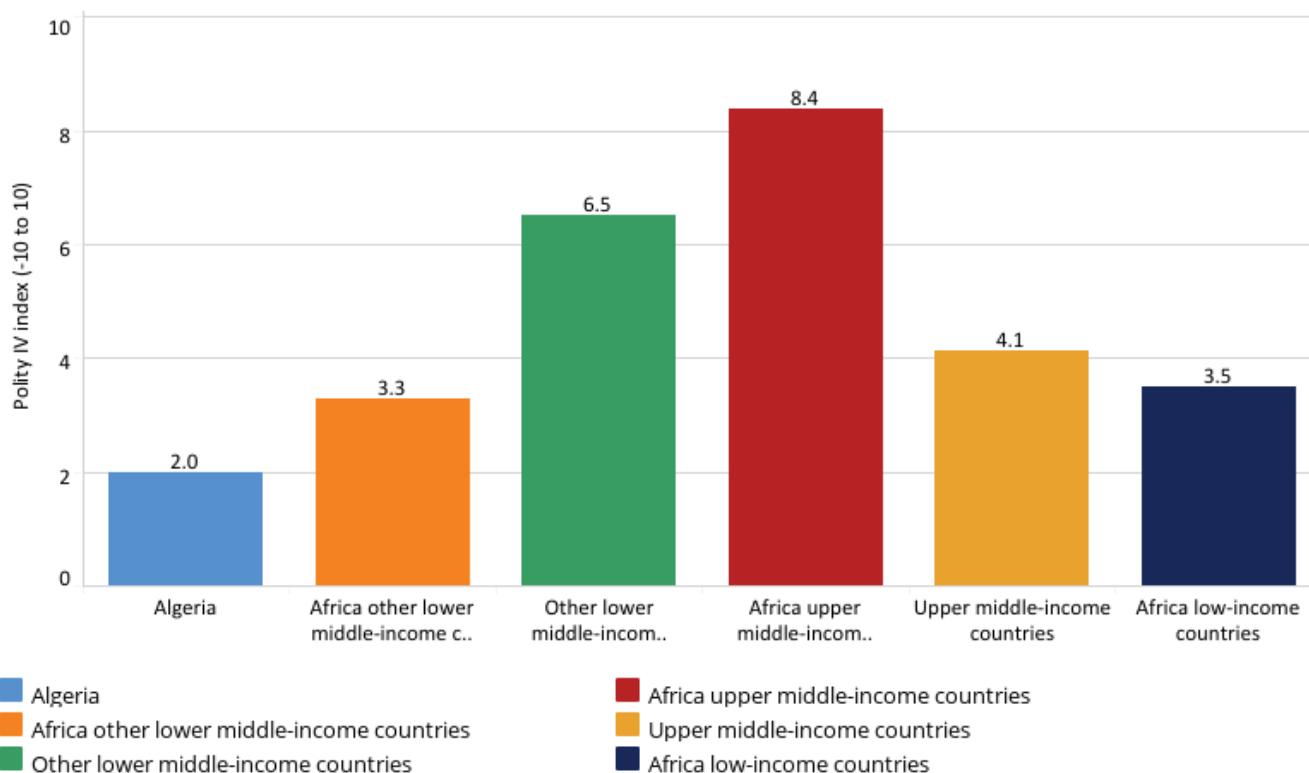
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The Polity IV composite index from the Center for Systemic Peace (CSP) categorises states according to their regime characteristics. It provides a spectrum of governing authority types from full autocracies, to mixed systems or anocracies, to fully institutionalised democracies. The index [11] currently ranks Algeria as an anocracy (or hybrid regime) [12] with a score of 2.7, about 3.6 points (or 57%) below the average index for OLMICs on a scale that ranges from -10 to +10.



Algeria therefore has a substantial democratic deficit compared to its peers, and recent socio-political events underscore the extent to which most ordinary Algerians are aware of this gap.

Chart 3: Algeria vs Africa country groups on Polity IV index for 2017



Source: IFs version 7.53, data from the Center for Systemic Peace

Note: The group Africa other lower middle-income countries, Africa upper middle-income countries excludes Libya

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Navigation icons: back, forward, search, and share.

Whereas the average Polity scores for OLMICs all fall within the stable range of multiparty democracies (i.e. with scores of more than +5), [13] Algeria is considered to have an anocratic, mixed or hybrid regime type (countries that score from -5 to +5). Anocratic regimes are inherently unstable since they have elements of a democracy (such as regular elections) that raise expectations of citizens' power and participation but co-exist with elements of autocracy (such as limited legislative powers), as evident in Algeria.

The third and final index is from the Varieties of Democracy (V-Dem) project, which distinguishes between substantive (or liberal) [14] vs electoral (or nominal) [15] democracy. According to V-Dem historical data, [16] Algeria's electoral democracy score has improved but the gap between electoral and liberal democracy has grown.

This reflects the extent to which Algeria goes through the motions of regular elections, yet the elections lack legitimacy and many of the independent institutions typically associated with democracy are absent or exist in name only. The levels of liberal democracy have largely remained unchanged.

The promise of democracy is therefore unfulfilled, and it is inevitable that frustration among citizens is mounting. The result is a divided government faced with a range of challenging issues, including political legitimacy, economic hardship, social discontent and terrorist threats from both domestic and neighbouring networks. [17]

### Achievements and the problem of subsidies

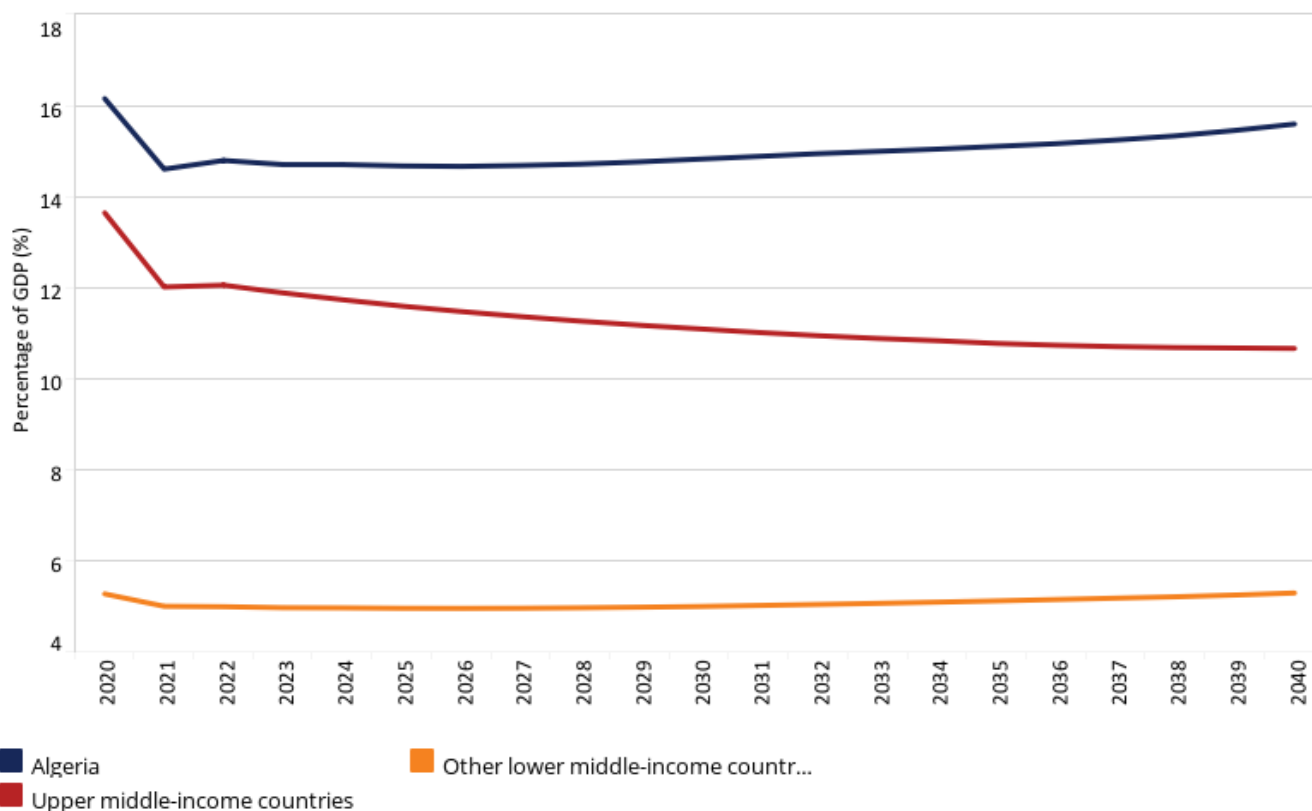
Algeria has a vast system of subsidies through which the GoA has managed not only to provide impressive levels of access to services such as water, sanitation and electricity but also to ensure social stability. [18]

Budgeted transfers are found in food products, the housing sector and the financial sector through loans at low interest rates. Apart from these explicit transfers, the prices of essentials such as water, fuel and electricity are set well below international market rates and those of neighbouring countries like Tunisia.

However, the associated price distortions have led to large-scale waste and environmental damage and made the cost of transition towards renewable energy sources and diversifying Algeria’s economy both high and painful.

These price distortions also encourage the smuggling of goods, particularly fuel, increase social inequality (since they largely benefit the middle class) and create economic inefficiencies.[19]

Chart 4: Government-to-household welfare transfers (% GDP)



Source: IFs version 7.53

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For example, water scarcity has long been a challenge in Algeria and threatens to be further complicated by rapid urbanisation and climate change. Despite climate change and the complexity of water availability and supply, Algeria’s access rate to safe water is at just over 98%, achieved through massive subsidies that discourage conservation efforts.[20]

Algeria has one of the lowest water prices in the region, in spite of the scarcity of water and its reliance on expensive reverse-osmosis desalination plants. Since 2003 the GoA has built 11 such plants and started the construction of three new ones with a capacity of 300 000 m<sup>3</sup>/d each.[21]

Recent revisions to the water price do not even cover the maintenance costs of existing desalination plants, let alone allow investment in more efficient water management technologies such as the treatment of wastewater.

The country's water shortage is compounded by the depletion of groundwater reserves, ageing infrastructure, supply and distribution challenges and water quality issues. The available water resources are below the acceptable standards of water potability because the country has not developed a standard policy on desalination technology.[22]

Desalination has also come with negative environmental impacts from the heavy energy consumption required, which contributes to greenhouse gas emissions.[23]

Algeria's 2015–2019 national development plan earmarked €18.3 billion for water infrastructure projects. But with the persistent drop in oil revenues since 2014, the budget is constrained. Given the GoA's history of using subsidies to quell potential social unrest, they are likely to continue—unsustainably so.[24]

The recent plunge in oil prices has left the GoA hard pressed to find additional sources of revenue. The country's large shale reserve is the current focus of government attention. However, shale gas extraction requires a lot of water and protests have already started, leaving the development of shale gas resources uncertain for the foreseeable future.[25]

The continued provision of improved sanitation (Algeria's average access rate stands at nearly 89%) is fundamentally linked to the effective management of water supply.

Algeria has achieved 100% access to electricity but this too is heavily subsidised.

Domestic demand for electricity has been growing at 20% annually since 2010. The GoA has brought additional generation capacity online to keep up with the pace of domestic demand, most of which is provided by natural gas. It plans to introduce renewable energy into the local power market to save more natural gas for export.

To that end, Sonatrach, in partnership with Eni (a private energy entity), opened a 10 MW solar power plant in the Bir Rebaa North oil production facility in November 2018. This initiative sees an off-grid PV system supplying electricity to the treatment facilities, so reducing the amount of power purchased from the national grid.

Additionally, in May 2020 the government announced 4 000 MW solar projects set to cost about €3 billion to provide solar energy for both domestic demand and export.[26]

The Renewable Energy and Energy Efficiency Programme adopted in 2011 aims to meet up to 40% of domestic power demand through renewable energy sources by 2030, mostly from solar, with 3% coming from wind. It has since set a new target for approximately 18.5 GW from renewable sources (13.6 GW of solar PV and 5 GW of onshore wind) by 2030.[27] In 2017, solar voltaic power capacity rose by 83% to 400 MW and generation increased by 50% to 87 GWh.[28]

Despite the plans for an energy shift, Algeria has been slow in implementing its renewable energy programme because of the reliance on fossil fuels and subsidies for energy products (and arguably an oil and gas lobby resisting change).[29]

Regulatory and administrative challenges impede the ability of international investors to expand and increase uptake in

this sector.[30] 'Rather than using the oil and petrol wealth to diversify the economy, more than a fifth of Algeria's budget is used for subsidies.'[31]

There have been efforts to reform subsidies. By 2018 the GoA had raised diesel and gasoline prices by 48% and 54% respectively since the last price adjustment in 2016. Reforms stalled with the reversal of the consolidated fiscal policy in the last half of 2017.[32] It was expected that subsidies would again be lowered at the beginning of 2019, but instead the draft budget increased subsidy spending by 7% to account for 21% of the total budget.[33]

The GoA raised fuel prices further in June 2020 following the sharp drop in oil prices associated with the impact of COVID-19 on global growth. However, in order to avoid further social unrest, the government has opted to leave food subsidies unchanged.[34]

Recently, while discussing the new economic and social revival plan at a cabinet meeting, Tebboune tried to place more emphasis on the private sector and reducing reliance on oil and gas. However, he announced that the government would keep the country's subsidy policy unchanged.[35]

The main beneficiaries of most subsidies are civil servants, public corporations and middle-/upper-class households. Generally, subsidies do not benefit poor households but instead perpetuate inequality.

From a regional perspective, heavily subsidising goods creates incentives for cross-border smuggling, terrorism and other illegal activities, as is the case with northern Mali and Tunisia.[36]

Thanks to heavy social spending and its large security establishment, Algeria was able to quell protests during the first wave of the Arab Spring. However, this is unsustainable given its dwindling oil and gas reserves and low prices following the COVID-19 crisis. In April 2020, Algeria's Saharan blend was trading at US\$20 per barrel, US\$30 below the budgeted austerity measure for 2020.[37]

The state budget is slated for a further 50% cut. These factors make for a potentially disastrous situation in a situation where the social peace is already fragile.[38]

With rising aspirations, citizens are demanding better governance and structural economic reforms. The government does not have the means to effect these and its own initiatives. Its intention to hold a referendum on constitutional amendments to boost freedoms and give Parliament more powers appears to have gained limited traction.[39]

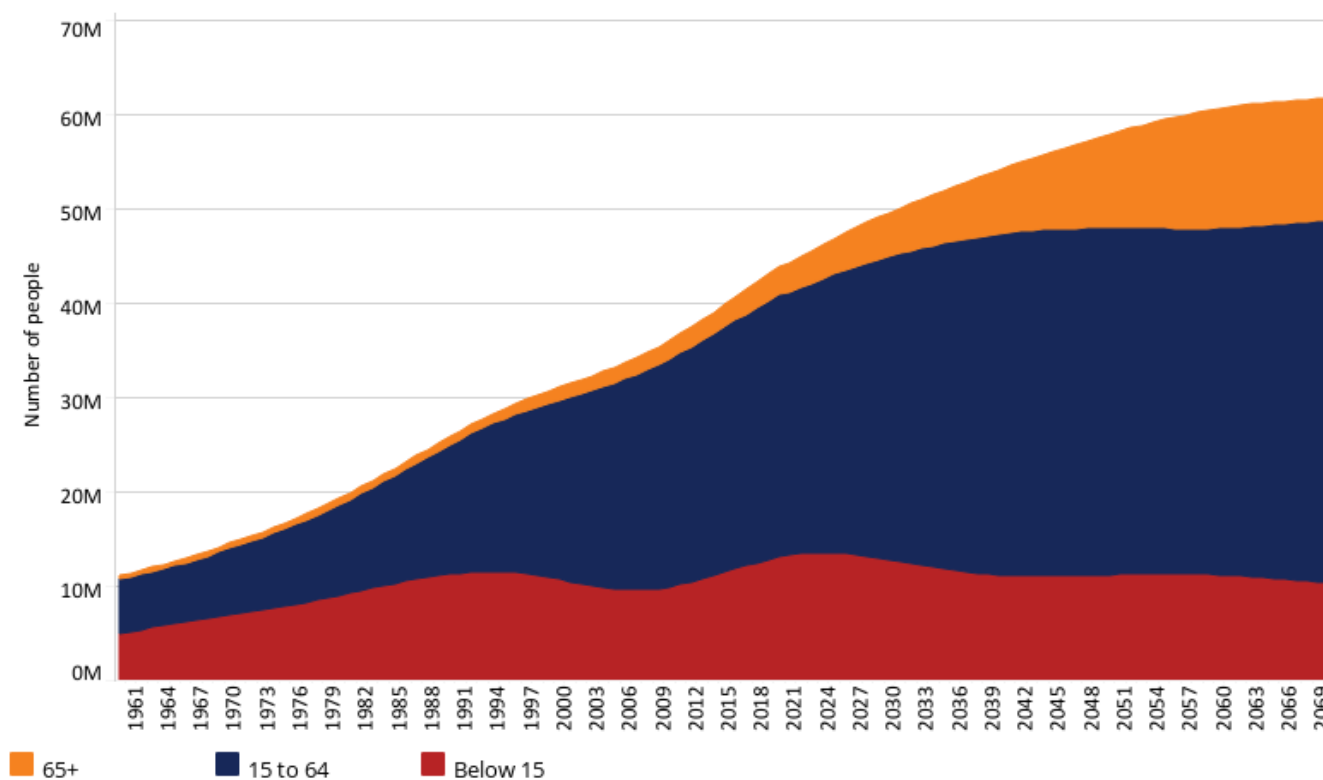
At the heart of political and economic reforms must be improvements in overall effectiveness. These consist of providing better quality public services and more civil liberties, eliminating corruption, addressing social inequalities by removing the subsidies benefiting big businesses and state-owned enterprises (SOEs), and opening up the economy to encourage fair and equal participation.[40] This will require Algeria to envision a new social pact and trust between the regime and its citizens.

