



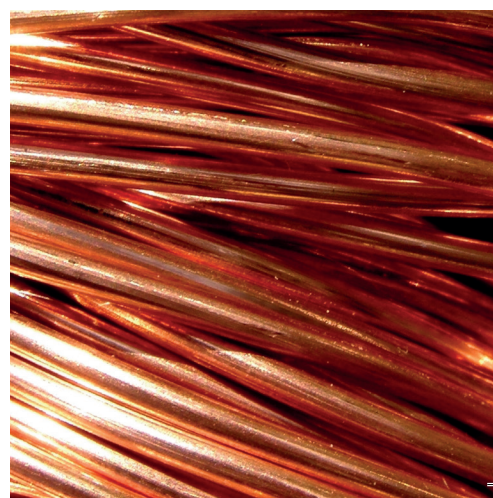
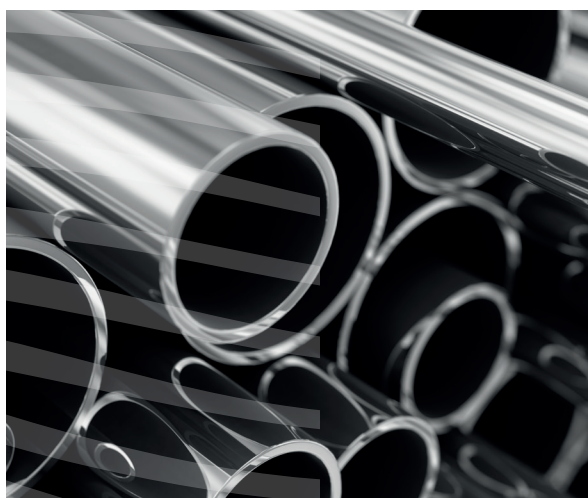
Transforming Africa's Trade

African Export-Import Bank
Banque Africaine d'Import-Export

COMMODITIES Outlook

Q1
2022

Agriculture, Energy, Metals



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Agriculture

Introduction: Record Prices to Drive Production Growth

Surging global crop prices will have mixed impacts on economies in Africa over 2022. On the one hand, the highest prices in a decade will raise incomes for farmers of crops including wheat, corn, sugar and coffee. On the other hand, surging fertiliser and fuel prices will raise costs for farmers and partially offset the increase in farming sector profits. Moreover, the high cost of imported food will increase the cost of living across the continent and raise risks to social stability. This is particularly the case in North Africa, which is the main grain-importing sub-region in Africa. Overall, the impact on farm production will be positive, because the combination of high prices and increased government support for farmers will expand acreage under cultivation and boost yields.

Rather than being driven by private firms, investment into farming sectors in African countries is generally being led by governments and multilateral agencies, such as the World Bank. For instance, South Africa's Sugarcane Value Master Plan, the Green Morocco Plan and the World Bank's support of irrigation in Egypt will all play significant roles in boosting farming output in these countries. Private sector investment into farming sectors in Africa is also accelerating. This includes investment from OCP Africa, Barry Callebaut and Dangote aimed at taking advantage of booming regional and global demand for agricultural products.

Together, these investment trends will create significant growth potential for staple crops, such as maize, rice and wheat; export-oriented crops including cocoa, coffee and sugar; and agro-processing. Agro-processing zones are being widely targeted as a way of increasing employment linked to the farming industry and extracting more value for local economies from export-oriented sectors. Dynamic markets for agro-processing include cocoa and cotton in West Africa; sugar in Egypt and Ethiopia; and horticulture and aquaculture in South Africa.

Intra-Africa trade in agricultural products is also set to expand significantly in the coming years. Rapid population growth and urbanisation will create larger and more dynamic demand hubs for agricultural commodities across the continent over the coming decade. African cities are expected to be home to an additional 236 million people by 2030. Nigeria alone is forecast to have an additional 49 million urban residents, with other large increases expected in the Democratic Republic of the Congo (21 million), Tanzania (13 million) and Ethiopia (13 million). West Africa is a leading region for developing intra-regional food trade, as discussed in this report.

This report analyses the price outlook for ten agricultural commodities (cocoa, coffee, corn, cotton, milk, palm oil, rice, soybean, sugar and wheat) over the coming years. In addition, this report picks out the likely impact on Africa's agricultural sector. These impacts range from how high cocoa prices are encouraging the development of downstream grinding facilities in Cameroon; how regional export opportunities are encouraging investment into sugar production in Ethiopia and Nigeria; and how record-high palm oil prices will accelerate development of palm oil production and processing in countries including Ghana and Côte d'Ivoire.

Global Price Overview

- Russia's invasion of Ukraine has significantly boosted agricultural commodity prices, particularly for grains. Prices are expected to remain high over 2022.
- Improving supply should drive a broad-based decline in crop prices from 2023. However, prices are expected to remain above pre-Covid-19 levels.

Global agricultural commodity prices surged in response to Russia's invasion of Ukraine and are expected to remain elevated over much of 2022. The conflict has dented global supply prospects for many crops, particularly grains through two main channels. Most directly, both Russia (largest wheat exporter) and Ukraine (fourth-largest corn exporter, fifth-largest wheat exporter) are significant suppliers of grain to global markets. Disruption of production in Ukraine and to

transit of grain from both countries resulting from the Russia–Ukraine war will significantly disrupt global food supply chains and drive prices higher. The second channel through which the conflict is pushing up crop prices is through increases to farming costs. Surging global gas prices are pushing up fertiliser costs, while high oil prices make the operation of farm machinery more expensive. High grain prices are also increasing the cost of feed for livestock farmers.

Looking beyond 2022, the prices for most agricultural commodity prices are forecast to decline from the highs of the first quarter of 2022. Lower prices will mainly be the result of significant increases in supply as high prices in 2022 encourage farmers to invest in larger acreage and yield improvements. Although prices for most agricultural commodities are forecast to weaken in 2022 and out to 2026, they are also expected to remain high by the standards of the previous five years. The Fitch Solutions agricultural commodity price index (2010 = 100) is forecast to average 101 over 2022–2026 compared to 119 in 2021 and 88.8 over 2016–2020.

Agriculture Price Forecasts							
Commodity	Unit	2021	2022	2023	2024	2025	2026
Agriculture Price Index	2010=100	119	109	100	99	99	98
Cocoa	GBP/tonne	1,702	1,900	1,930	1,945	1,950	1,950
Coffee	USc/lb	171	150	120	115	115	115
Corn	USc/bushel	566	525	470	450	420	420
Cotton	USc/lb	93	100	90	85	80	76
Milk	USD/cwt	18.1	18.1	17.8	17.8	17.8	17.8
Palm Oil	MYR/tonne	4,150	4,500	4,000	3,500	3,000	2,600
Rice (Rough)	USD/cwt	14	14	13	12	12	12
Soybean	USc/bushel	1,362	1,200	1,250	1,300	1,350	1,350
Sugar (#11)	USc/lb	18	17	15	14	13	13
Wheat	USc/bushel	709	675	530	520	520	520

Note: Annual averages. Source: Fitch Solutions

Impact of Agricultural Price Trends on Main Agricultural Markets in Africa

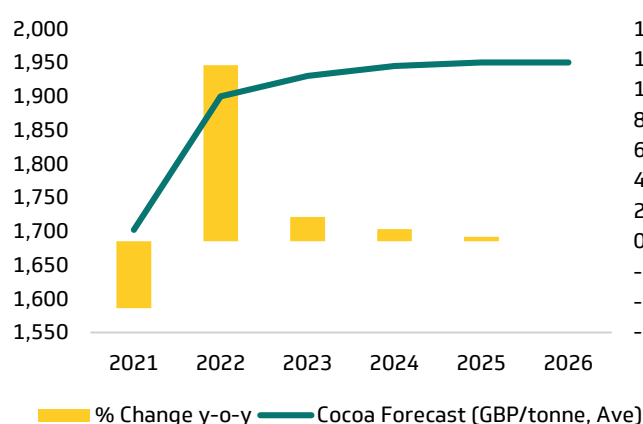
Country	Agribusiness Industry Value, 2021 (USD million)	Main Crops	Price Impact
South Africa	36,043	Corn, Sugar	Corn producers will be boosted by surging global prices, given that South Africa is a significant exporter to the wider Africa region
Nigeria	35,798	Cocoa, Palm Oil, Rice, Sugar	Record high international food prices will accelerate government investment into local farming in order to reduce Nigeria's import requirements
Algeria	35,275	Dairy, Wheat	The government will continue to support domestic wheat farmers in order to reduce imports of wheat
Kenya	28,700	Coffee, Corn	Slow privatisation of the country's state-owned sugar mills and a number of ineffective coffee support programmes have constrained output growth. But production is forecast to rise gradually over 2022-2026
Egypt	25,444	Cotton, Dairy, Rice, Sugar, Wheat	Government measures to improve water stewardship will be negative for rice production, but will boost wheat and sugar output
Ethiopia	21,944	Coffee, Corn, Sugar, Wheat	The sugar sector is the most promising segment of Ethiopia's farming industry, with public and private investment set to turn the country into a regional exporter over the coming years
Ghana	15,026	Cocoa, Coffee, Palm Oil	A steady upswing in cocoa prices will drive slow but steady growth in Ghana's upstream and downstream cocoa sectors. Record high palm oil prices will boost investment into Ghana's vegetable oil industry
Côte d'Ivoire	13,913	Cocoa, Coffee, Cotton	Cocoa production growth will be limited by labour shortages and environmental opposition to expanding acreage. High international cotton prices will support exports
Cameroon	13,891	Cocoa, Cotton, Corn	Cameroon is a small, but fast-growing producer of numerous crops including cocoa and cotton. The country is also developing downstream agro-processing capacity for these and other crops
Tanzania	13,135	Coffee, Corn, Cotton	Production will also be supported by government and private investment targeting yield improvements, such as the second phase of the National Rice Development Strategy, which runs from 2019-2030
Morocco	9,297	Dairy, Wheat	As Morocco imports a significant proportion of the country's grain requirements, surging international prices will accelerate government investment into the agricultural sector via the "Green Morocco" programme
Mozambique	8,665	Corn, Sugar	Agricultural production will continue to rebound from the disruption caused by both flooding and the Covid-19 outbreak in recent years. Corn imports are expected to rise
Zambia	4,825	Corn	Zambia is on track to record a bumper corn crop in 2022 due to an expansion in the planted area driven by continued government support to smallholder farmers to access subsidised agricultural inputs
Angola	4,124	Sugar	High global sugar prices will help the government accelerate planned partial privatisation of the country's sugar industry
Namibia	616	Livestock	Higher corn prices will marginally raise costs for livestock farmers
Botswana	125	Livestock	Higher corn prices will marginally raise costs for livestock farmers