## Demographics

Algeria's population in 2020 was estimated at 43.5 million, of which approximately 90% live along the Mediterranean coast, particularly in the sprawling Algiers metropole.[41]

The rate of population growth in Algeria is significantly below the average for countries in the Middle East and North Africa and even further below the average for sub-Saharan Africa. In the Current Path forecast, Algeria will have nearly 54 million people by 2040, which is about a 24% increase over the next 20 years.

Chart 5: Population history and forecast, 1960–2070



Source: IFs version 7.53, historical data from United Nations Population Division

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Algeria’s population growth rate has been falling since the 1960s owing to declining fertility rates. This is as a result of improvements in levels of female education, use of modern contraceptives and the overall impact of urbanisation.

Algeria’s total fertility rate (TFR) dropped to about 2.6 live births in 2005 but increased slightly to 2.8 in 2010 and is estimated at 2.7 births in 2020. Such an increase in births often accompanies periods of social and political instability.[42] The result is a distinct double hump in the population below 15 years of age in Chart 5 (1990–2030) that dissipates over time while older population cohorts grow.

Algeria’s TFR is among the ten lowest on the continent. It is projected to reach the replacement level of 2.1 births by 2035 and then drop below two children per woman after 2040. It will join over 80 developed countries in this stage of demographic transition, where fertility rates fall below replacement levels.

This trajectory will likely present the country with a number of challenges, including increased health spending for its older population and the associated burden of more expensive non-communicable diseases (NCDs), a shrinking economy and possibly declining average incomes per capita. Such an outcome is inevitable if it is not able to invest in and improve the productive structures of its economy through better use of technology.

One contributing factor to Algeria's modest improvements in income per capita is its relatively low ratio of working-age people to dependants, which peaked in 2009, albeit at a relatively low rate of 2.1. This ratio is currently declining and IFs forecasts that the ratio will bottom out at 1.7 working-age people for every dependant in 2022. It will thereafter increase and peak again at two working-age persons for every dependant shortly before 2040, in line with the shifts in fertility rates discussed previously.

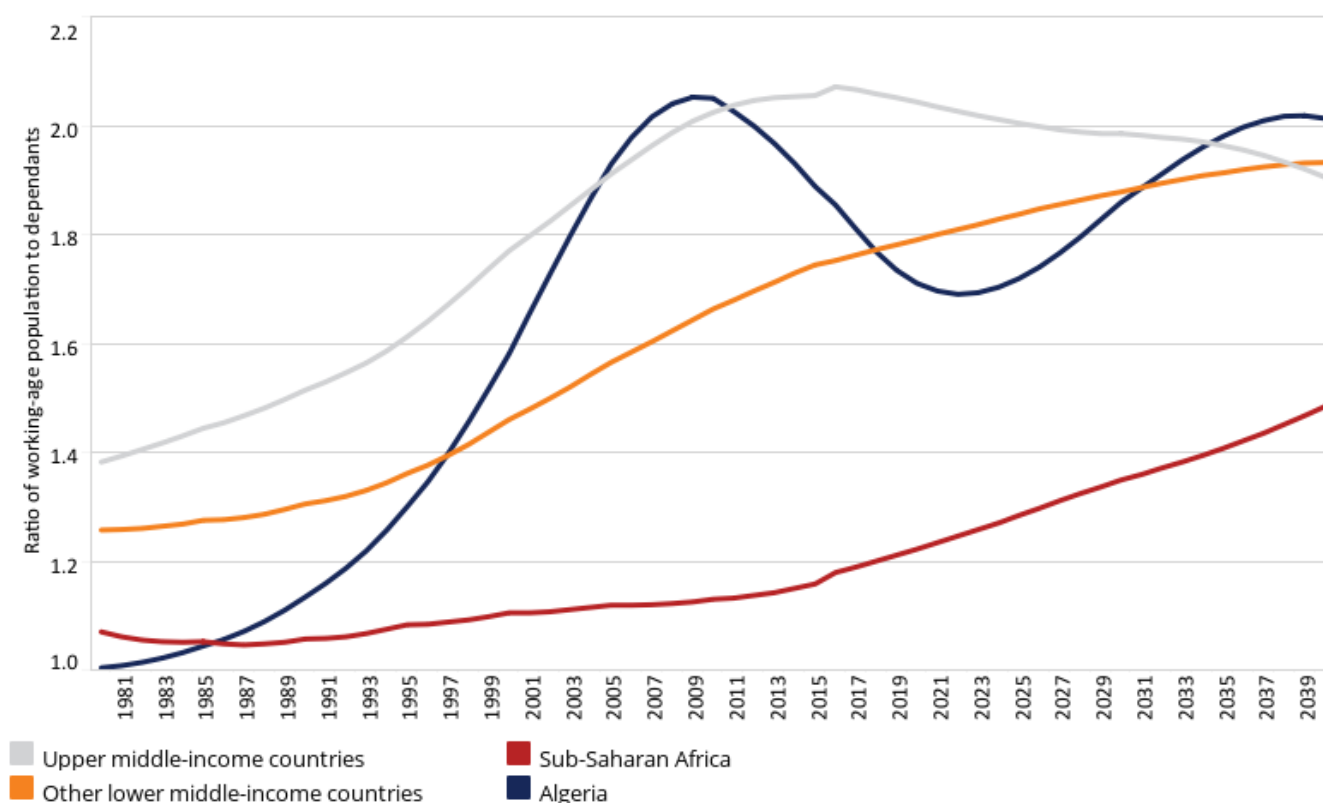
Generally, countries experience more rapid economic growth if the ratio of working-age persons to dependants is 1.7 and above.[43] Most European and North American countries have not experienced the high ratios of China and the Asian Tigers (peaking at 2.8) but have kept the ratio of working-age people to dependants above 1.7 over an extended period of time—a ratio that Algeria is projected to maintain until 2051.

Although Algeria has a favourable working-age population, unemployment remains high and female labour participation is well below that of its peers, by about 20.5 percentage points at an estimated 18.5%. This gap is currently projected to persist well beyond 2040. It is imperative that the government finds a mechanism to include this large and relatively youthful working-age proportion of the population in the economy.

In the second half of the century, the country will be faced with a declining working-age population. Algeria will need to invest in technologies that allow for improvements in productivity as its labour force shrinks as a portion of the total population. It will also need to attract significantly higher levels of investment to offset the decline in the contribution that labour makes to growth.

Chart 6 compares the ratio of working-age people to dependants in Algeria with the averages in OLMICs, UMICs and sub-Saharan Africa.

Chart 6: Demographic dividend for Algeria, OLMICs, sub-Saharan Africa and UMICs, 1980–2040



Source: IFS version 7.53, historical data from United Nations Population Division

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About 74% of Algeria's population (32 million) lives in the urban areas of the coastal plain. This share is projected to increase to roughly 82% (44 million) by 2040.

Generally, North Africa is the most urbanised region in Africa and has relatively fewer informal settlements in its towns than sub-Saharan Africa. This dynamic is typically attributed to better urban development strategies, but it is also influenced by the inhospitable desert climate in its southern regions.[44]

High rates of urbanisation and investments in basic infrastructure have translated into high rates of access to public services.

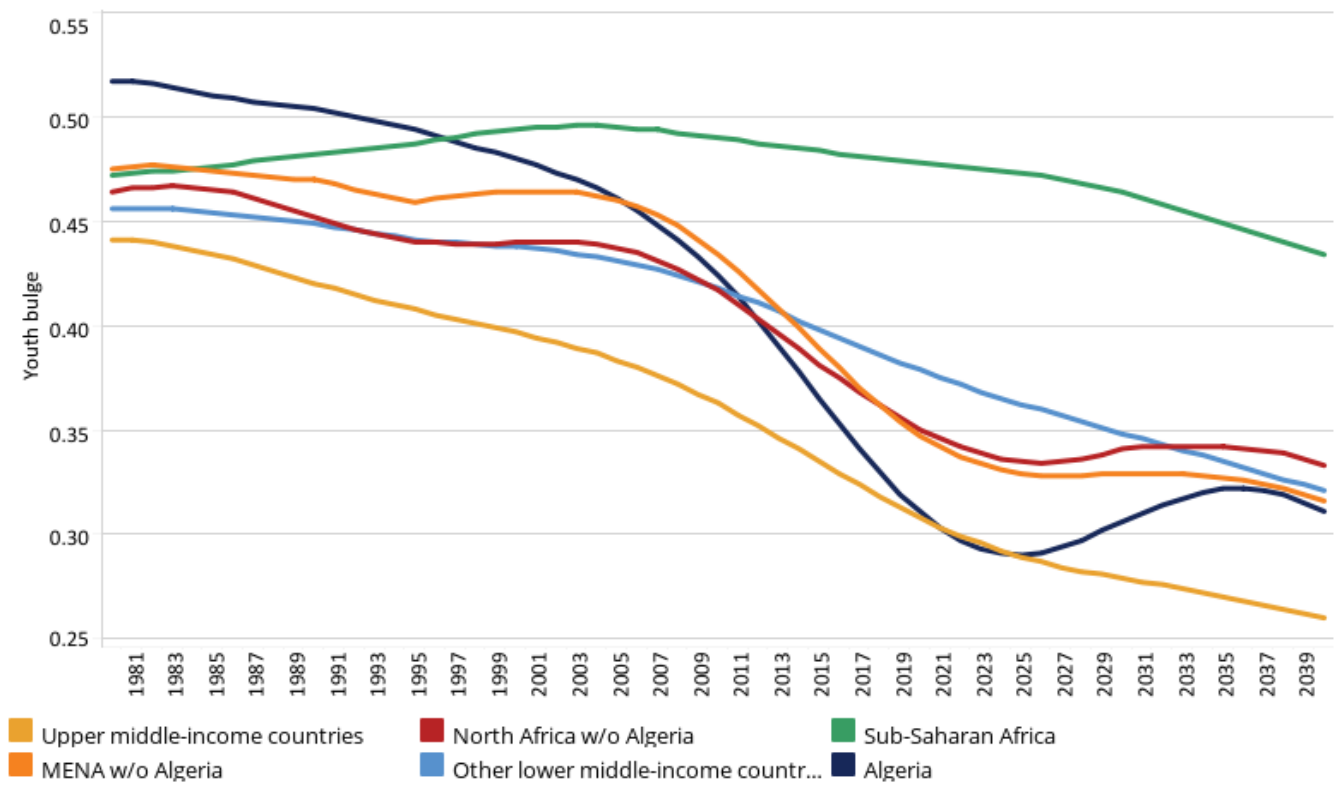
Finally, the ratio of the population aged between 15 and 29 relative to the total adult population is considered a factor in social instability, particularly a large youthful male population.[45] Generally, the larger this youth bulge, the more prone a country is to protests and riots in the absence of socio-economic opportunities.

Algeria's youth bulge peaked in the 1980s (52%) and may have contributed to the bread riots in 1988 and their aftermath (see Chart 7). It remained above the average of OLMICs until around 2011, after which it started to decline rapidly. At the time of the Arab Spring in 2011, the share of the population between 15 and 29 years had dropped to 41% of Algeria's population.

Today Algeria's youth bulge stands at just over 30%, which is significantly different from that of sub-Saharan Africa (48%), which has a much larger youth bulge. This phenomenon should moderate the demographic tendency for instability in

Algeria.

Chart 7: Youth bulge: Algeria compared to other lower middle-income countries and Sub-Saharan Africa



Source: IFs version 7.53, historical data from United Nations Population Division

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Increasing unemployment, poor quality of education, lack of economic opportunities and decades of strife and instability have resulted in disenchantment and, sometimes, the radicalisation of youth. In fact, several hundred young male Algerians left the country to fight the jihad (holy war) against the Soviet Union in Afghanistan in 1989 as part of a proxy war against the GoA's most important foreign ally. The subsequent return of these battle-hardened veterans reinvigorated terrorism in Algeria. [46]

In response, the Algerian government implemented a successful campaign of amnesty and reconciliation, as well as tighter security and comprehensive deradicalisation programmes to prevent violent extremism from taking root. Radical movements now appear to have lost their appeal among the youth and as a result fewer Algerians have joined the Islamic State (ISIS) in the recent past.[47]

More young people are now using drugs to cope with their socio-economic frustrations.[48] Additionally, to escape their grim prospects, both legal and illegal, migration is a widespread phenomenon.

There is no reliable data on the number of *Harraga* (Algerian neologism for irregular immigration to Europe) fleeing the country every year, but Algeria is also losing a share of its human capital through legal migration. It is estimated that over 14 000 Algerian medical doctors currently work in France, for example. This brain drain reinforces the vicious cycle of poverty.[49]



## Poverty and Equality

The World Bank now uses US\$3.20 and US\$5.50 (2011 US\$, purchasing power parity) per person per day to measure extreme poverty in lower middle- and upper middle-income countries, respectively.

Algeria has achieved significant income-poverty reduction in the last two decades. In terms of human development, it is among the 20 countries on the continent to have achieved the most substantial decrease in their Human Development Index deficit between 1990 and 2015.

The country now has inclusive, albeit low-quality, social services (universal education and healthcare, and subsidised food, housing and public transportation). These policies have lessened inequality, although sub-national and regional differences remain significant.[50]

Although Algeria's subsidies and transfers have reduced poverty, they have also created other social and regional inequalities owing to inefficient and poor targeting of subsidy items.[51] These disparities manifest in significant inequalities in consumption rates with a gap of nearly 28% between the rich and the poor.[52]

The benefits are also not divided fairly between regions. For example, there is twice as much poverty in provinces in the Sahara, and three times the national average among people living in the Steppe ecological region.[53] The coastal regions and the north are the hub of economic activity and experience significantly lower rates of poverty than the arid south.[54]

IFs estimates that about 2% of Algeria's population currently lives on less than US\$3.20 per day. This represents fewer than 1 million people. According to the UN Development Programme, roughly 5.5% of Algerians are surviving on an income below the national poverty line.[55]

The Multidimensional Poverty Index (MPI) shows that only 2.1% of Algerians were estimated to be multidimensionally poor in 2019, i.e. they were deprived of at least one-third of the weighted MPI indicators. Deprivation in education contributes the most to the index (46.8), followed by health (29.9) and standard of living (23.2). Unemployment coupled with declining oil prices will, however, make tackling poverty and inequality a serious challenge in the future.

## Education

After independence from France in 1962, Algeria embarked on a concerted effort at Arabisation and Islamisation that sought to displace the dominant role of French and French culture in the country.[56] Compulsory basic education was introduced in the 1970s, and the country's enrolment levels have improved significantly since then.

The government invested heavily in expanding access to education. In 1990, for example, the education sector received almost 30% of the national budget. [57] As a result, the country's literacy rate currently stands at about 78%, compared to under 50% in the 1980s.

Algeria is also considered to have achieved universal primary education with a 97% net enrolment rate in 2015. [58] Today Arabic is the language of instruction from primary to secondary school. At tertiary level, hard sciences are taught in French.

The average years of education in the adult population is a good first indicator of the stock of knowledge in society. Improvements in the average years of education slowed down in Algeria from 1995 at the height of the civil war and only began an upward trajectory again after 2005.

The average years of education for adults aged 15 and over is currently 7.6 years and will improve to 9.2 years by 2040. This is almost a year above the average for OLMICs and 1.6 years below the average for UMICs.

Education can be conceptualised as a pipeline. The more learners a country can enrol in primary school, the more learners will complete that level and so become eligible for secondary and tertiary education. Bottlenecks or leakages at any stage in the system hamper efforts to grow the overall stock of education, with negative implications for improvements in human capital.

Although Algeria has achieved universal primary education and generally records good educational outcomes, there are significant leakages in its secondary system, particularly in upper secondary. Here completion rates are 11 percentage points below the average for OLMICs (see Chart 8). The continuous but flawed reforms in the education sector are behind some of these leaks.[58]

Chart 8: Education stock and flow rates (2018–19 data)



Geography	Primary			Lower secondary			Upper secondary		Tertiary	
	Enrol (gross)	Survival	Completion	Enrol (gross)	Completion	Transition	Enrol (gross)	Completion	Enrol (gross)	Graduation
Algeria	109.9%	96.3%	110.5%	120.2%	91.4%	89.8%	72.2%	34.9%	51.4%	29.2%
Tunisia	115.4%	94.2%	100.6%	107.7%	73.8%	98.6%	79.7%	33.9%	32.2%	22.5%
Lower middle-income countries	75.3%	82.0%	79.1%	58.7%	66.3%	83.5%	43.2%	36.9%	25.2%	25.3%
Upper middle-income countries	106.0%	96.5%	98.2%	98.2%	87.1%	98.6%	82.6%	50.6%	42.3%	23.9%

Source: IFs version 7.53, historical data from UNESCO Institute for Statistics and Barro & Lee data

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### Chart 9: Definitions in Education

Analysis in this section is done according to the UNESCO Institute for Statistics classification of primary, lower and upper secondary education schooling. UNESCO does not currently include/gather data on pre-primary education.[59]

Gross enrolment rate: The number of learners enrolled at a given level of education, regardless of age, expressed as a percentage of the official school-age population corresponding to the same level of education. Rates can therefore be above 100%.