Source: Fitch Solutions

Cocoa: Prices to Edge Higher

Price Forecast 2021-2026						
	2021	2022	2023	2024	2025	2026
Price (GBP/tonne, ave)	1,702	1,900	1,930	1,945	1,950	1,950
% Change y-o-y	-4.4	11.6	1.6	0.8	0.3	0.0

Cocoa Forecast (GBP/tonne, Ave)



Source: Fitch Solutions

- In contrast to volatility in other agricultural markets, the price of cocoa has largely fluctuated around GBP1,700/tonne over the past year as both global production and consumption have risen in tandem.
- Demand growth is expected to outpace supply in 2022, as the progressive lifting of Covid-19-related restrictions buoys demand.
- As a result, cocoa prices are forecast to gradually rise over the coming years.

Impact on Africa:

West Africa is the global centre of cocoa production, with Ghana and Côte d'Ivoire accounting for almost two thirds of total annual output. Cameroon and Nigeria are smaller but fast-growing cocoa exporters.

Africa – Cocoa Production, '000 tonnes						
Country	2021	2022	2023	2024	2025	2026
Côte d'Ivoire	2,225	2,192	2,218	2,240	2,263	2,285
Ghana	1,047	1,010	1,030	1,061	1,093	1,131
Cameroon	290	300	315	335	355	375
Nigeria	250	260	270	278	286	294

Source: FAO, USDA, Fitch Solutions

Cocoa output in West Africa is expected to stagnate in 2022 after a bumper crop in 2021. Regional production surged in 2021, mainly due to a strong rebound in Ghana, where output increased by an estimated 35% as strong government backing, recovering prices and farmer incentives supported yields, while weather conditions were also favourable. Production in West Africa as a whole is expected to be stable in 2022 as the significant gains of 2021 will be difficult to replicate. This is particularly the case given that recent Harmattan weather conditions in early 2022 have not been favourable to high yields. Moreover, there is concern that cocoa swollen shoot disease could negatively impact tree yields in Ghana.

Although Côte d'Ivoire will remain the world's largest cocoa grower, output growth in the country is forecast to be weak. Farmers will face environmental opposition to further expansion of planted areas. The sector will also suffer from an ongoing labour shortage as younger cocoa farmers leave the sector to take up other employment. Côte d'Ivoire will gradually increase the share of cocoa beans processed in the country before export, as it develops its downstream cocoa industry. The country levies a regressive tax on cocoa exports, with exports of beans taxed at 14.6%, powder at 9.6% and chocolate at 0.0%.

In July 2019, Ghana and Côte d'Ivoire announced the Living Income Differential (LID), a USD400/tonne charge on top of market cocoa prices aimed at improving farmer incomes. Unlike the majority of chocolate companies' sustainability schemes that focus on select farmer groups, the LID aims to raise incomes throughout Ghana's and Côte d'Ivoire's cocoa production industries. Global chocolate manufacturers are expected to adhere to the surcharge in the short term, due to their sustainability commitments and brand reputation, as well as the difficulties for sourcing cocoa from alternative origins.

Although Cameroon is a relatively minor cocoa producer in the region, the country's production growth prospects are particularly bright. In 2022, production in Cameroon is forecast to rise to another record of 300,000 tonnes (up 3.4% year-on-year). Domestic policy in the country has successfully encouraged greater private sector investment into the cocoa sector. Multilateral support for the sector is also strong as the African Development Bank continues to support investments into the sector and has been encouraging research into next-generation seed varieties to support farmer revenues. In March 2021, the World Bank stated that it will continue to develop the Benue Valley Development and Investment Enhancement Project (Viva Benue), which is expected to increase the area of irrigated land from 1,000 hectares to 14,000 hectares after 2025.

Global Drivers of Price View:

Deteriorating cocoa production prospects in West Africa for 2022 have improved the price outlook for cocoa. West Africa is by far the world's largest cocoa-producing region. Cocoa prices are now expected to rise to average GBP1,900/tonne in 2022 compared to previous forecasts of around GBP1,775/tonne for the year that were made back in October 2021.

More generally, strong demand growth should sustain a gradual uptrend in cocoa prices over the coming years. Cocoa demand has been slow to recover from the global Covid-19 pandemic due to the

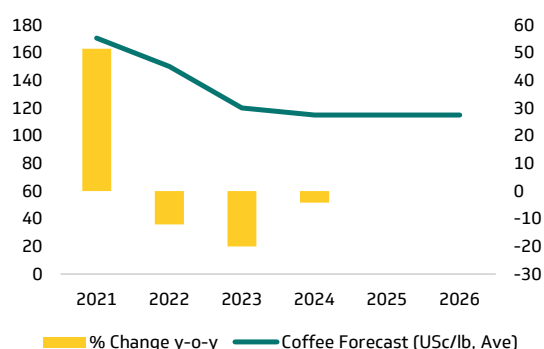
impact of hospitality and travel trends on cocoa consumption. The steady reopening of hospitality sectors and a recovery in international travel, even just to 2019 levels, will drive strong growth in cocoa demand over the coming years, which is expected to outpace the expansion in supply.

In the long term, the increasing prevalence of ESG concerns could slow production growth and increase prices. Ongoing efforts to eliminate the use of child labour and limit deforestation will continue to be costly and may intensify as part of the nascent ESG movement. These efforts will create additional costs for farmers and slow production growth in the coming decade.

Coffee: Price Spike to Gradually Reverse

Price Forecasts 2021-2026						
	2021	2022	2023	2024	2025	2026
Price (US\$/lb, ave)	171	150	120	115	115	115
% Change y-o-y	51.4	-12.1	-20.0	-4.2	0.0	0.0

Coffee Forecast (US\$/lb, Ave)



Source: Fitch Solutions

- The price of arabica coffee doubled in the 12 months leading up to February 2022 due to deteriorating supply prospects in Brazil and a strong recovery in global demand.
- Prices are forecast to decline over 2022 as a whole due to a strong recovery in global production. Coffee output at farms will be boosted by currently high prices and reduced logistical disruption from the Covid-19 pandemic.

Impact on Africa:

East Africa will remain the centre of Africa's coffee production, with output dominated by Ethiopia, Uganda and Tanzania. East Africa typically accounts for 5–8% of global coffee exports annually. West African coffee output is dominated by Côte d'Ivoire, the third-largest coffee producer in Africa, and output is also growing strongly in smaller producers such as Cameroon and Ghana.

Despite sustained government efforts to boost coffee exports, Ethiopian coffee production is forecast to grow slowly in the coming years. Coffee production growth from Ethiopia's mainly small-scale farmers will result from high local coffee prices and plant rejuvenation programmes. The fragmented and small-scale nature of Ethiopia's coffee industry will prevent more rapid growth.

The pace of coffee production in Uganda is expected to steady. Coffee output is forecast at around 5.9 million 60kg bags in 2022, rising to 6.7 million by 2026. Output growth will result from trees replanted over recent years entering their higher yielding phase, with output further boosted by improved resistance to disease. In 2020, the Ministry of Agriculture, Animal Industry and Fisheries launched the Micro-Scale Irrigation Programme from which USD150 million will be invested in conjunction with the World Bank.

Coffee will remain one of Tanzania's most important cash crops, and production is forecast to increase steadily out to 2025. More rapid growth will be prevented by a number of structural factors including old trees, low fertiliser usage and frequent drought. The Tanzanian government continues to push for a coffee revolution that will bolster yields, increase farmer income and support national exports. Coffee tree yields remain very low compared with the global average, and yield growth is hindered by a lack of investment, a shortage of funds and poor farming techniques. In 2020, it was announced that the Tanzania Agricultural Development Bank had invested around TZS23 billion in the Mara region's coffee sector.

In Kenya, coffee production is forecast to recover in 2022 following a drought-related decline in 2021. Looking further ahead, production growth is expected to be limited by structural issues, such as limited mechanisation of the sector. However, the government is attempting to revitalise the sector through the country's Kenya Vision 2030 and its Big Four Agenda.