Completion rate: The number of people in the relevant age group who have completed the last grade of the given level of education, as a percentage of the population at the theoretical graduation age for the given level of education.

Like many African countries, greater access to education in terms of number of learners enrolled has come at the cost of quality and relevance. Educational reforms stalled under Bouteflika, and education modernisation appears to have halted as rote learning predominates.[60]

The quality of education in Algeria lags behind that in UMICs, including in Africa, but is above the averages for OLMICs. The challenges include shortages in educational resources such as teachers, issues with the language of instruction and poor infrastructure.

Reforms to improve quality of education were introduced in 2003, and included new teaching methods, restructuring of the curriculum and an ongoing switch in the language of instruction from French to Arabic. Despite these reforms, the UN special rapporteur reported in 2015 that the quality of education in Algeria was low, citing inadequate teacher training and overcrowding in classrooms as key factors.[61]

In 2008, private higher institutions were authorised to operate. [62] There has been a significant shift towards and greater support for these institutions since 2018 in an effort to alleviate some of the pressure on the free government-sponsored public education system.

The language of instruction at various educational levels also plays a big role in the 'quality' of graduates. In September 2019, Algeria's higher education minister introduced a proposal to switch from French to English in teaching and research. This reform aims to increase the visibility of research in higher education institutions and to open it up to the international environment in the belief that English is the language of the 'knowledge economy'.[63]

There is also a disconnect between the current demands of the job market, future prospects for the Fourth Industrial Revolution (4IR) and the education system.[64]

Algeria has not fully achieved gender parity, with female gross enrolment below that of males. However, it does better than most sub-Saharan countries. The situation is significantly worse in rural areas and the obstacles often cited include socio-cultural limitations on girls' potential, remote schools and domestic chores.[65]

Trends do show that beyond age 16, which is the age up to which education is compulsory, girls stay in school longer than boys and do better in getting high school diplomas and proceeding on to higher education. As a result, at higher levels of education Algeria has seen an inversion of the gender imbalance in favour of women.[66] The ratio of females to males is

more than 1.5 to 1 at the tertiary level.

To prepare for the 4IR, countries need to invest in science, technology, engineering and mathematics (STEM), and commit to life-long learning and education that encourages entrepreneurship. An encouraging trend in Algeria is that the number of learners enrolling in vocational training has risen in the recent past.[67]

In addition, the per cent of learners studying STEM fields in tertiary school is higher in Algeria (9.1%) than what would be expected for its level of development (2.6%).[68] In 2018, for example, women accounted for 41% of STEM graduates.[69] This mismatch between the skills of the labour force and the needs of the market is one of the reasons for high unemployment rates in the country.[70]

## Health

Free healthcare was introduced in Algeria in 1974. In 1984, the government introduced reforms that shifted the health system from a curative to a preventive one more suited to its then youthful population with high levels of communicable diseases. The results were impressive. For example, compared to 1970, when the infant mortality rate was 106 per 1 000 live births, by 1990 it had fallen to just 41. In 2020, Algeria's infant mortality rate is estimated at roughly 22 and by 2040 it is forecast to drop to 17 deaths per 1 000 live births.

Under current policies, Algeria will not achieve the aspirational objective of the Sustainable Development Goals (SDGs) to end preventable deaths of newborns and children under five by 2030.

Although the country has continued to invest in its health sector, it faces considerable pressure as its ageing population needs inherently more expensive care for NCDs. This is complicated by a shortage of healthcare professionals and social inequalities in the country.[71]

Currently, life expectancy at birth in Algeria is estimated at 77.6 years. By 2040 it is projected to reach 80—significantly higher than that for OLMICs, UMICs and Africa.

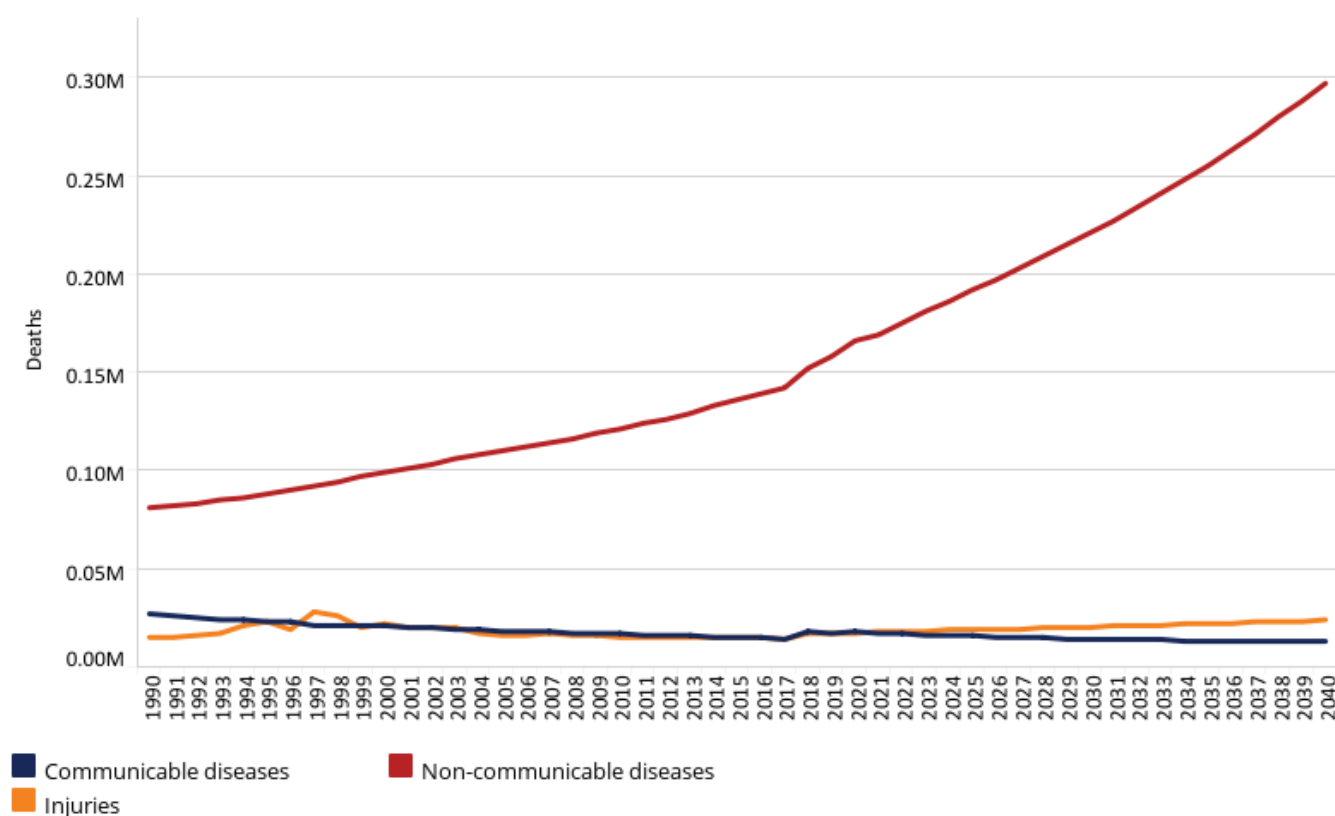
Algeria's maternal mortality ratio is currently estimated at 129.7 per 100 000 live births and the country is on track to achieve the SDG target of fewer than 70 deaths per 100 000 live births in around 2033.

Deaths from communicable diseases are low when compared to sub-Saharan Africa. 'Other communicable diseases'[72] are more common among infants while respiratory infections are more prevalent in the older cohorts.

Given the heavy burden of NCDs and the associated comorbidities of COVID-19, Algeria's population is at a relatively high risk of developing severe complications related to COVID-19.[73] The pandemic is stretching the country's health system and resources at a very vulnerable time.

Injuries as a result of road traffic accidents, although declining, are also more common with males, especially 15–39 years. In 2019, an estimated 3 275 people were killed in road accidents.[74]

Chart 10: Share of disease burden by the three main International Classification of Diseases (ICD) categories



Source: IFs version 7.53, historical data from Institute for Health Metrics and Evaluation

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Chart 10 shows that NCDs will increase in the foreseeable future in Algeria and the country will need to invest in the associated health system, facilities and diagnostics.

## Agriculture, climate change and access to water

Owing to the vast expanse of the Sahara Desert, Algeria has only about 8.4 million ha of arable land—less than 4% of the total land area. Just over 50% of arable land is dedicated to the cultivation of crops, mostly cereals and pulses.

In 2016, the sector was estimated to employ nearly 20% of the rural population. Approximately 70% of farming activities are small-scale and families depend on farming for food security, but productivity is low.[75]

The sector contributes a modest 11–12% of GDP, having declined in importance after independence as successive governments favoured industrialisation.[76] Lack of investment, years of government restructuring, limited water resources and dependence on rainwater, and state-controlled land ownership policies have constrained improvements in agricultural production.[77]

Although agriculture’s contribution to GDP is projected to decline steadily out to 2040, the sector’s absolute contribution (estimated at €40.9 billion in 2020) is forecast to increase to €50.2 billion by 2040.

Through various National Agricultural Development Plans (PNDAs) since 2000, agricultural yields have improved although the sector is generally less productive than that of its income peers. Algeria's average yield of 3 metric tons per hectare is closer to the average for low-income African countries (2.6 tons per hectare) than the rest of lower middle-income Africa (5.2 tons per hectare).

Algeria's heavy reliance on commodity exports (aka the Dutch disease) makes agriculture and manufacturing less competitive.[78]

Moreover, global warming is causing serious drought concerns in the region. The year 2020 has been marked by below-average rainfall, with pockets of drought constraining yields.[79]

Although Algeria's yields are projected to improve to 3.6 metric tons by 2040, they will still be significantly below the average for OLMICs and UMICs. Currently the gap is 3.7 and 4.7 metric tons respectively, which will stay more or less the same until 2040.

Since there is limited scope to increase land under cultivation, intensification is the most viable pathway to improve efficiency in agriculture. This involves increasing land under irrigation, using better seeds and fertilisers, and introducing modern farming practices, including urban, indoor and vertical farming.

Additionally, reductions in loss and waste from production to consumption could help to meet food demand.

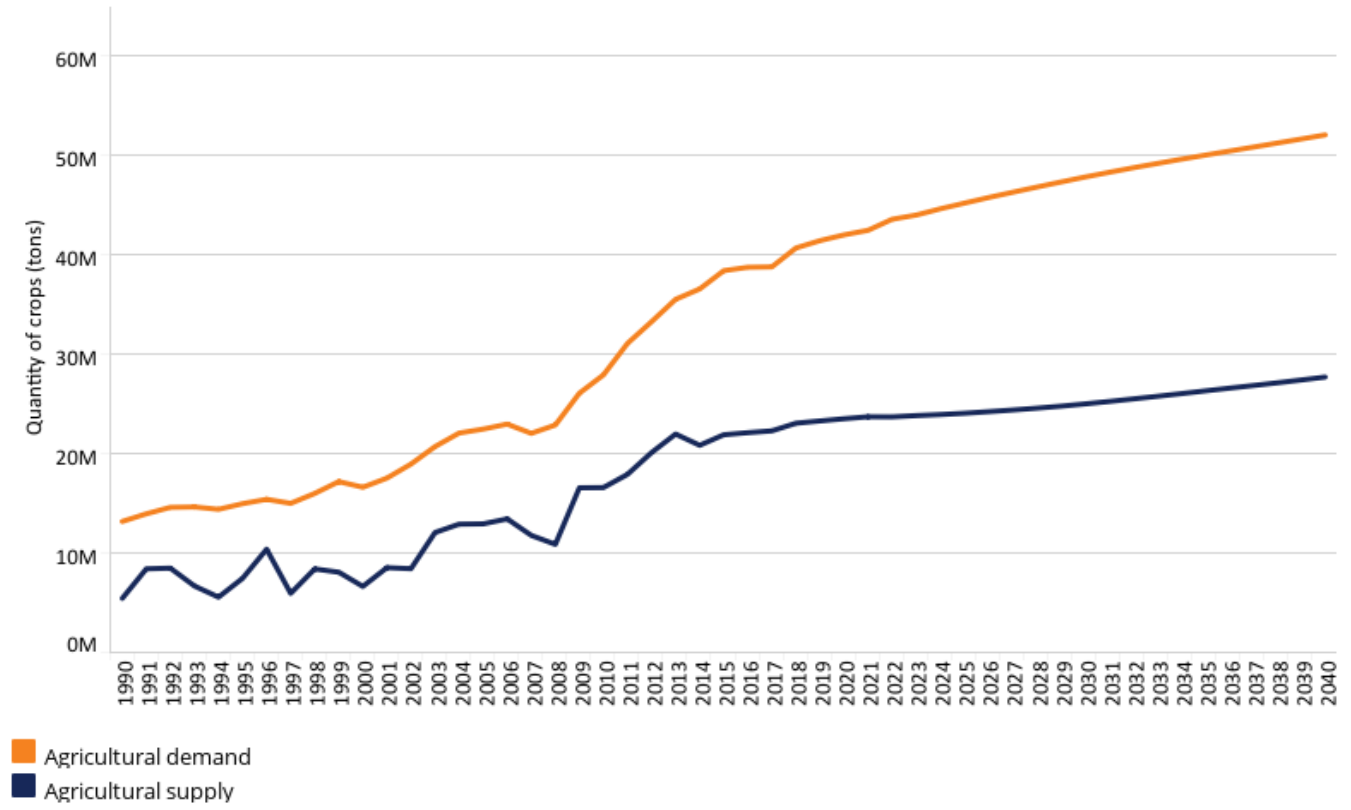
Because of poor yields, agricultural demand has outstripped supply since the 1970s, making Algeria heavily dependent on food imports. According to the Algerian Customs' National Centre of Data Processing and Statistics (CNIS), in 2017 the country imported foodstuffs worth about €6.7 billion, reflecting a 3% increase from 2016.[80]

This heavy import dependence exposes the country to disruptions in international supply chains, price shocks and other related risks. This is particularly becoming evident with the COVID-19 crisis amid the depletion of the country's foreign reserves.

Algeria thus faces an interlinked double risk of commodity vulnerability: one from food imports and a second from hydrocarbons. A slump in oil prices from over US\$100 a barrel in 2014 to roughly US\$20 in 2020 has left it struggling to fund its approximately €46 billion annual import bill, of which food comprises about 20%.

Chart 11 shows the excess demand for crops that is likely met through imports.

Chart 11: Agricultural supply and demand



Source: IFs version 7.53, historical data from Food and Agriculture Organization

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Water is under great stress. It is central to agriculture - the sector that also uses the most water (5.4 km<sup>3</sup> of total water demand of 8.3 km<sup>3</sup>). This is despite the fact that Algeria straddles large non-renewable fossil water reserves that were vigorously exploited in neighbouring Libya before the civil war.

Currently, Algeria withdraws about 1.7 km<sup>3</sup> fossil water, while about 11% of its water supply is from expensive desalination plants. It is therefore ironic that it is one of the most wasted resources in the country owing to the subsidy policies. Subsidised electricity (which also stalls the transition to cleaner energy)[81] is used to produce desalinated water, to which a second round of subsidies is then applied.

In turn, any food wastage squanders all the previous energy and water inputs that went into its production, cultivation, processing and packaging. It is very likely that the current water subsidy policy is unsustainable[81] and the Current Path forecast is that water prices will increase through 2040.

Apart from a difficult agricultural ecosystem, North Africa is highly vulnerable to the impact of climate change, which is expected to significantly undermine water supplies and food security, in turn threatening regional stability and creating security concerns.[82]

Chart 12: Impact of climate change

In July 2018 the people of Ourgla, Algeria experienced the hottest temperature ever reliably recorded in Africa, at 51.3 °C.[83] Analysis of climate data from 1931–1990 shows that northern Algeria has already recorded a temperature rise of 0.5 °C and could see an increase of 1 °C by 2020,[84] while rainfall will reduce by 5–13%.<sup>[6]</sup> A 2 °C rise is expected by 2050.[85]

Rising temperatures associated with climate change will reduce the area of land available for agriculture, shorten the length of growing seasons, reduce yields, and affect freshwater availability and population growth. The expected drop in annual precipitation will aggravate these effects. Studies show that sea-level rise, droughts and floods are also direct threats. They will potentially affect livelihoods and have devastating socio-economic impacts.

Sea-level rise will likely have a negative impact on livelihoods along the coast, where the main economic and social activities are concentrated. Nearly 69% of Algeria's population lives within 100 km of the coast. Apart from disruption in incomes from activities such as tourism, rising sea levels and the impact of storms will cause considerable population displacement.[86]

Climate change will have cross-cutting effects beyond agriculture and should be taken into account in development planning in Algeria.

Climate change's possible impacts in North Africa are not fully understood, but what is clear is that many factors interact and amplify other drivers and impacts. Nonetheless, the relationship between climate change, stresses on natural resources and increased risk of internal conflict is well established.[87]

## Economy

Algeria's economy is heavily dependent on the hydrocarbon industry, although the service sector dominates in its contribution to GDP. Oil and gas account for nearly 30% of GDP, 65% of budget revenues, more than 85% of exports and an estimated 95% of Algeria's foreign currency receipts.[88]

Because of this hydrocarbon dependence, Algeria recorded multiple bouts of negative growth rates from 1986 to 1994 linked to dropping oil prices and periods of domestic instability. Since 2014, low oil prices, political instability, unemployment and widening fiscal and external deficits have undermined the economy.