Africa – Coffee Production, '000 60kg bags						
Country	2021	2022	2023	2024	2025	2026
Ethiopia	7,600	7,620	7,735	7,855	8,010	8,165
Uganda	6,000	5,950	6,155	6,375	6,575	6,750
Côte d'Ivoire	1,060	1,431	1,503	1,578	1,657	1,739
Tanzania	1,350	1,400	1,471	1,533	1,573	1,611
Kenya	700	750	760	770	790	810
Cameroon	500	550	575	600	628	655
Ghana	128	138	149	159	169	180

Source: FAO, USDA, Fitch Solutions

Global Drivers of Price View:

The global supply outlook for 2022 deteriorated in late 2021 and early 2022 due to a wave of frost and drought in Brazil, along with Covid-19-related export disruption at ports in the country. As Brazil accounts for more than a third of annual global production, this led to a surge in prices to above US\$250 per pound in February 2022, which was double the level experienced during February 2021.

The global production outlook is expected to improve steadily, as high prices encourage strong plantings in Brazil and elsewhere. As a result, coffee prices are forecast to decline steadily over the second half of 2022 and in 2023.

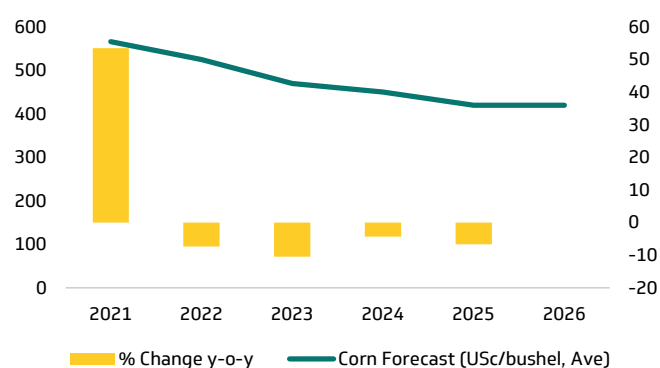
Price declines should be gradual as the global demand outlook for the coming years is strong. Asia, the main growth market for coffee, had much tighter Covid-19-related restrictions still in place compared to the rest of the world as of the first quarter of 2022. There is thus significant potential for coffee demand growth in Asia as lockdown restrictions in the region are relaxed over the coming quarters and spending in cafés and the hospitality sector rebounds.

Corn: Disruption to Ukraine Supply to Buoy Prices

Price Forecasts 2021-2026

	2021	2022	2023	2024	2025	2026
Price (USc/ bushel, ave)	566	525	470	450	420	420
% Change y-o-y	53.5	-7.3	-10.5	-4.3	-6.7	0.0

Corn Forecast (USc/bushel, Ave)



Source: Fitch Solutions

- Corn prices have increased sharply following Russia's invasion of Ukraine, which is the world's fourth-largest corn exporter.
- Corn prices are forecast to remain high through the first half of 2022 at least, before weakening in subsequent years as high prices encourage a strong production rebound.

Impact on Africa:

South Africa is Africa's largest producer and exporter of corn, and output in 2022 is forecast to remain around the record high of 17 million tonnes produced in 2021. Planting and growing conditions so far have been good for the 2022 season. High local and global corn

prices as well as strong export demand encouraged strong corn plantings for the 2022 season, which occurred over November–December 2021. Tractor and combine harvester sales were also reported to be up 30% on a year-on-year basis in the lead-up to the season, suggesting positive farm sentiment and high planting intentions.

South Africa will be a significant regional exporter of corn, as the country will run a sustained corn production surplus, rising from 4.3 million tonnes in 2021 to 5.8 million tonnes in 2026. South Africa will look to African markets for corn exports, including African countries with significant corn-import requirements such as Egypt, Algeria and Morocco.

Elsewhere in southern Africa, Zambia is a significant regional corn exporter, and its production outlook has improved over recent months. Zambia is on track to record a bumper corn crop in 2022, due to an expansion in the planted area driven by continued government support to smallholder farmers to access subsidised agricultural inputs. Corn production is forecast at 3.6 million tonnes in 2022 compared to 3.4 million tonnes in 2021. The US Department of Agriculture forecasts that the exportable corn surplus will reach around one million tonnes in 2022.

In East Africa, Tanzania will be an occasional regional exporter as production keeps pace with domestic demand. Production growth will be driven by yield growth over the next five years. Efforts to improve yields of smallholder farmers in Tanzania (who account for around 80% of domestic corn output) include the launch of a new fertiliser product (MiCROP) by YARA Tanzania, targeted at corn and rice producers, as well as the development of an improved fertiliser delivery system. The National Post-Harvest Management Strategy will also support production growth over our forecast period by improving efficiency and reducing losses. The removal of the corn export ban, combined with increasing demand from neighbouring countries and rising corn prices, will encourage corn plantings in Tanzania.

Nigeria is a major regional corn producer, but will remain a significant net importer of the grain given high levels of domestic consumption. This will continue despite the government's stated aim of becoming a significant corn exporter. Corn yields are set to improve over the coming years due to collaboration between the government, the National Agricultural Seeds Council, National Biotechnology Development Agency, agricultural research institutes and seed companies, focused on developing and introducing improved seeds to farmers. As a result, corn production growth is forecast to accelerate from 2023 onwards.

Africa – Corn Production, '000 tonnes

Country	2021	2022	2023	2024	2025	2026
South Africa	16,900	17,000	17,200	17,180	18,400	19,620
Nigeria	11,000	10,800	10,962	11,200	11,368	11,201
Ethiopia	10,557	9,000	9,500	10,120	10,322	10,500
Tanzania	6,500	6,600	6,711	6,921	7,187	7,453
Egypt	6,400	6,528	6,834	6,970	7,100	7,230
Kenya	4,000	4,030	4,070	4,111	4,152	4,194
Zambia	3,387	3,621	3,766	3,917	4,073	4,236
Uganda	2,750	2,800	2,856	2,913	2,971	3,031
Cameroon	2,200	2,220	2,256	2,289	2,311	2,333
Mozambique	2,125	2,100	2,200	2,231	2,421	2,611

Source: FAO, USDA, Fitch Solutions

Global Drivers of Price View:

Russia's invasion of Ukraine has weakened the global supply outlook for corn, because Ukraine is the world's fourth-largest exporter of corn. Corn prices have already been driven higher since September 2021 due to a surge in global energy prices. Corn is a fertiliser-intensive crop, and the rise in global natural gas prices has dramatically increased the cost of fertiliser production. Reduced fertiliser application is thus expected to weaken corn yields globally. Higher crude oil prices have also put upwards pressure on the price of ethanol, which has encouraged corn-based ethanol production and thus boosted corn demand.

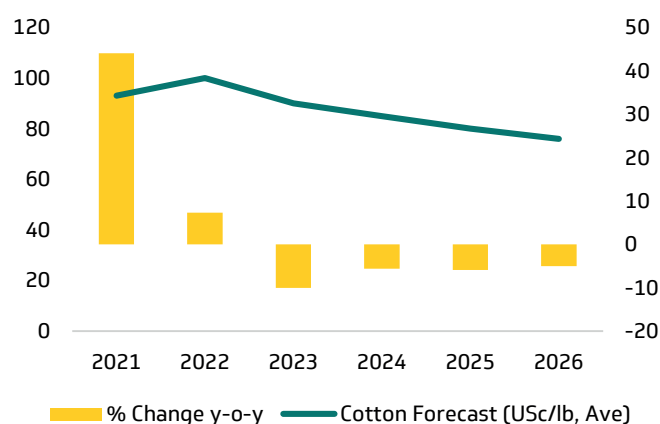
What is more, La Niña has dampened harvesting yields and production in Latin America, which has helped to deepen the forecast market deficit to 40 million tonnes in 2022. A tight global supply situation is thus expected to keep corn prices high over the first half of 2022 at least.

Looking beyond 2022, the global corn market is forecast to be well supplied and prices are thus expected to decline. Lower natural gas and fertiliser prices will combine with high corn prices to encourage stronger production growth over the coming years.

Cotton: High Oil Prices to Keep Cotton in Demand in 2022

Price Forecasts 2021-2026						
	2021	2022	2023	2024	2025	2026
Price (USc/lb, ave)	93.2	100.0	90.0	85.0	80.0	76.0
% Change y-o-y	44.1	7.3	-10.0	-5.6	-5.9	-5.0

Cotton Forecast (USc/lb, Ave)



Source: Fitch Solutions

- The price of cotton rose to over USc120 per pound in February 2022, around a third higher in year-on-year terms.
- The increase in crude oil prices and associated products, such as polyester, has boosted the demand for, and prices of, natural fabrics including cotton.
- Prices are expected to remain high in 2022 but are set to decline in the longer term as high prices encourage stronger production growth.

Impact on Africa:

Global cotton prices are forecast to remain high over 2022 and beyond due to a strong recovery in demand for cotton from the textiles industry. The majority of cotton produced in Africa is exported, and

high international prices will thus maintain strong incentives for cotton farmers on the continent.

High cotton prices will also encourage investment into downstream cotton-processing facilities that will enable countries to benefit from a larger share of the textile value chain. For example, in Togo, a partnership between the Government of Togo and Arise Integrated Industrial Platforms, started an investment in the Plateforme Industrielle d'Adetikopé textile park in June 2021. Elsewhere, West Africa's first organic cotton ginning plant was constructed in Burkina Faso in January 2020. A USD7.1 million facility is operated as a joint venture between the National Union of Cotton Producers of Burkina and the Burkinabe Textile Fibres Society.