In 2017, the government designed a fiscal consolidation policy to reduce public spending in light of its budget deficit. Its reversal in the second half of the year has since led to an even higher-than-expected current account deficit at 8.2% of GDP, particularly because of subsidies and transfers, wages<sup>[89]</sup> and depletion of foreign exchange and savings.

Continued spending at the current level, along with low oil prices, is expected to deplete official foreign exchange reserves by 2024 and lead to rapidly increasing public debt.<sup>[90]</sup> This timeline could accelerate given the impact of the COVID-19 pandemic on the Algerian economy.

The country's economic challenges are worsened by its closed and state-controlled economy (in spite efforts to grow the private sector and economic liberalisation in the early 1990s). It is characterised by a lack of competition, high barriers to



entry in the most productive and labour-intensive sectors, a weak legal and judicial system, and cronyism. Other issues are social exclusion, high public employment and universal [91] consumer subsidies that draw resources away from effective and diversified sustained growth.[92]

Algeria recorded an average annual GDP growth of 2.8% between 1980 and 2010. IFs projects that it will achieve an annual average growth of about 1.9% between 2020 and 2040, roughly 2.7 percentage points below that of OLMICs.

This growth rate is optimistic given the shadow cast by the COVID-19 pandemic on future prospects.

On 14 April 2020, the IMF released its most recent growth forecast of Algeria at -5.2% in 2020. The World Bank estimates growth of -6.4% in the same year and 1.9% in 2021 on the assumption that the pandemic would fade in the second half of 2020.[93]

Algeria's oil and gas sector performs poorly. It scores 33 out of 100 points and ranks 73rd out of 89 countries in the 2017 Resource and Governance Index, which measures the quality of governance in the oil, gas and mining sectors.[94] Moreover, the increasing energy independence of countries like the US, global efforts to fight climate change and the transition to renewable forms of energy have created more uncertainty.

Apart from low prices and uncertainty around the hydrocarbon industry, Algeria is also struggling with reduced production from ageing oil fields and a hostile investment climate, which impedes new exploration and production activities.[95]

According to S&P Global Platts data, oil production has been falling over the last few years. It averaged about 1.03 million b/d [96] between January and November 2019, the lowest daily average since 2002. In January 2020, a new hydrocarbon law designed to reverse declining foreign investment through tax cuts of up to 20% and improved contract terms came into force.[97]

Most recently, Algeria's focus in the energy space has been on natural gas. With the discovery of recoverable reserves of shale gas, it appears the country has shifted its long-term strategy to shale gas development. Although this might sustain it in the short to medium term, it is not consistent with the country's efforts to diversify and insulate itself from shocks associated with natural resources dependence.[98]

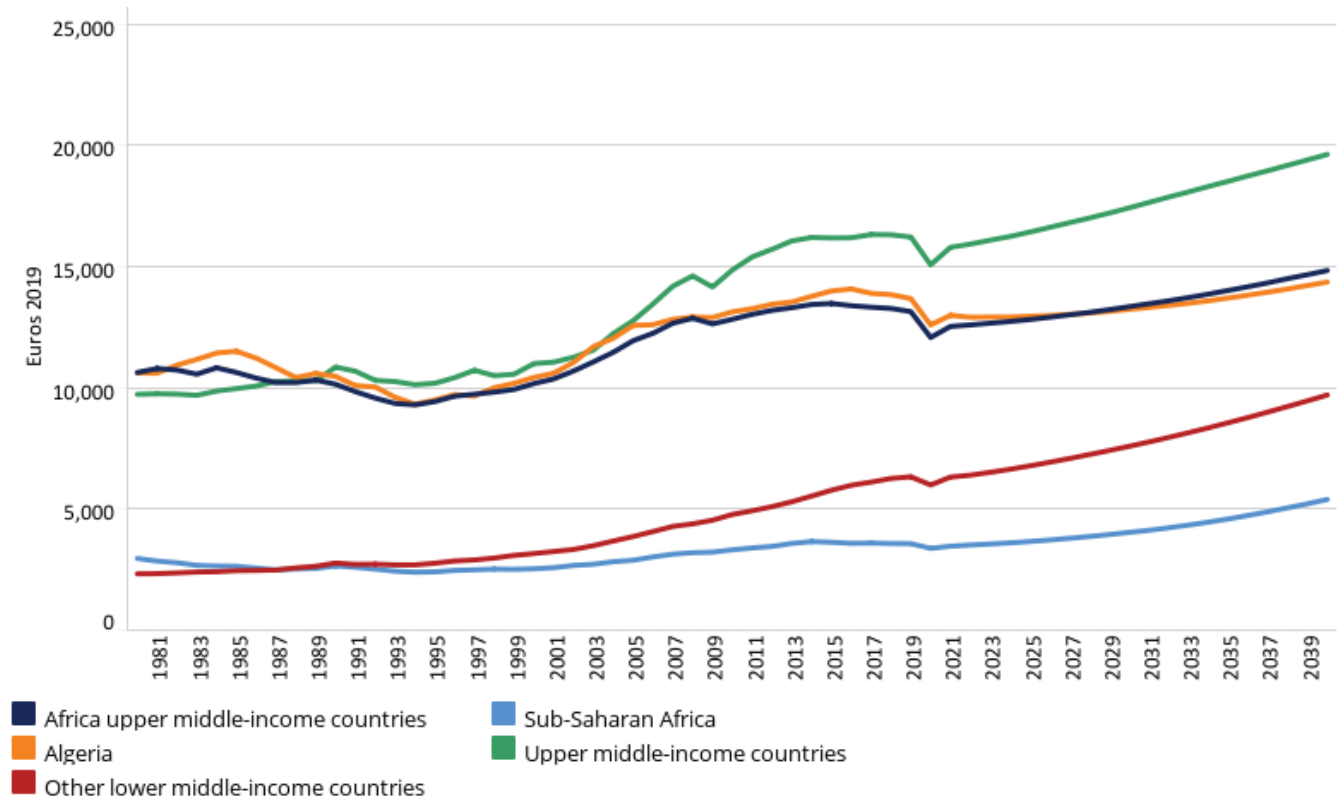
The high dependence on hydrocarbons, stifling bureaucracy and the closed nature of the country's economy mean that Algeria's economy is not diversified enough, although there have been recent improvements.

The economy is less sophisticated than expected for its level of income and as a result it is projected to grow slowly.[99] Because of restricted markets, foreign direct investment (FDI) has also been deterred sectors such as tourism and hospitality that could increase employment.[x]

Restructuring the economy, for example through infant industry protection of non-hydrocarbon sectors, could generate wealth and unlock greater employment opportunities, especially for young people. The Atlas of Economic Complexity Index indicates that the country has potential for diversification in industrial machinery and plastics.[100]

Per capita income in Algeria has more or less stagnated since 1980. Although per capita income is expected to improve from €12 608 in 2020 to €14 112 by 2040, the average income in the country will continue to fall further behind that of UMICs, and remain on a convergence path to the OLMICs average. This alarming trend indicates that the gap between average income for Algeria and its international peers will grow.

Chart 13: Per capita income, 1980–2040



Source: IFs version 7.53, historical data from World Bank's World Development Indicators

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Current and projected economic growth rates are therefore insufficient and translate into slow income growth in Algeria.

In 2018, the unemployment rate was estimated at over 12%<sup>[101]</sup> and largely affected the youth (29%), women (19.4%) and university graduates (18.5%). The pandemic will also likely increase unemployment. Historically, high rates of unemployment reflect the mismatch between market demand and labour supply.<sup>[102]</sup>

Algeria also has a large informal and parallel economy. Informal activity is here defined as any activity that is not declared to the social security system, a legal obligation in the country.

According to 2017 data, about 6.2 million Algerians were not registered with the social security system and only about 4.2 million benefitted from it. About 57% of Algerians are thus engaged in the informal economy,<sup>[103]</sup> which is estimated to contribute about 40% to GDP.<sup>[104]</sup>

The informal economy also acts as a safety valve to reduce unemployment and provide some degree of sustenance. S Mohamed estimates that between 2000 and 2017 the informal economy helped to cut unemployment from 30% to 12%.<sup>[105]</sup>

In the long run, a large informal sector is, however, detrimental to the overall functioning of the economy, given its limited contribution to taxes and low levels of productivity compared to the formal sector.

In addition to ongoing efforts to grow its manufacturing base and expand the role of the private sector, it is important for

Algeria to find ways to gradually integrate the informal economy into the formal sector with the least friction possible. This can be done through policies and legislation that reduce barriers to entry and embrace localised and flexible procedures. Critical to this integration is the decriminalisation of parts of the informal economy by distinguishing between illicit and informal activities.[106]

## Trade

Hydrocarbons (petroleum gas, crude petroleum and refined petroleum) dominate Algeria's exports. According to the most recent data in 2017, they accounted for 94% (€37.4 billion) of total exports, while semi-finished products accounted for 4.5% of the rest of exports.

Algeria's trade balance was historically positive but started showing a deficit in late 2012. The trade deficit jumped from €15.7 billion in 2015 to €17.4 billion in 2016.[107] In 2017 it stood at about €9.5 billion.[108]

Imports are largely controlled by politically connected corporate barons who get tax holidays, energy subsidies and credit from state-owned banks to expand their businesses.[109] Because they are entrenched and incentivised to import, they effectively prevent the industrialisation of Algeria.[110]

In 2018, the GoA imposed temporary restrictions on imports to protect foreign currency reserves and incentivise local production and diversification.[111] In light of the COVID-19 pandemic, the government introduced additional restrictions on imports in 2020 and committed to reduce imports by \$6 billion. The aim is to cap imports at \$30 billion in 2020.[112]

As a result of a 2005 free trade agreement, most of Algeria's trade is with the European Union (EU). This is in spite of the fact that its trade complementarity with the Maghreb region is virtually identical with that of Europe and, in some instances, better. For example, instead of trading with Mauritania and Morocco, where Algeria's trade complementarity index was higher in 2016, it mostly traded with Italy.

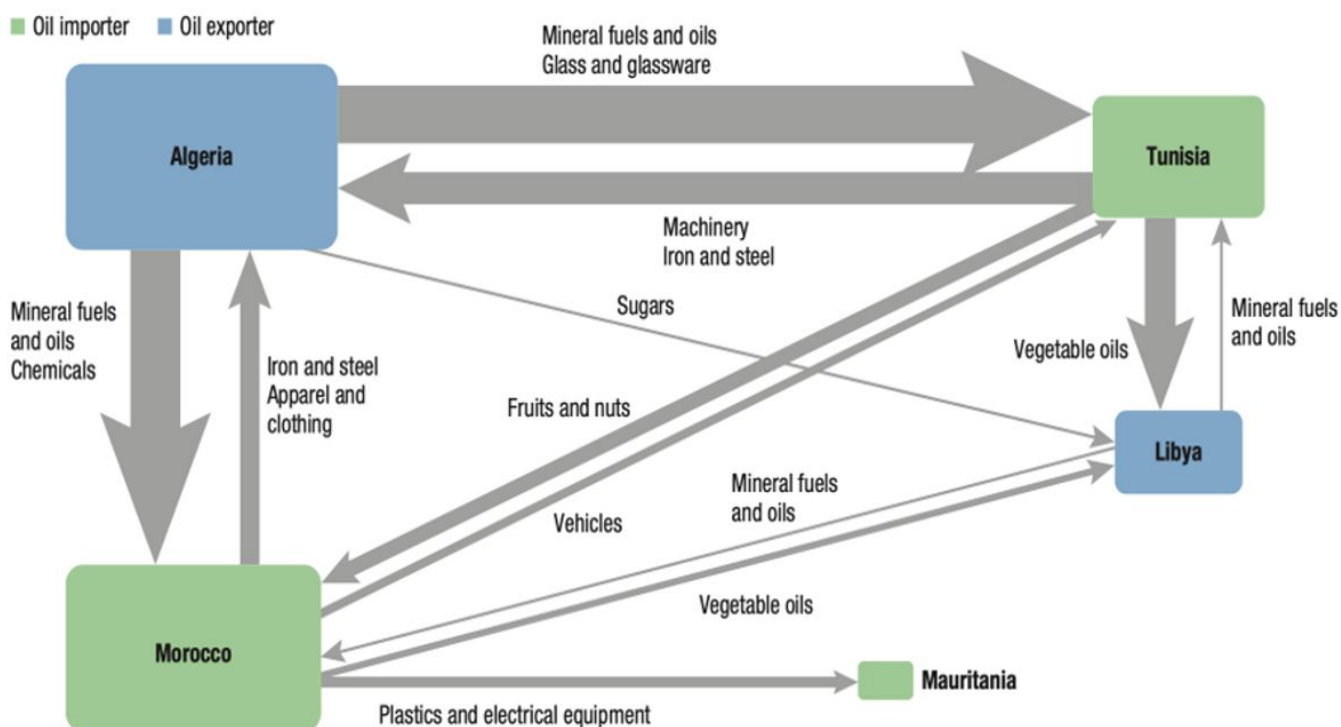
Trade within the North African region is limited and Algeria's poor export performance reflects this. In fact, the Maghreb is the least economically integrated bloc in the world with a share of intra-regional trade of only around 5% of total trade.

The lack of regional integration is a significant obstacle to diversification and growth for countries in the region. A mere 4% of Algeria's trade is within the Maghreb and the 1 600 km border between Algeria and Morocco has been closed since 1994, reflecting the extent to which fraught political relations in the region determine economics.[113]

In a 2019 IMF report on how economic integration could accelerate growth in the Maghreb, the authors point to the lack of regional considerations on trade and the restrictions on trade and capital flows that constrain regional integration.

The report lists the myriad economic benefits that would flow from such integration. These include attracting FDI, easing the movement of capital and labour, ensuring more efficient resource allocation and making the region more resilient to external shocks and market volatility. However, except for Morocco, instead of increasing, regional trade openness has steadily declined and traders face significant hurdles.[114]

Chart 14: Intra-regional trade flows



Sources: UN Comtrade, 2018; and IMF staff calculations.

Source: IMF

Source: IMF[115]

Note: Size of the nodes is proportional to total exports; width of the arrows is proportional to the size of the flow

Despite (and perhaps because of) the limited formal trade within North Africa, there is evidence of significant volumes of informal trade with Tunisia and Mali. This informal trade is facilitated by the associated topography—mountains and deserts that offer ample opportunities for illicit activities. Gasoline is ten times cheaper in Algeria than in Tunisia and informal traders benefit from this disparity at the expense of tax revenues.

Tax and subsidy differentials are the main drivers of the considerable unregulated and informal trade between Algeria and its neighbours.[115]

Similarly, there is evidence of significant informal trade between Algeria and Mali despite the closure of the 1 300 km border between the two countries since 2013. As a result of the cross-border trade between southern Algeria and northern Mali, the area benefits from lower prices than if goods came from the south of Mali. This phenomenon partially explains the lower poverty levels in the north of Mali, particularly in and around Kidal.[2]

While trade with its North African neighbours stagnates or takes the form of informal and illegal trade, Algeria will be phasing out its tariffs as part of its free trade agreement with the EU. The agreement was meant to take effect in September 2020 if it were not able to renegotiate the terms.

The EU is Algeria's largest trading partner, and it is the EU's third-largest supplier of natural gas, after Russia and Norway. In return, Algeria imports machinery, transport equipment and agricultural products.[116]

Given its proximity to the EU and the proposed free trade zone, it seems unlikely that Algeria will be able to pursue a manufacturing-growth path without significant asymmetrical trade arrangements with the largest economic bloc globally.

## Foreign direct investment and remittances

Algeria attracts significantly lower levels of FDI as a per cent of GDP compared to the averages for OLMICs and UMICs.[117] This gap has steadily widened. The stock of investment as a per cent of GDP in Algeria is nearly three times lower than the average for UMICs and only 42% of that in OLMICs.

Since the Arab Spring, FDI from Europe into Algeria and the region has dropped, although Gulf investors have shown greater interest. China has also increased its investments in Algeria over the past two decades, recently taking over France's historical position as the largest investor mainly in the construction and mining sectors. Algeria is a close ally of Beijing and the two countries have a strategic partnership.[117]

According to UNCTAD's World Investment Report 2019, FDI inflows fell from roughly €1.4 to €1 billion between 2016 and 2017 but improved to €1.3 billion in 2018. The stock of FDI was estimated at a meagre €27 billion in 2018.

The World Bank ranked Algeria 157th out of 190 countries in its *Doing Business 2020*, which measures aspects of business regulation and their implications for firm establishment and operations.[118]

Numerous regulatory and practical hurdles constrain FDI in Algeria. The World Economic Forum [119] lists impenetrable markets, protectionism, corruption, weak and overregulated digital and e-commerce economy, weak intellectual property laws and bureaucracy as obstacles to investment.

Algeria has also been protecting and promoting SOEs, which generally lack managerial independence, efficiency and accountability and place a burden on the national budget through contingent liabilities. A shakeup of SOEs and promotion of the private sector are key requirements if Algeria is to grow faster.

There are signs of progress: improved investment laws and plans for diversification are outlined in the Complementary Finance Law of 2020. This law removes the application of the 51/49 investment rule on domestic ownership of foreign business and cuts corporate taxes for investment in certain locations. It also provides for concession of land by mutual agreement and tax exemptions throughout the life of exporting projects.[120]

Algeria can also take advantage of information and communications technology (ICT) to promote efficiency and direct less effort at the speculative economy and more at the productive economy.[121]

Finally, remittance flows to Algeria were valued at roughly €1.6 billion in 2018 (1% of GDP) and outflows in 2017 at €64 million. December 2019 estimates put inflows at US\$1.792 billion.[122]

Studies like that of David Margolis et al. investigating the impact of remittances generally agree that they reduce poverty and improve livelihoods. The study also found that in two regions of Algeria, remittances—especially foreign pensions—reduced not only poverty but also inequality, leading to a nearly 4% reduction in their respective regional Gini indices.[123]

## From current path to Algerian dream

### *Scenario components*

This section draws on the preceding Current Path analysis and presents the impact of interventions across four key areas in Algeria to 2040, reflected schematically in Chart 14. These consist of improved governance, economic transformation, investment in the knowledge economy and movement towards a more sustainable economy through improvements in agriculture, water management and a greater focus on renewables.

Each of the four sectoral scenario interventions represent a successful push of policy interventions beginning in 2021, emulating five years of reform to 2026 unless indicated otherwise. Selected indicators, such as education, are given a ten-year push in view of the slow-moving nature of outcomes in the sector.

These are not alternative scenarios. Instead, Algeria needs to undertake all four groups of policy interventions. As such, our intent in the clustering is to highlight the contribution and impact that each cluster can make to the future of the country.

A number of elements, such as diversifying from oil and gas and incentivising manufacturing, have featured in previous planning. For example, Algeria's ambitious five-year development plan of 2014–2019 targeted an annual GDP growth rate of 7%. However, in the five-year period between 2014 and 2019[124] the economy only grew at an average rate of 2.6%.

The government outlined agriculture, tourism and industry as key priority areas, yet energy and hydrocarbons remained pivotal to the economy.

Nonetheless, the GoA is fully aware of the need for diversification and the limited prospects of the hydrocarbon industry in terms of job creation, or indeed as a future source of growth.

There are two important caveats to our proposals. The first is the impact of Algeria's free trade agreement with the EU. Without significant asymmetrical arrangements or other measures to boost the value-content of Algeria's exports, it would be very difficult to unlock a manufacturing or indeed even an agro-industrial growth path. Similarly, in the agricultural sector, Algeria has to compete with heavily subsidised European farmers.

The second caveat relates to the lack of regional economic integration in North Africa, where Algeria is much better positioned to increase trade volumes and the value of its exports. While the EU and Algeria have embarked on the free movement of goods, there does not appear to be a similar arrangement regarding a flow of labour and incentives to attract European investment and companies to Algeria.

The economic recovery plan currently under discussion by the government is expected to retain many features of the previous five-year plan. Algeria already has an industrial revival policy that identifies 12 strategic sectors,[125] a master plan for tourism development, an agricultural and rural renewal programme, a renewable energy programme and a development plan for fishing and agriculture.[126]

However, the economy remains stuck in second gear. It is clear that only greater legitimacy can withstand the strain that

will be caused by subsidy reform—and even then it would have to occur slowly. The country also needs to rethink its regional relations, as well as how it implements and benefits from a free trade arrangement with the EU.

Barring caveats, collectively the four scenario components could steer Algeria toward greater economic growth and inclusivity, and away from its middle-income trap and the interlinked double risk of commodity vulnerability and food imports.

The interventions carried out are benchmarked with reasonable but aggressive targets and should enable Algeria to regain upper middle-income status by 2028—a remarkable achievement given the shock of COVID-19. Overall, the result is to set Algeria on a more sustainable development pathway and increase income growth.

A list of the interventions and benchmarks for each are included in annex B.

Chart 15: Scenario components

<p><b>Transform the Economy</b></p> <ul style="list-style-type: none"> <li>• Reduce government regulation of business, reduce business taxes and increase economic freedom to open up participation</li> <li>• Increase participation of women in the economy</li> <li>• Increase domestic and foreign investment in the economy</li> <li>• Incentivize manufacturing</li> </ul>	
<p><b>Invest in the Knowledge Economy</b></p> <ul style="list-style-type: none"> <li>• Improve education outcomes from lower secondary through tertiary</li> <li>• Improve the quality of education at primary and secondary levels</li> <li>• Increase R&amp; D spending</li> <li>• Increase penetration of broadband and internet to unlock the digital economy.</li> </ul>	<p><b>Agriculture, Water and Renewables</b></p> <ul style="list-style-type: none"> <li>• Improve agricultural yields by, expanding cropland area, increase land equipped for irrigation and reduce agricultural loss and waste</li> <li>• Promote better management and use of water by treating and using more wastewater</li> <li>• Use technology to reduce the capital cost of investing in other renewable energy sources</li> </ul>
<p><b>Improved Governance and Subsidy Reform</b></p> <ul style="list-style-type: none"> <li>• Reduce inefficient subsidies from the wealthy and better target them to the poor</li> <li>• Reduce corruption and improve government effectiveness</li> <li>• Introduce substantive democracy</li> </ul>	

Source: Authors

*Improved Governance and Subsidy Reform*

Despite many efforts at reform, the feeling among most Algerians is that the rentier structure of the economy and the locus of political power remain unchanged. Political power is concentrated in the presidency and various shadow actors, including the military, which is considered the de facto ‘kingmaker’.

Inefficiency, corruption and political patronage appear to characterise many government institutions. As a result, many Algerians have opted out of the formal economy and turned to the informal and parallel economy.

Reflecting this general disaffection, official estimates of the turnout in the presidential elections of 12 December 2019 were just under 40% of eligible voters—the lowest of any Algerian presidential election held since independence.

Although the country's political and economic system has delivered in terms of essentials such as education and basic services, it is increasingly unfit for the future. Change will be difficult and will require a commitment to overturn vested interests.

In this scenario component, we emulate the impact of a social compact for the future girded by the promise of a more inclusive economy and substantive political reform.

In the 'Governance and Subsidy Reform' component, Algeria is, by 2026, much more democratic (scoring 5.3 on the Polity index instead of 2.9 in the Current Path), although still below the average for OLMICs.

Efforts to unlock the heavy hand of the state will be particularly difficult when it comes to reforming the subsidy system. Rather than emulating change in the short term, as advocated by international financial institutions, the intervention emulates a steady but slow process of subsidy reform from 2021 to 2040. By 2030, the impact of this component is a 2.5 percentage point reduction in social transfers in the form of government welfare transfers at 13.7% of GDP—a necessary and inevitable step towards a more productive and inclusive economy.

The intervention emulates the gradual reduction of subsidies such as on fuel and for water and the phasing in of modest targeted social safety net programmes for the poor. Social transfers in Algeria will, by 2040, still amount to 12.7% of GDP—7 percentage points of GDP above the average for OLMICs and about 2 percentage points above the average for UMICs.

To complement a reformed subsidy system, this scenario component gradually improves government effectiveness and efficiency in service delivery.

Algeria shares some governance characteristics with UMICs, having recently been downgraded to LMIC status. For example, it performs slightly better on the World Bank index of governance effectiveness than OLMICs, but significantly below the average for UMICs. Compared to UMICs, government effectiveness in Algeria lags by nearly 18%.

In 2019, Algeria ranked 106 out of 180 countries globally, with a score of 35 out of 100, in Transparency International's perception of corruption index.<sup>[127]</sup> Outrage over corruption and mismanagement of funds is one of the reasons for protests in Algeria and the broader MENA region.<sup>[128]</sup>

The intervention increases transparency and reduces corruption by 27% between 2021 and 2026. Algeria would see less wastage and more efficient use of its scarce resources as a consequence.

### *Transform the Economy*

Although Algeria has achieved positive outcomes across various sectors, particularly in its human development, the country's socio-economic stability is increasingly tenuous. This is the result of, among other things, a lack of economic opportunities—a situation that has been exacerbated by low oil prices since 2014 and more recently by COVID-19.

Owing to the dominance of the oil and gas sector, its location and upcoming free trade agreement with the EU, manufacturing has taken a secondary role in Algeria's development priorities. This is in spite of a roadmap for reindustrialisation by the Ministry of Industry and Mines to reduce bureaucracy, institute tax reforms and ensure greater access to land.<sup>[129]</sup>

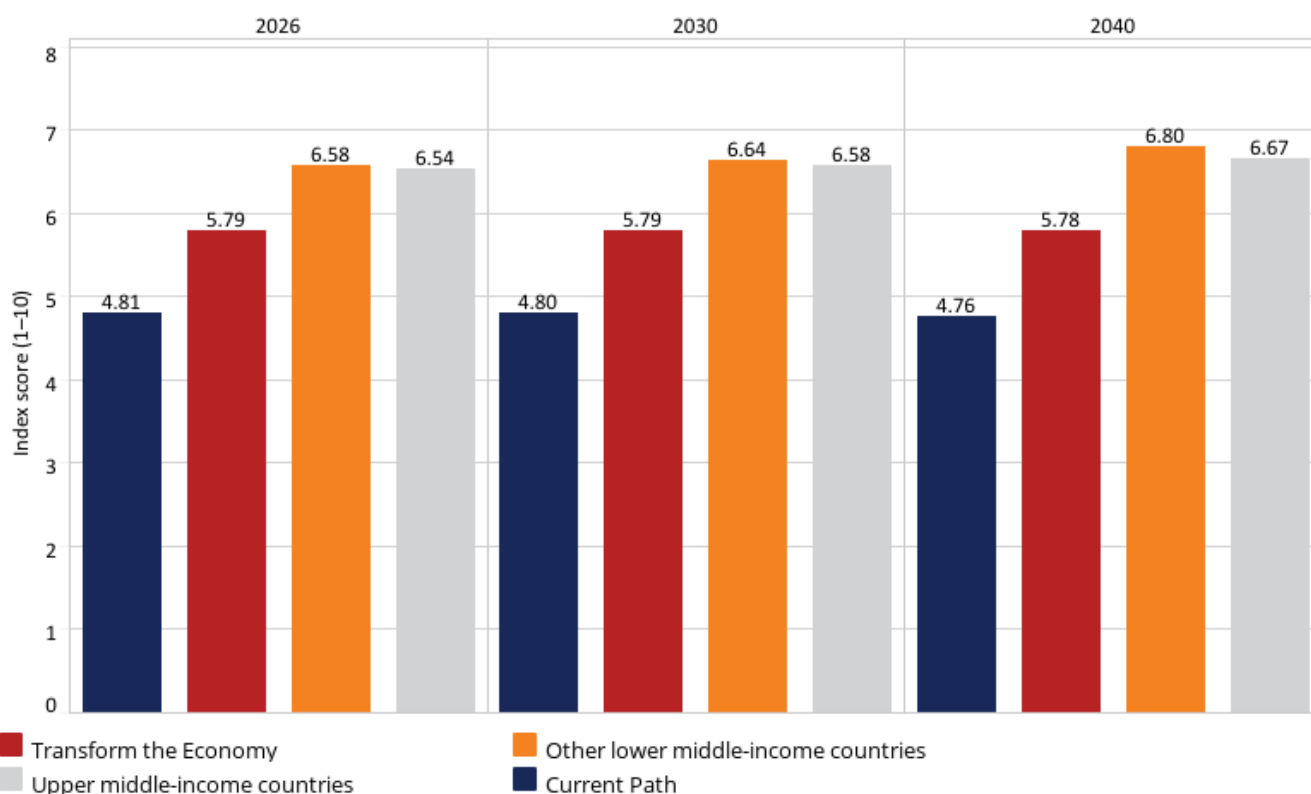


Given the need to diversify Algeria’s economy, the interventions in this scenario component increase domestic investment and, eventually, also attract more foreign investment in the economy. In turn, this requires significant financial reforms.

Investments have also lagged because of concerns about stability and an inhospitable investment environment. This scenario component reduces the ‘burden of bureaucracy’[130] and restrictions on doing business and creating business start-ups/entrepreneurship. In addition, it increases general economic freedom and encourages female labour participation, as well as support for the domestic manufacturing sector.

Whereas in 2020 Algeria scored an average of 4.81 out of 10 on the Fraser Institute’s Index of Economic Freedom, by 2026 the intervention takes Algeria to 5.8 (see Chart 16)—still significantly below the average score of 6.6 for OLMICs and 6.5 for UMICs.

**Chart 16: Economic freedom, Algeria compared to other lower middle-income countries and upper middle-income countries**



Source: IFs version 7.53, historical data from Fraser Institute

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If the GoA carried out reforms along these lines, female labour participation would improve by more than 12 percentage points between 2021 and 2026 to over 31%.

By 2040, the impact on the sectoral composition of Algeria’s economy is that the size of the energy sector shrinks by 2.3 percentage points of GDP and the size of the manufacturing sector increases by 1.3 percentage points of GDP. This could have labour-absorption impacts, as manufacturing is generally more labour intensive.

## *Agriculture, Water and Renewables*

Agriculture is consistently cited as one of the GoA's key priority areas and has the potential to improve the balance of payments, reduce external food dependency and increase employment.

For these reasons, successive GoA plans have touted the expansion of cropland and irrigation, along with upgrading poor-quality water transport and distribution networks that contribute to water waste. The hope was that this would ensure long-term improvement in the agriculture sector, but it had little apparent effect.[130]

For example, in the five-year development cycle of 2014–2019, the government set itself a target of almost doubling the farmland under irrigation to roughly 2 million ha, boosting mechanisation, using drought-resistant seeds and promoting agriculture in the arid regions of the country.[131]

The National Union of Algerian Farmers believe that the country's arable land could be expanded to 30 million ha in spite of recurring droughts, water shortages and the impact of climate change. However, such plans would likely require a four- or five-fold increase in water supply, which is only possible through much greater extraction of non-renewable fossil water resources.[132]

Algeria's inherent lack of water resources amid a steady increase in its urban population paints a bleak picture for this resource into the future. The national water plan includes increasing water resources and promoting greater accessibility of potable water.[133] However, the sector is still rife with water quality challenges and wastage owing to the highly inefficient subsidies.[134]

To deal with these challenges, this scenario component invests in increased water supply, expands cropland by 2%, nearly 8.7 million ha, and increases land equipped for irrigation by 25 000 ha by 2031 from the current 1.254 million ha. This is in line with the GoA's plans to modernise agriculture to help the country reach food self-sufficiency and cut foodstuff imports. However, this is still well below the 2 million ha target set by the GoA.[135]

It also improves agricultural crop yields in the country and reduces agricultural loss along the value chain and wastage at the consumer level. This scenario component increases the level of treated wastewater and reuse of that water for other productive activities, including for agriculture.

Algeria's economy is heavily dependent on hydrocarbons. Although the fossil fuel industry has been responsible for revenue and associated developments in the country, it is a volatile source of income. This has reverberating consequences on the economy during drops in oil prices in the global market.

Additionally, it is necessary to transition to cleaner energy sources, as recognised in Algeria's ambitious Renewable Energy and Energy Efficiency Programme.[136] The Algerian Renewable Market (RE) targets regulation and investment in the sector to meet its goal of producing 22 000 MW of electricity through renewables.

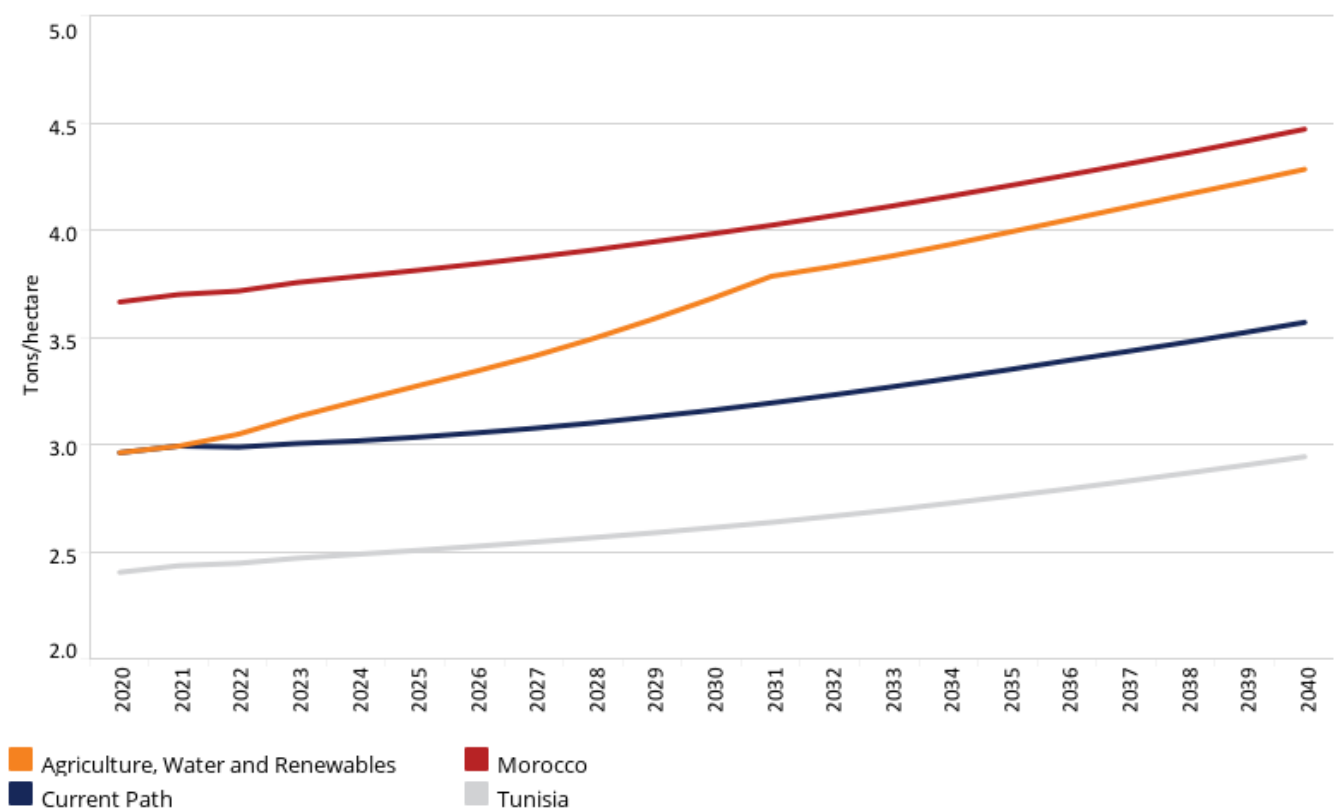
The country is also developing a roadmap to gradually transition to green energy.[137] This is in line with global efforts to combat the impact of climate change and promote more sustainable development.