Demand for cotton from textile producers in Africa will grow, which will create opportunities for regional farmers. While textile industries in the three dominant African textile exporters (Morocco, Tunisia and Egypt) have stagnated in recent years due to strong competition from Asia, several smaller producers, including Madagascar, Lesotho, Eswatini and Rwanda, have seen textile output grow strongly. In the case of Madagascar and Lesotho, exports are mainly destined for the United States and growth has been significantly boosted by favourable access to that market via the African Growth and Opportunity Act. This will create opportunities for cotton growers in West Africa including Benin, Cameroon, Côte d'Ivoire and Mali to sell a larger proportion of their cotton to regional customers.

Logistical constraints could raise the cost of linking cotton supply from West Africa to end markets in small African countries, such as Madagascar, Lesotho, Eswatini, Ethiopia and Rwanda. This was a particularly significant impediment during 2021, and potentially in 2022, due to global shipping costs that surged to multi-year highs during 2021 and remain high in early 2022.

Benin will continue to cement itself as Africa's largest cotton producer and exporter. The government's National Development Plan for 2018–2025 aims to expand and modernise the agro-industry, partly through increased mechanisation. The government is focusing resources on six priority sectors (cotton, maize, rice, pineapple, manioc and cashew nuts), aiming to develop seven regional agribusiness centres. The country's Fonds National de Développement Agricole (FNDA) has been tasked with dispersing CFA100 billion of financing, with the cotton sector being a major beneficiary. Cotton accounted for around half of the country's export revenues in 2020. Benin's cotton crop is forecast at 1.7 million bales by 2026, which would be a 16.7% increase over the estimated 2021 crop of 1.5 million bales. Local processing of cotton will also gradually increase in Benin. A special economic zone in Glo-Djigbé was announced in February 2021, which aims to process around 100,000 tonnes of cotton annually. The partnership between Arise and Benin intends to house around 30 factories for processing cotton. Arise is a partnership between the Africa Finance Corporation and Singapore firm Olam International.

Africa – Cotton Production, '000 480lb bales						
Country	2021	2022	2023	2024	2025	2026
Benin	1,450	1,504	1,549	1,595	1,643	1,692
Côte d'Ivoire	1,010	1,030	1,051	1,072	1,093	1,115
Cameroon	584	619	650	689	724	767
Nigeria	350	358	365	371	377	383
Egypt	316	338	362	387	415	444
Zambia	223	234	248	260	276	290
Zimbabwe	218	232	255	270	297	315
Tanzania	215	255	300	322	355	375
Uganda	170	187	179	197	217	239
South Africa	167	184	201	226	249	266
Ethiopia	160	175	182	173	171	166

Source: FAO, USDA, Fitch Solutions

Global Drivers of Price View:

The rally in crude oil prices since the fourth quarter of 2021 has increased the price of petroleum-derived fabrics such as polyester, which are substitutes for cotton. A resulting increase in demand for cotton from the global textile industry has underpinned a surge in cotton prices, which is expected to persist in 2022 as oil prices remain elevated.

Cotton prices are forecast to decline gradually over the coming years as demand growth slows and supply improves. On the supply

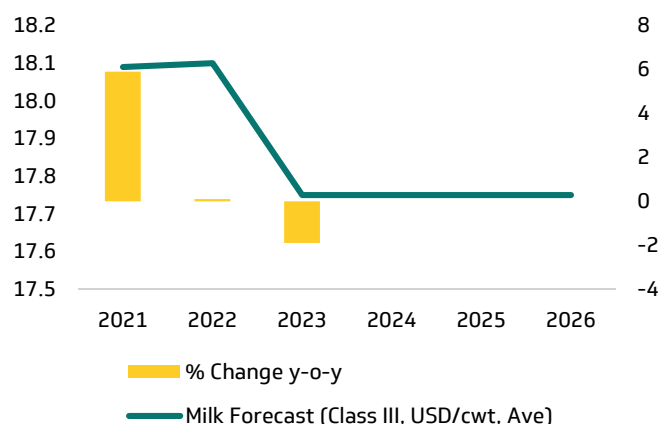
side, the lifting of Covid-19-related restrictions and high prices should boost plantings and help increase production. Global annual production is forecast to rise steadily to around 133 million tonnes by 2026, led by countries such as India and China where government support for cotton farmers remains high. On the demand side, consumption is forecast to grow to just 127 million tonnes by 2026, which would result in a well-supplied global market. Rising annual production surpluses over the coming years will build global stocks and put downward pressure on prices.

Milk: High Grain Costs to Boost Dairy Prices

Price Forecasts 2021-2026

	2021	2022	2023	2024	2025	2026
Price (Class III, USD/cwt, ave)	18.1	18.1	17.8	17.8	17.8	17.8
% Change y-o-y	5.9	0.1	-1.9	0.0	0.0	0.0

Milk Forecast (Class III, USD/cwt, Ave)



Source: Fitch Solutions

- Russia's invasion of Ukraine in February 2022 has caused a surge in global grain costs and this will feed through to higher dairy prices.
- Dairy prices are expected to decline over the longer term as strong grain production drags feed costs lower and results in more abundant milk production.