This scenario component reduces the capital-to-output ratio on renewables by introducing modern technology. The government makes a greater push to invest in and boost renewable energy production. It also introduces and implements incentives to encourage a shift to cleaner energy, providing additional employment opportunities to improve health and overall human welfare.

Greater emphasis on agricultural production, food security and better management of water resources in this scenario component increases yields by about 12.8% to 3.3 tons per hectare by 2026, compared to 2.96 tons in 2020 (see Chart 17). By 2040 the agricultural sector is about €17.5 billion, compared to €13.9 billion in the Current Path.

The amount of wastewater treated and reused rises by roughly 46% from 0.123 km<sup>3</sup> in the Current Path in 2026 to 0.18 km<sup>3</sup>. The production of other renewable forms of energy such as solar and wind also steadily increases to reach 0.003 billion barrels of oil equivalent (BBOE) by 2040. This represents an estimated 40% increase in production of renewable energy between 2021 and 2026.

Chart 17: Yields (tonnes per hectare)



Source: IFs version 7.53, historical data from Food and Agriculture Organization

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### Knowledge and Technology

Like most countries in the MENA region, education in Algeria has considerable untapped potential. Despite decades of impressive investment to boost enrolment and gender parity, the education system has not proportionately contributed to human capital, well-being and wealth.

A renewed focus on education in Algeria, specifically at the further education and tertiary level, is necessary. Key issues embedded in the region's history, culture and political economy have been identified as impediments to the success of education in the overall MENA region.[138]

The 'Knowledge and Technology' component improves lower secondary graduation and upper secondary graduation, which are major bottlenecks. It also improves vocational training to address the need for technical skills and increases the rate of tertiary intake. Since the education system can be likened to a pipeline, owing to its slow-moving nature it is crucial to institute reforms sooner rather than later.

Given the technical nature of opportunities associated with Algeria's hydrocarbon cluster, and associated manufacturing opportunities, it is likely that a partnership approach will be needed between it and regional or global partners to facilitate crucial knowledge transfer.

Such an initiative will have to be coupled with industrial development policies and targeted investment incentives in the private sector or through public-private partnerships (PPPs). These must be aimed at creating new ventures that harness new human resource capacity to reduce the ongoing brain drain.

The impact of the component improves lower secondary graduation rates from roughly 92.8% to 97.4%, upper secondary graduation from 76.5% to 84.5%, and upper secondary vocation from about 9.8% to 13.8% by 2040.

Algeria trails significantly behind its peers in ICT. The country has three main mobile service providers: state-owned Mobilis, Djezzy and Qatar's Ooredoo. The rate of smartphone penetration is around 40%, according to official figures—a figure much lower than in other MENA countries, where the rate is 111%.<sup>[139]</sup>

Algeria also has one of the slowest fixed Internet speed connections in the world at 4.18 megabits per second (mbps). World leader Singapore boasts 153.85 mbps.<sup>[140]</sup> Though Algeria's mobile Internet connections are faster at 7.23 mbps, only three other countries have slower services.<sup>[141]</sup>

Although there are over 45 million mobile handsets in Algeria, most of them are only used for phone calls and do not contribute much to the digital economy. This in spite of the fact that the country has invested quite heavily in Internet access. Fibre-optics run for over 60 000 km but only about 10% is used, as most regions with fibre installation wait for network upgrades.<sup>[142]</sup>

Social media is popular in Algeria and its use can be credited with the massive protests witnessed in the country, despite regular Internet shutdowns by the government. The low Internet connectivity issues are thus in part by design, in order to achieve a political goal. This is delaying Algeria's digital participation and could isolate the country from the global economy.

This component scales up ICT and improves the Internet bandwidth per user and broadband in the country. As a result, subscriptions to fixed broadband increase from nearly 5.5 million people in 2021 to 9.8 million people by 2026. This is a 78% increase in the number of people with access to fixed broadband.

Whereas the ICT sector in the country currently contributes about 4.7% of GDP (compared to an average of 5.9% for OLMICs and 5.7% for UMICs), by 2040 the contribution of the ICT sector will be 5.5%, better, but still significantly behind that of its peers.

Improvements in digital services, including banking and public services, could also improve governance and the prospects of greater transparency, as well as crowd in a larger portion of the informal economy into the formal sector.

### *Comparing the impact of each component*

Of all the components, 'Transform the Economy' has the greatest impact on the size of Algeria's economy and GDP per capita. In 2040, compared to the Current Path, this component increases GDP by €51.4 billion—a boost of about 14%.

More rapid economic growth translates into robust improvements in GDP per capita and reflects the extent to which inefficiencies in the economy, particularly the dearth of economic opportunities, hamper growth.

Having greater economic freedom and systematically moving away from the closed and rentier framework of the current economy to a more open and conducive business environment can set Algeria on a much more positive trajectory that improves livelihoods and provides more opportunities.

In such an open business environment, the private sector is encouraged and appropriately incentivised to invest domestically. The large number of inefficient SOEs are reformed and eventually play a smaller role in the economy.

The second most impactful component is 'Governance and Subsidy Reform' (€26.8 billion). The effect of this component shows how much the current governance system and the inefficient and unsustainable subsidy system hinders growth.

Although executing broad governance changes are challenging, substantive democratisation, a steady reduction in inefficient broad subsidies for more modest but targeted social safety net programmes and greater government effectiveness would have a significant impact on productivity.

These improvements in economic freedom and ease of doing business are complemented by improvements in the policies and governance of 'Agriculture, Water and Renewables'. The country would also move towards clean energy without compromising access to services such electricity and create new jobs. Additionally, such a climate change mitigation effort could have positive knock-on effects on the general quality of life and welfare of Algerians. In this component, the Algerian economy is approximately €5.2 billion larger relative to the Current Path in 2040.

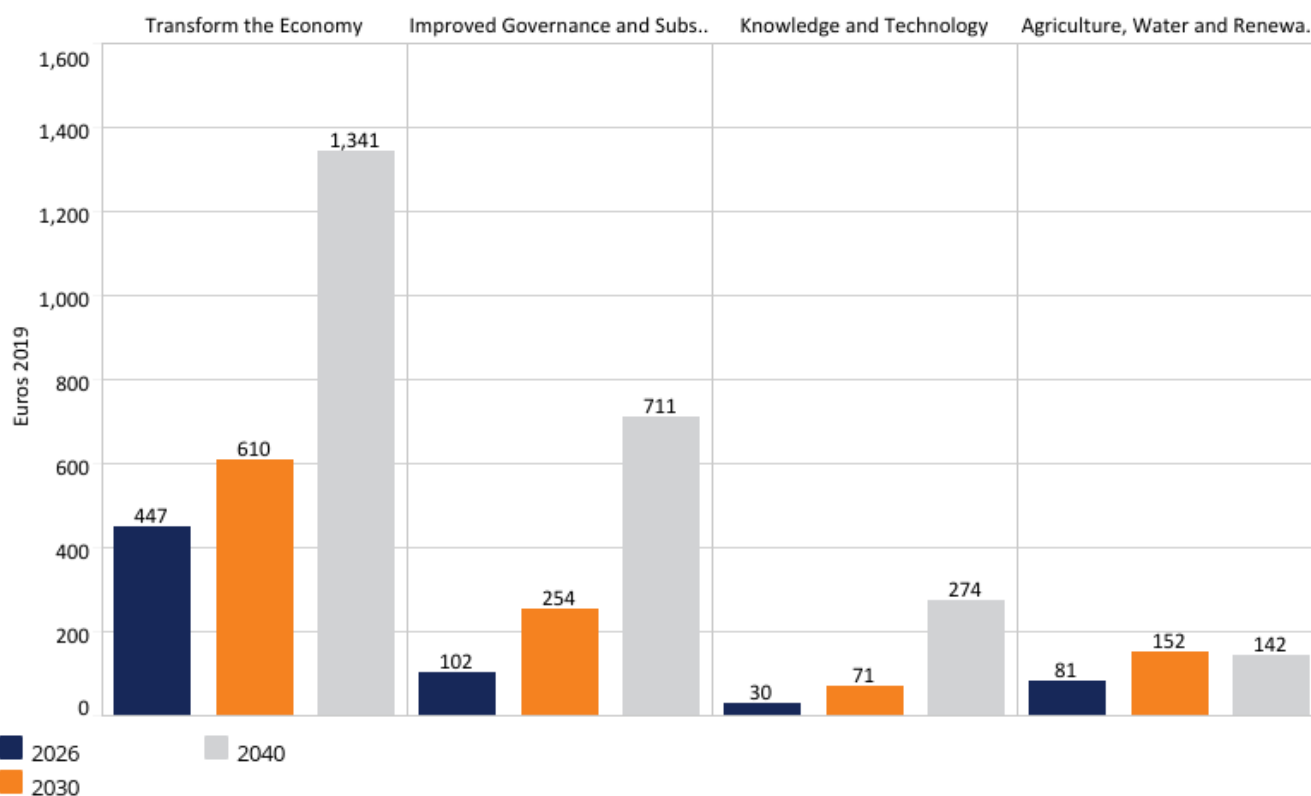
The 'Knowledge and Technology' component records about a €10 billion increase in GDP in 2040 compared to the Current Path. The improvements in this scenario develop much slower compared to the other scenarios because of the generally slow-moving nature of educational outcomes and the time it takes to see benefits from investments in the sector.

Additionally, Algeria's trajectory in this regard is from a relatively high base and improvements are thus not as dramatic.

Improvements in per capita income follow the same trend. By 2040, Algerians have an additional €1 341 (expressed as the increase in GDP per capita) in 'Transform the Economy', €711 in the 'Improved Governance and Subsidy Reform' component, €274 in the 'Knowledge and Technology' component and €142 in the 'Agriculture, Water and Renewables' component, compared to the Current Path.

The improvements in GDP per capita change in 2026, 2030 and 2040 are outlined in Chart 18.

Chart 18: Increase in GDP per capita in 2026, 2030 and 2040 (change in Current Path and each component)



Source: IFs version 7.53, historical data from International Monetary Fund and World Bank data

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Extreme poverty at the US\$3.20 threshold per person per day is reduced most significantly by the 'Agriculture, Water and Renewables' component. It has the largest impact until around 2027, when improvements in governance outpace its impact. This component underlines the importance of food security and good management of natural resources to the well-being of Algerians.

By 2040, the 'Improved Governance and Subsidy Reform' component has approximately 401 000 fewer Algerians surviving on US\$3.20 per day relative to the Current Path.

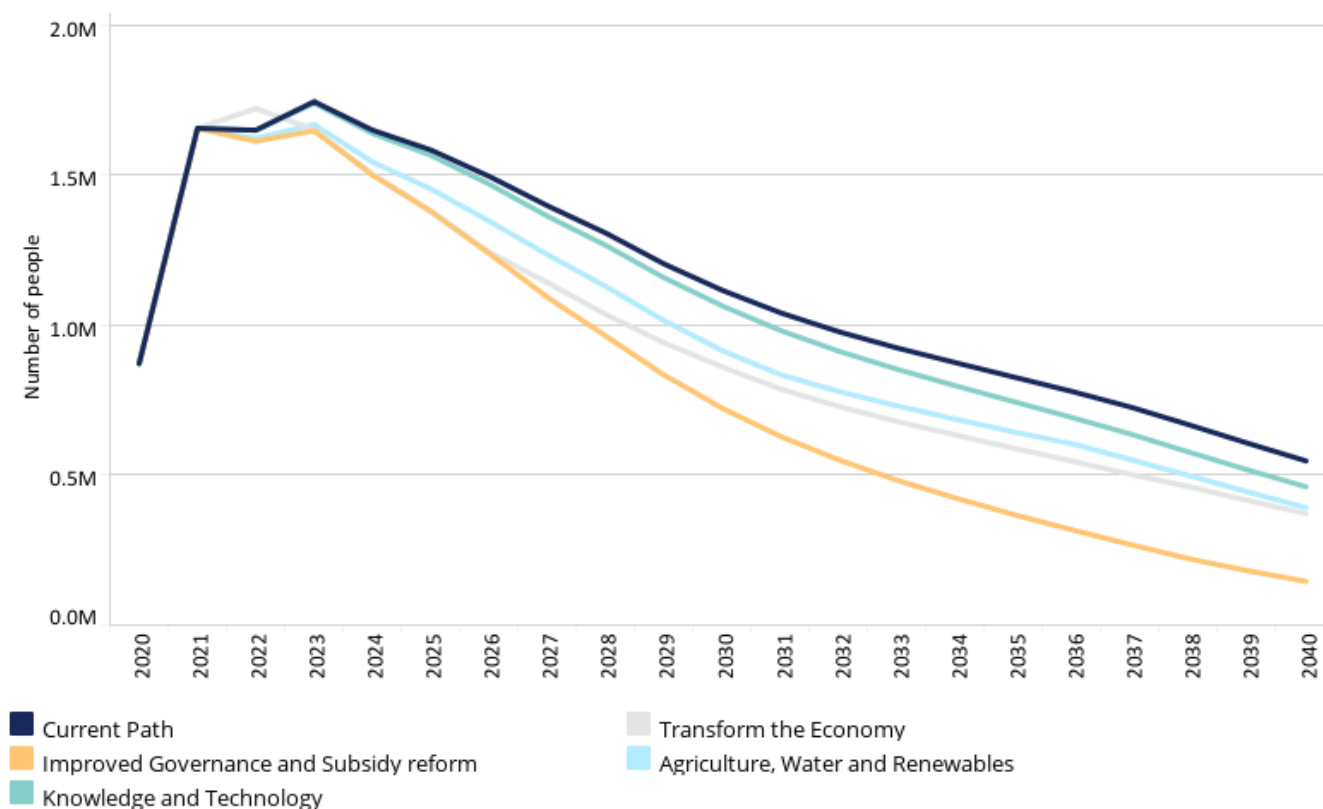
The rentier mentality has proven incapable of increasing productivity and promoting innovation and long-term development. This scenario component shows that tackling the challenges in the Algerian political and economic system, putting in place transformative reforms and a creating new paradigm toward better governance and less wastage of resources could alleviate the suffering of many Algerians.

The impact of the 'Transform the Economy' component represents about 175 000 fewer poor Algerians than currently projected in 2040. However, in the initial five years of this intervention, Algeria sees a slight rise in the number of poor people. This is because of the massive resources and investments being redirected and dedicated to economic growth. Thereafter, these efforts create opportunities for employment and even entrepreneurship to start to reduce the number of people living in extreme poverty.

The 'Agriculture, Water and Renewables' component has about 156 000 fewer people living in extreme poverty compared to the Current Path in 2040.

The 'Knowledge and Technology' component records the lowest achievement in reduction of poverty (by 86 000 persons) of the four sectoral components, in part owing to the slow-moving nature of the formal education system and how long it takes before benefits start to manifest. Another reason is the fact that Algerian educational attainment levels are generally good and the factors contributing to poverty arise instead from inadequate economic opportunities for this educated mass.

Chart 19: Extreme poverty at US\$3.20



Source: IFs version 7.53, historical data from World Development Indicators, World Bank data

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The 'Improved Governance and Subsidy Reform' component has the greatest impact on inequality as measured by the Gini coefficient—a reduction of about 10.6% relative to the current national projection in 2040. This improvement is consistent with research that shows that more targeted subsidies can reduce poverty and thus inequality.

However, there is also literature arguing that in developing countries, with weak and inefficient bureaucracies, targeted subsidies tend to result in more inequality than universal ones.[143] This acknowledges the significant information asymmetry between the bureaucracy and the population, and that promotion of good governance is a necessary factor for targeted subsidies to work in Algeria.

The 'Agriculture, Water and Renewables' component reduces inequality by about 8% over the next 20 years. The 'Knowledge and Technology' component achieves the smallest impact in the reduction of inequality by over 5% in the same time horizon.

The nature and duration of formal education and the availability, or lack thereof, of economic opportunities for this skilled

population in Algeria contribute to the relatively small impact of the latter sector.

Inequality as measured by the Gini coefficient (ratio between 0 and 1) slightly rises in the 'Transform the Economy' component (0.25) compared to current projections (0.246) by 2040. Although this is not a significant impact, it is important to highlight the fact that economic growth does not always necessarily result in inequality if accompanied by the right redistributive mechanisms.

This shows that although economic growth is good for overall development, it does not necessarily address the equitable distribution of resources. This is especially the case in resource-rich countries like Algeria where hydrocarbons dominate the economy and the production and resultant revenue remain in the hands of a small ruling elite.

The 'Agriculture, Water and Renewables' component leads to significant improvements in agricultural yields. By 2040, Algeria achieves 4.3 tons per hectare, compared to 3.57 in the Current Path in the same year. This is about a 46% increase from current levels at 2.96. As a result, food security also improves in Algeria.

Import dependence on foodstuffs drops by approximately 17 percentage points to about 27.5% in this component relative to the Current Path (44.6%) in 2040. This underscores the importance of domestic food production to improve the country's food security, especially at a time when its foreign reserves are dwindling amid a pandemic that is also disrupting global supply chains.

The rest of the components do little to reduce import dependence. Although Algeria has been able to feed its people, its high levels of import dependence mean that the country is not food secure.<sup>[144]</sup> Because of this, it is important for the GoA to ensure that governance and economic reforms complement each other and so encourage stability and socio-economic progress.

## Combined impact of the Algerian Dream Scenario

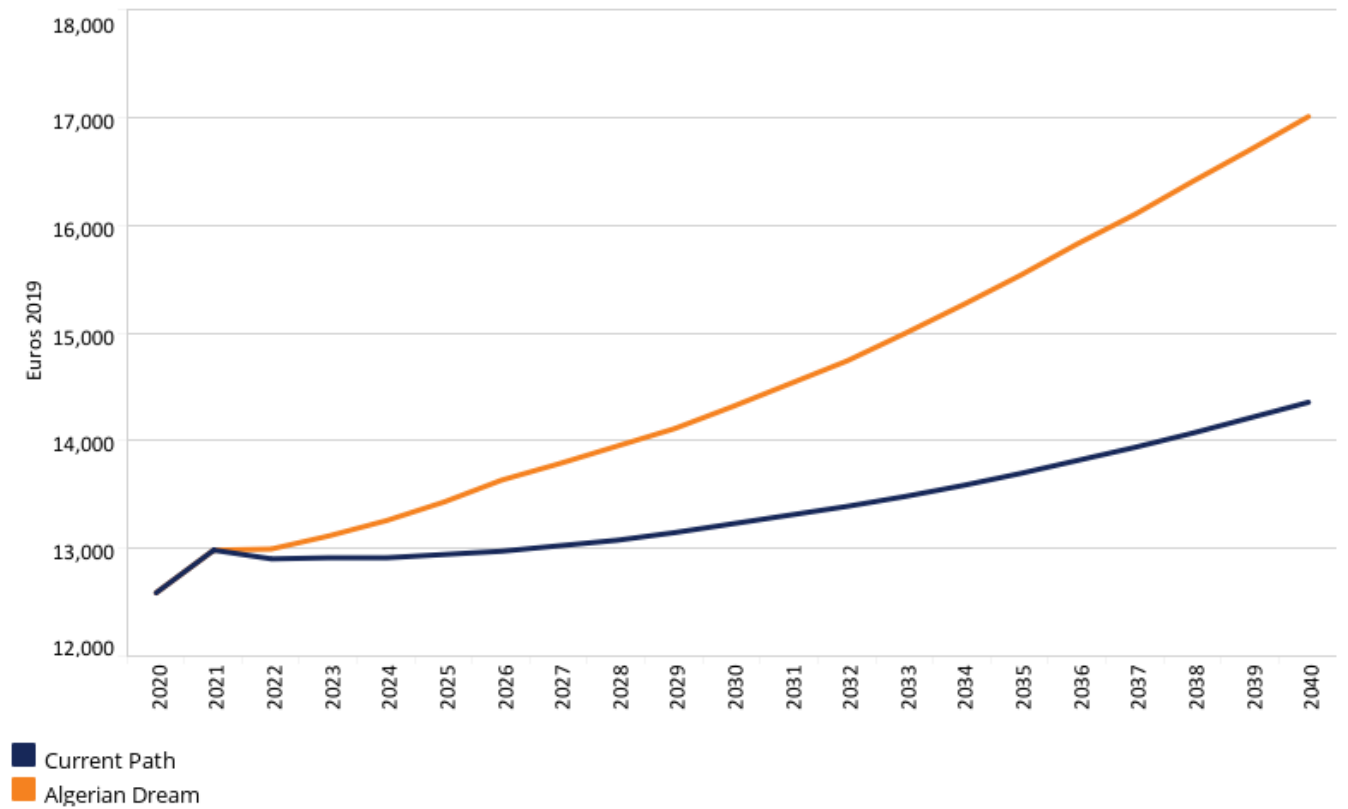
The Algerian Dream scenario combines the four components analysed above to simulate a future where the government pushes for holistic reforms and policy interventions in all four component areas. The country is able to set itself on a new economic and governance pathway under a government that has created a social compact and substantively improved democracy and accountability, to the benefit of all Algerians.

In the Algerian Dream, by 2040 Algeria's economy is €103.2 billion larger than when compared to the Current Path. Since the four components complement one another, their combined effect is significantly larger than their individual contributions.

Per capita income also increases by nearly 18.5%, making Algerians about US\$2 652 richer in this scenario than in the projected Current Path in 2040.



Chart 20: GDP per capita, Current Path and Algerian Dream by 2040



Source: IFs version 7.53, historical data from World Bank data

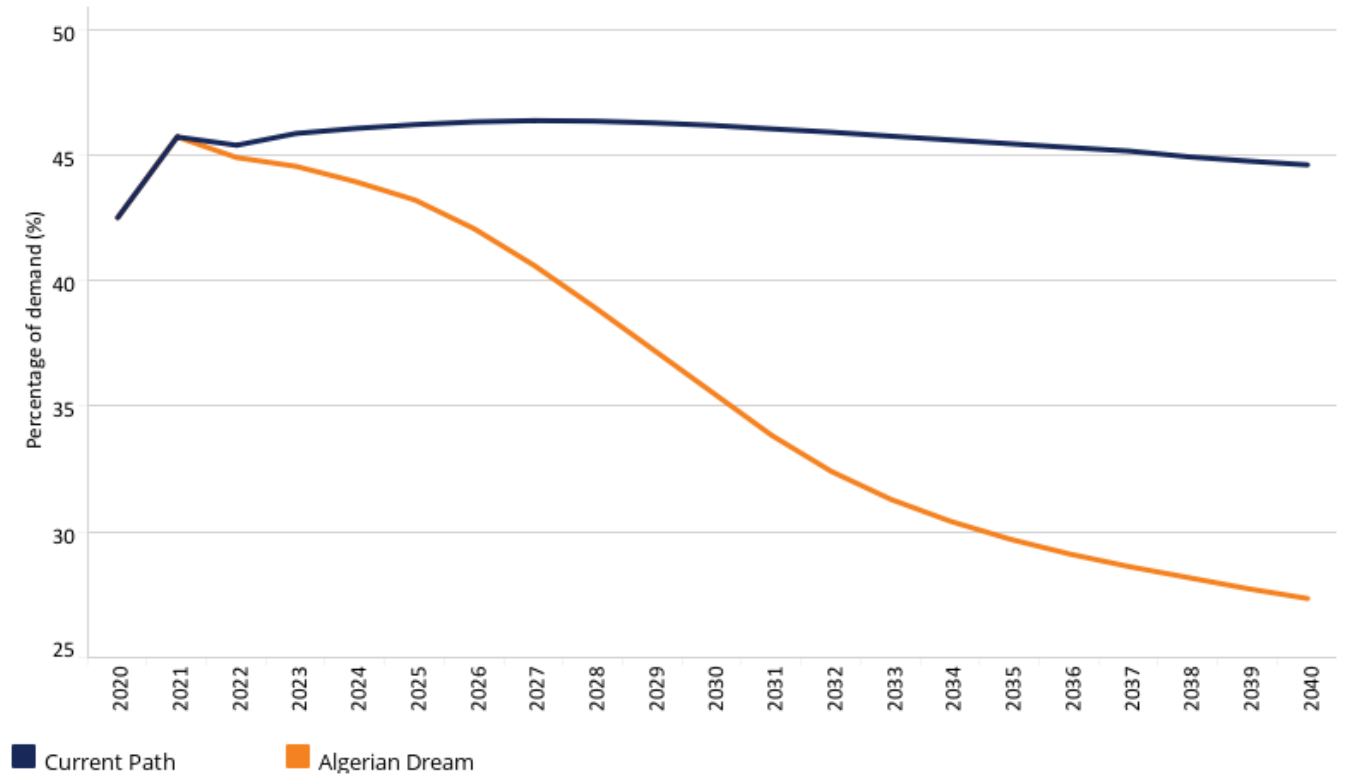
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This scenario also has a significant impact on food security in Algeria. By 2040, import dependence as a per cent of net demand reduces by over 17 percentage points to roughly 27.4% in the Algerian Dream relative to Current Path.

Food security is crucial to ensure that the country is not vulnerable to international price shocks and supply chain disruptions, as is being witnessed with the COVID-19 pandemic. Additionally, having a more productive agricultural system and less dependence on foodstuff imports could release funds and divert its dwindling foreign reserves to other productive investments in its economy.

Chart 21: Import dependence



Source: IFs version 7.53, historical data from Food and Agriculture Organization data

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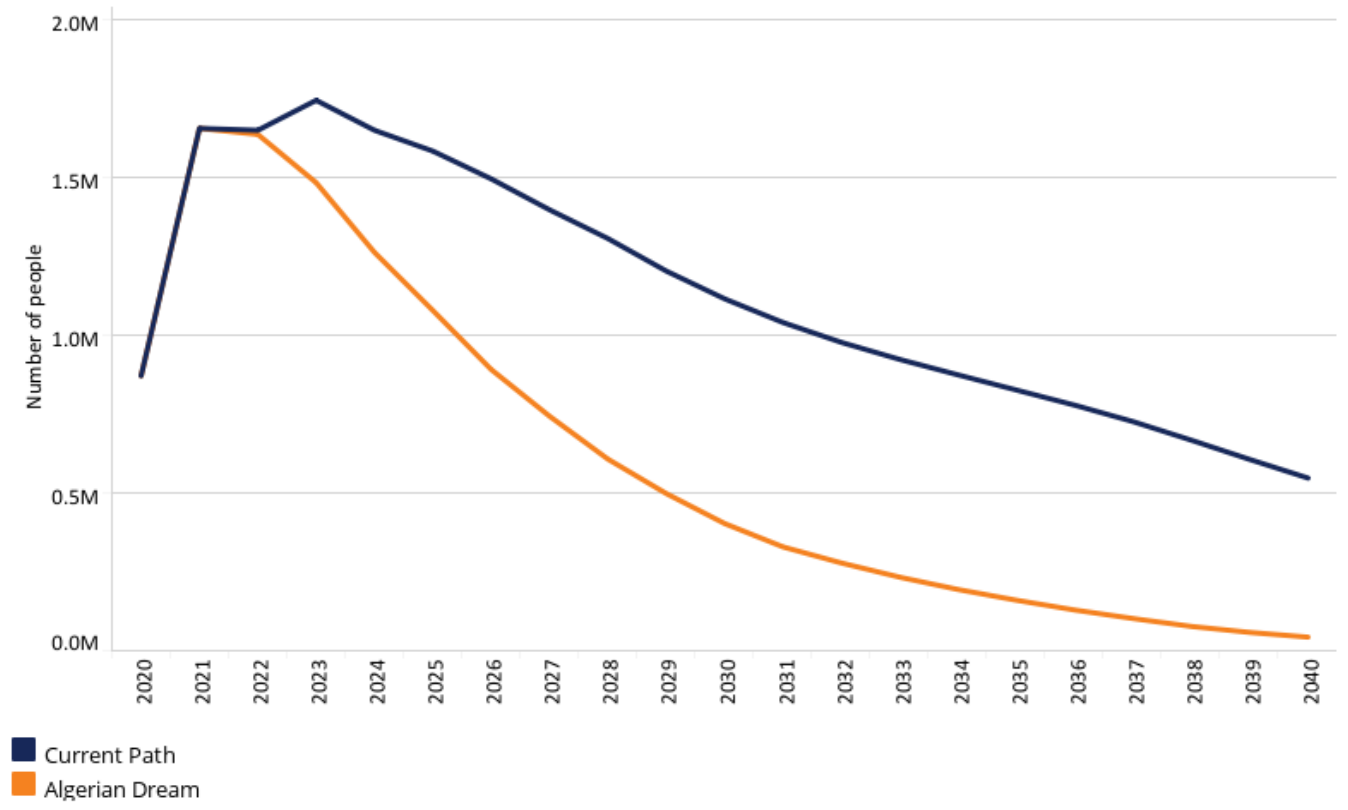
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Change in extreme poverty at the US\$3.20 level per person per day follows the patterns of reduced economic growth resulting from the impact of COVID-19 on economies in coming years. A shift in investment into productive sectors of the economy will see a bump in the number of people in poverty before the benefits of investment in economic growth can have an impact.

Thereafter, the trajectory of poverty starts to decline in the Algerian Dream, as shown in Chart 22. By 2040, extreme poverty is significantly reduced, with just over 500 000 fewer people living in poverty than in the Current Path. The extreme poverty rate in this scenario represents about 0.08% of the population in 2040, compared to 1% in the Current Path in the same year.

In 2040, inequality declines from 0.246 in the Current Path to 0.215, a 12.6% improvement in the Gini coefficient index.

Chart 22: Extreme poverty (US\$3.20), Current Path and Algerian Dream by 2040



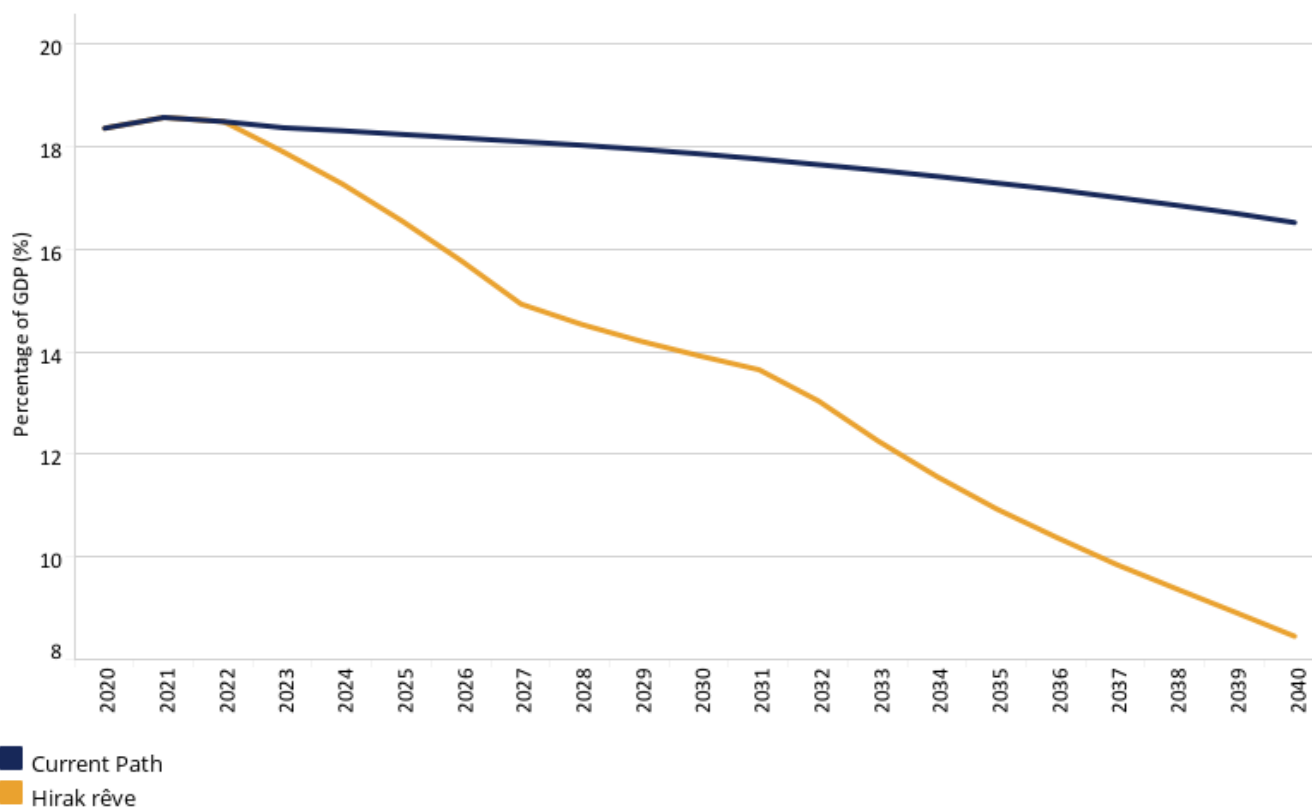
Source: IFs version 7.53, historical data from World Bank data

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Following improvements in the country's economic growth, the food security situation (owing to improved agricultural productivity) and the extreme poverty level, this scenario also has a positive impact on the size of the informal sector in Algeria.

By 2040, the share of the informal economy as a per cent of GDP drops to about 8.5% compared to the current projection of over 16.5% in the Current Path. 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 23: Informal economy, Current Path and Algerian Dream by 2040



Source: IFs version 7.53, historical data from United Nations Economic Commission for Europe, Schneider & Elgin

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## Conclusion

Algeria's current regime (*Le pouvoir*) is in a difficult situation, having to adapt in the face of the *Hirak* movement. The country has endured a surfeit of crises resulting from protests, the collapse of oil prices since 2014 and the global downturn owing to the COVID-19 pandemic. It is one of the hardest-hit countries in Africa.

These persistent economic and political crises, coupled with unfulfilled promises of reforms, culminated in sustained demonstrations in 2019, which only stopped in March 2020 because of the pandemic. The demonstrations led to the purging of key officials and eventually the resignation of Bouteflika. Despite *Le pouvoir's* yielding to some of the protestors' demands, they consider the administration's response inadequate and want a complete overhaul of the system.

Algeria's economic system is characterised by a bloated bureaucracy, lack of competition and diversification, cronyism and an overregulated business and investment environment. The heavy dependence on hydrocarbons and past administrations' failure during years of high oil prices to capitalise on revenues for more diversified investments are coming back to haunt the nation.

Dwindling foreign reserves amid one of the worst oil price plunges have left the country vulnerable. The GoA is unable to increase social spending, which has historically been used to negotiate a social contract with the population.

Despite the relatively good stock of human capital in Algeria, the country has not fully achieved the benefits associated with its favourable population structure. This is largely owing to its higher education system's incompatibility with the needs of the labour market, as well as the restrictive nature of its economic system.

The education system should adapt to provide a better skills match, while considering the future of work and the influence of technology. Algeria will need to invest in a robust digital economy to boost productivity.

The country's healthcare costs will eventually also rise given the inherently expensive nature of the NCDs associated with older cohorts.

The economic and social challenges are spread across sectors, including agriculture, where food imports take up a significant portion of Algeria's budget and speak to the country's state of food security. Natural resources like water are strained and badly managed. The shift to renewable energy could also be fast-tracked to reduce dependence on hydrocarbons.

Finally, according to various studies, regional economic integration could contribute about a percentage point to economic growth in each Maghreb country in the long term.[145] In addition to resuscitating the Arab Maghreb Union, implementing the African Continental Free Trade Area could play an important role in this regard.

Our analysis shows that Algeria needs a comprehensive overhaul of its governance and economic structure to achieve harmony and inclusive development, as well as pursue good relations in the region. In summary, it should:

- **Prioritise a new social compact based on trust and good governance:** It is evident that the Algerian people seek a new social contract with a responsive, efficient and more democratic government. This includes better service delivery, elimination of corruption and cronyism, and a just and inclusive system of governance.
- **Open the economy:** Algeria needs to open up its economy to allow competition, efficiency and a favourable business climate to attract investment and skills. Such a reform would stimulate entrepreneurship and job creation to create a level playing field that rewards merit.
- **Diversify the economy in a sustainable manner:** The country needs to diversify its economy away from hydrocarbons to other sectors that promote robust growth and create jobs, particularly for the youth and women.
- **Improve the quality of education:** Although Algeria's educational outcomes are generally good, the quality of education has started to deteriorate owing to the requirement for different languages of instruction at various stages of learning and subject matter level. Capable and well-trained teachers, use of technology in education and adequate provision of educational supplies in all regions are necessary for the education sector to close the gap with market needs.
- **Promote food security:** Algeria's agricultural sector could be much more efficient and productive. The country currently relies heavily on food imports, which exposes it to risks associated with fluctuations in international commodity prices and disruptions in supply chains.
- **Better manage natural resources and adapt to climate change:** Algeria is already experiencing water stress. Efforts to promote better management and use of water could reduce wastage, so helping the country to cope with the impacts of climate change. Water needs to be priced appropriately as steady progress is made in removing subsidies.
- **Shift to renewable energy:** Algeria has vast potential for solar and wind energy. Implementing plans to promote investment and greater production in this sector, as well cutting back fossil fuel subsidies, could lessen its dependence

on hydrocarbons and promote the use of clean energy.

- **Reset relations in the region and rigorously pursue regional economic integration:** To integrate, the IMF finds that:

Maghreb countries would need to lower trade and investment barriers, and connect their infrastructure networks. Their efforts should focus on goods, services, and capital and labor market liberalization. Gradually eliminating barriers to intra-regional trade, building regional infrastructure, and improving the business environment would boost trade within the Maghreb and help further integrate global value chains. Greater regional integration should be complementary to Maghreb countries' global integration.<sup>[146]</sup>

## Annex

For this report, we used a Project Data file to replace certain data in IFs with either more recent data or data from an alternative source, e.g. the National Statistics Office.

**Chart A1: Project data file**

Series	Alternative source/reasoning
EdSecLowerEnrollGross%Female EdSecLowerEnrollGross%Male EdSecLowerEnrollGross%Total EdSecUpperEnrollGross%Female EdSecUpperEnrollGross%Male EdSecUpperEnrollGross%Total	Updated with new data 2015–2019 from the National Statistics Office (NSO) on count of enrolled learners. Calculated by dividing count of learners from Algeria national source and total age-appropriate children from UNESCO
Corruption	Added 2019 from Transparency International
FreedomEcon	Added 2016 and 2017 from Fraser Institute
GovtDebt%GDP	IMF Regional Outlook 2019 Statistical Appendix (2018 data)
IncBelow1D90c%WDI PovertyGap\$1c90perDay	Updated historical data from WDI latest data update (1988–2011)
IncBelow3D10c%WDI	Updated using output from Povcalnet (2011)

LandCrop LandIRArea	Data from workshop participant (2014–2015)
RoadPavedKm RoadsTotalNetwork	Updated historical data for 2011 and 2015. Then added new east–west highway that was completed in 2015

### Chart A2: Current Path adjustments

Series	Adjustment in IFs	Reasoning/justification
gdprext, GDP growth rate, exogenous target (%) and gdpadjsw set to 0 to turn on exogenous specification for GDP growth rate.	Set to 3.2 in 2016, 1.3 in 2017, 1.4 in 2018, 0.7 in 2019, -6.4 in 2020 and 1.9 in 2021 before returning to -100 (which reverts to the IFs forecast) in 2022	Updated historical growth data from IMF. World Bank growth forecast for 2020 and 2021 that assumes that the pandemic fades in the second half of 2020 and containment efforts can be eased.

### Annex B: Scenarios

#### Chart B1: All interventions start in 2021 and last to 2026 unless otherwise specified.

Parameter	Definition	Adjustment in IFs	Magnitude of change	Reasoning/motivation/j
<b>Transform the Economy</b>				
Econfreem (economic freedom multiplier)	Improve economic freedom	Interpolate to 1.2 by 2026 and hold to 2040	4.801 in 2021 to 5.772 in 2026 and 5.721 by 2040	Improves freedom on the Fraser Index by 20% between 2021 and 2026. Zambia improved economic freedom by 53.5% between 1990 and 1995.

Govregbusindm (business regulation index multiplier)	Improve business regulation index	Interpolate to 0.8 by 2026 and hold to 2040	5.419 in 2021 to 4.323 by 2026 and 4.256 by 2040	Improves business regulation by roughly 20% between 2021 and 2026. Benchmarked to aspire to the UMICs' average. <sup>[1]</sup>
Invem (investment in the economy multiplier)	Improve investment	Interpolate to 1.2 by 2026 and hold to 2040	39.8% of GDP in 2021 to 40.2% by 2026 and 42.5% by 2040	Improves investments by 2.6% of GDP between 2021 and 2040. Investments relative to GDP in Algeria are lower than in a country like Zambia.
Firmtaxm (firm tax rate multiplier)	Reduce firm tax	Interpolate to 0.85 by 2026 and hold to 2040	US\$4.052 bn in 2021 to US\$4.021 bn in 2026 and US\$5.724 bn by 2040	Algeria has a higher corporate tax rate than Egypt and Tunisia. Reducing taxes could attract FDI.
Xfdifinm (foreign direct investment, flows from abroad, multiplier)	Improve FDI inflow	Interpolate to 1.2 from 2026 to 2031 and hold to 2040	1.286% of GDP in 2021 to 1.443% in 2026 and 1.656% in 2040	FDI inflows into Algeria have declined since 2011. Improves FDI inflows as a percent of GDP by 0.157 percentage points between 2021 and 2026. Angola improved FDI inflows by over 36 percentage points between 1994 (3.5%) and 1999 (40.2%).
Xfdioutm (foreign direct investment, outflows, multiplier)	Reduce FDI outflow	Interpolate to 0.9 by 2026 and hold to 2040		Augments improvement in FDI inflows to allow existing businesses to stay and encourages domestic investment.
Protecm	Reduces imports	Interpolate to 1.2 by	17.55% of GDP in	Encourages



(protectionism in trade, multiplier on import prices (manufactures))		2026 and hold to 2040	2021 to 13.67% in 2026 and 17.94% in 2040	<p>manufacturing and protects emerging industries by regulating certain imports. Reduces spending on imports by over 22% between 2021 and 2026.</p> <p>Algeria reduced spending on imports by nearly 37% between 1982 (29% of GDP) and 1987 (18.4%).</p>
Labparm (labour participation rate multiplier, female)	Increases female labour participation rate	Interpolate to 1.5 by 2026 and hold to 2040	20.7% in 2021 to 31.2% in 2026 and 37.3% by 2040	Improves female labour participation rate by nearly 50% between 2021 and 2026. Algeria's female labour participation rate improved by 133% between 1983 (18%) and 1987 (42.1%).
<b>Improved Governance and Subsidy Reform</b>				
Govcorruptm (government corruption multiplier)	Reduce government corruption	Interpolate to 1.2 by 2026 and hold to 2040	3.107 in 2021 to 3.637 in 2026 and 3.937 by 2040	<p>Reduces corruption by nearly 21% between 2021 and 2026.</p> <p>Nigeria improved its corruption perception index by 58.3% between 2000 and 2005. It has sustained improvements for over 6 years (comparison from old CPI).</p>
Goveffectm (governance effectiveness)	Improve government effectiveness	Interpolate to 1.2 by 2026 and hold to 2040	2.024 in 2021 to 2.463 in 2026 and 2.525 by 2040	This intervention improves government

multiplier)				effectiveness by about 22% between 2021 and 2026. Georgia improved government effectiveness by 53% between 2007 and 2002.
Democm (Democracy level multiplier)	Improve the level of democracy	Interpolate to 1.2 by 2026 and hold to 2040	2.749 in 2021 to 5.328 in 2026 and 4.884 by 2040	Democracy (Polity IV index) score improves by nearly 94% between 2021 and 2026. Nicaragua improved its Polity index and transitioned into a democracy from -1 to 6 between 1989 to 1994.
Govhtrnwelm-skilled (government to skilled household welfare transfers)	Reduce the rate of transfers to skilled (middle and upper class)	Interpolate to 0.5 by 2030 and hold to 2040.	14.55% of GDP in 2021 to 14.02% in 2026, 13.5% in 2031 and 14.17% by 2040	Among lower middle-income countries in Africa, Algeria currently has the highest portion of GDP (16%) allocated to household transfers.  The country also has very high government subsidies (e.g. in fuel and foodstuffs) that mostly accrue to the middle- and upper-class segment of the population. Reduces welfare transfers by 7% between 2021 and 2026. Egypt cut fuel subsidies by 40.5% and electricity subsidies by 75% in the 2019/2020 financial year.

## Agriculture, Water and Renewables

Ylm (Agricultural yields multiplier)	Improves yields	Interpolate to 1.2 by 2031 and hold to 2040	2.992 tons in 2021 to 3.756 in 2031 and 4.275 by 2040	Increases yields by 25.5% between 2021 and 2031.  Algeria improved yields by over 100% between 2008 (1.42) and 2013 (2.86).
Idcropm (crop land multiplier)	Increase crop land area	Interpolate to 3 by 2031 and hold to 2040	From 8.511 million ha in 2021 to 9.083 million ha in 2031 and 9.416 by 2040	According to the National Union of Algerian Farmers, arable land could be expanded to 30 million ha of land. <a href="#">[2]</a>
Landirareaequipm (multiplier on land area equipped for irrigation)	Increase land area equipped for irrigation	Interpolate to 3 by 2031 and hold to 2040	1 245 ha in 2021 to 1 279 ha in 2031 and 1 286 ha by 2040	Increases hectares under irrigation by nearly 2.7% between 2021 and 2031.  Algeria's target was to increase irrigation to 2 million ha by the end of 2019. <a href="#">[3]</a>
Aglosstransm (loss rate of agriculture as moves from producer to consumer multiplier)	Reduce agricultural losses from producer to consumer	Interpolate to 0.8 by 2026 and hold to 2040	5.647mt in 2021 to 4.854 in 2026 to 5.481 mt by 2040	Reduces waste from production to consumption by 14% between 2021 and 2026.
Aglossconsm (waste rate of agricultural consumption multiplier)	Reduce food waste at consumption level	Interpolate to 0.8 by 2026 and hold to 2040	3.558% of demand in 2021 to 3.546% in 2026 and 3.539% by 2040	Reduces consumption loss by 0.34% between 2021 and 2026.
Wastewatertreatedm (Treated wastewater multiplier-cubic km)	Increase the rate of wastewater treated	Interpolate to 1.2 by 2026 and hold to 2040	0.367 ckm to 0.526 in 2026 and by 0.82 by 2040	Increases wastewater treated by nearly 43% between 2021 and 2026.

Wastwatportreatreusedm (portion of wastewater treated and reused multiplier)	Increase the rate of wastewater treated and reused	Interpolate to 1.2 by 2026 and hold to 2040	0.11 ckm to 0.151 in 2026 and by 0.23 by 2040	Increases wastewater treated and reused by nearly 37% between 2021 and 2026.
Qem-Q (Capital costs-to-output ratio) in energy multiplier (OthRenew)	Reduce capital cost of renewable energy	Interpolate to 0.8 by 2026 and hold to 2040	0.226% of total energy production in 2021 to 0.3% in 2026 and 0.352% by 2040	Because of high subsidies in energy and electricity prices, the cost of investing in renewables is still high in Algeria. Increases renewable energy production by 32% between 2021 and 2026.
Enivm (Energy investment by type) (OtherRenew multiplier)	Increase investment in other renewable energy sources	Interpolate to 1.2 by 2026 and hold to 2040	0.226% of total energy production in 2021 to 0.254% in 2026 and 0.355% by 2040	Augments shift and production of renewable other energy. Improves production by 12% between 2021 and 2026.
<b>Knowledge and Technology</b>				
Ictbroadm (ICT broadband multiplier)	Improve broadband rate	Interpolate to 1.2 by 2026 and hold to 2040	5.9 million people in 2021 to 11.2 in 2026 and 24.4 by 2040	Outcome: increased access to fixed broadband.
Ictintnetbwpum (Multiplier on Internet bandwidth per user)	Improve Internet bandwidth rate per user	Interpolate to 1.2 by 2026 and hold to 2040	No specific series for this intervention	Algeria already has a relatively good ICT infrastructure. Creating greater access to the Internet will help to scale up to a digital economy.
Ictcybbenefitm (ICT cyber benefit multiplier)	Improve the benefit of ICT	Interpolate to 1.2 by 2026 and hold to 2040		Improves number of people with access to fixed broadband by 89% between 2021 and 2026.
				India increased fixed broadband per 100

				subscriptions by over 700% between 2005 and 2010.
Edqualpriallm (primary education quality, multiplier)	Improve the quality of primary education	Interpolate to 1.1 by 2031 and hold to 2040	40.39 in 2026 to 43.42 in 2031 and 45.92 by 2040	Improves the quality of primary education by 16% between 2021 and 2031. The quality of education in Singapore and Japan has scored above the OECD (PISA) <sup>[4]</sup> average since 2015.
Edqualsecallm (secondary education quality, multiplier)	Improve the quality of secondary education	Interpolate to 1.1 by 2031 and hold to 2040	47.66 in 2026 to 50.88 in 2031 and 53.08 by 2040	Improves the quality of secondary education by 14% between 2021 and 2031.  Singapore scored higher in quality of education than all the OECD-PISA participating countries in 2018.
Edseclowrgram (lower secondary graduation rate multiplier)	Improve lower secondary graduation rate	Interpolate to 1.1 by 2031 and hold to 2040	97.09% in 2026 to 101.9% in 2031 and 103.6% by 2040	Increases lower secondary graduation by roughly 9 percentage points between 2021 and 2031.
Edsecupprtranm (upper secondary transition rate multiplier)	Improve transition rate to upper secondary	Interpolate to 1.1 by 2031 and hold to 2040	87.34% in 2026 to 93.27% in 2031 and 96.13% by 2040	Increases upper secondary transition 11.5 percentage points between 2021 and 2031.  Ghana increased upper secondary transition by 49

				percentage points between 2006 and 2011.
Edsecupprgram (upper secondary graduation rate multiplier)	Improve upper secondary graduation rate	Interpolate to 1.1 by 2031 and hold to 2040	82.66% in 2026 to 88.36% in 2031 and 91.68% by 2040	Increases upper secondary graduation by 11.3 percentage points between 2021 and 2031.  Sri Lanka increased secondary graduation by over 20 percentage points between 1990 and 2000.
Edsecupprvocadd (upper secondary vocational share additive factor)	Improve upper secondary vocational training	Interpolate to 4 by 2031 and hold to 2040	11.82 in 2026 to 13.82 in 2031 and 13.83 by 2040	Improves upper secondary vocational training by nearly 4 percentage points between 2021 and 2031. Algeria tripled vocational enrolment between 1981 and 1987. <sup>[5]</sup>
Edsterintm (tertiary intake rate multiplier)	Improve tertiary intake rate	Interpolate to 1.1 by 2031 and hold to 2040	36.21% in 2026 to 35.68% to 36.88% in 2031 and 42.48% by 2040	Improves tertiary enrolment by 2.2 percentage points between 2021 and 2031. Ukraine increased tertiary enrolment by 28 percentage points between 1995 and 2005.

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12. The term 'anocracy' captures the extent to which a country in this range has both autocratic and democratic characteristics. A score of -10 generally indicates a hereditary monarchy and +10 a consolidated multiparty democracy.
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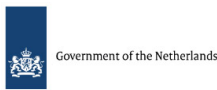
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## About the authors

Dr Jakkie Cilliers is the ISS's founder and former executive director of the ISS. He currently serves as chair of the ISS Board of Trustees and head of the African Futures and Innovation (AFI) programme at the Pretoria office of the ISS. 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.

## About African Futures & Innovation

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.