Impact on Africa:

Africa will remain a net importer of dairy products due to limited domestic production and rapid consumption growth. Investment into African dairy production will be focused in North Africa, where

the majority of production currently exists. Milk production in Africa will remain small from a global perspective and mostly orientated towards the domestic market.

Dairy production and consumption are forecast to grow strongly in several North African markets including Egypt, Morocco and Algeria. Egypt is forecast to experience strong growth in dairy production as multinational firms increase their regional investments and domestic demand remains steady. Despite growing domestic consumption, Egypt is forecast to see rising dairy exports in the coming years. For example, in March 2019, Dutch company FrieslandCampina signed a joint venture with cheese brand Domty, owned by Egypt-based company Arabian Food Industries, with the aim of increasing cheese exports from Egypt to the Middle East and Africa.

In Algeria, government efforts to reduce reliance on dairy imports are intensifying, and this will boost dairy production. In the fourth quarter of 2021, Agriculture Minister Abdelhamid Hamdan noted that the government is targeting to boost the domestic dairy cow herd from around 8,000 in 2021 to over 20,000 by 2024. The annual estimated government dairy import bill stood at USD1.3 billion, and various strategic incentives are being developed to bolster domestic output over 2022–2024. The government's efforts to support the industry and to bolster domestic food production will encourage dairy yields out to 2026. Reducing import reliance on food is also another major priority of the government that will support domestic production levels.

Nigeria's milk production is forecast to rise following numerous new initiatives by companies operating in the country, as well as government targets to reduce dependence on agro-food imports. Although investments by FrieslandCampina WAMCO, URUS, Barenbrug and Agrifirm will be more successful than those over the past decade, the low productivity of Nigeria's cow herd will constrain the pace of milk production growth. At the same time, demand for dairy products will rise due to income growth in the country. As a result, Nigeria will remain a significant importer of dairy products, notably milk powder. Imports will be mainly sourced from the EU.

Africa – Milk Production, '000 tonnes

Country	2021	2022	2023	2024	2025	2026
Egypt	4,677	4,790	4,810	4,825	4,835	4,845
Morocco	2,563	2,612	2,661	2,712	2,766	2,818
Algeria	2,546	2,615	2,685	2,758	2,832	2,909
Nigeria	520	530	547	565	588	611
Mozambique	97	100	103	106	110	113

Source: FAO, USDA, Fitch Solutions

Global Drivers of Price View:

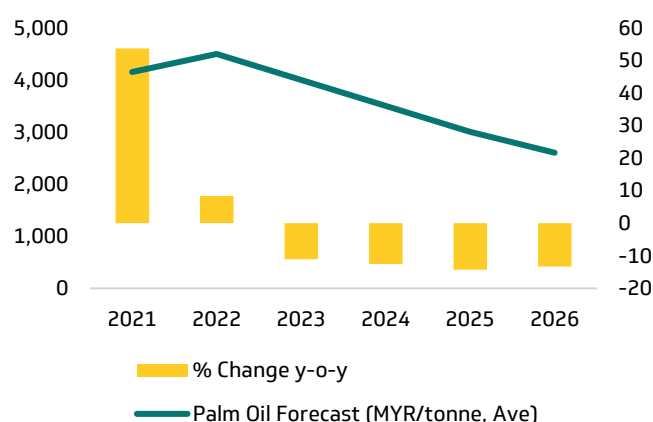
The ongoing Russia–Ukraine war is expected to keep dairy prices high over 2022. Although neither country is a significant supplier of dairy products to the world, the crisis will affect milk supply through a significant reduction in feed supply. Global grain prices have surged in response to the risk of disruption of grain exports from Russia and Ukraine, which are significant exporters of wheat and corn, respectively.

Looking beyond 2022, milk prices are forecast to decline from the highs of the first quarter of 2022 as grain prices eventually recede. High global grain prices are expected to drive strong investment in planted area and yields by farmers outside of Russia and Ukraine, which should significantly boost the supply of feed available to dairy farmers in 2023 and beyond.

Palm Oil: Record Prices in 2022

Price Forecasts 2021-2026						
	2021	2022	2023	2024	2025	2026
Price (MYR/tonne, ave)	4,150	4,500	4,000	3,500	3,000	2,600
% Change y-o-y	53.7	8.4	-11.1	-12.5	-14.3	-13.3

Palm Oil Forecast (MYR/tonne, Ave)



Source: Fitch Solutions

- The price of palm oil has surged since mid-2021 due to significantly higher crude oil prices. Higher crude oil prices boost demand for palm oil from the biodiesel sector.
- Palm oil prices are forecast to decline from their record highs in the coming years as crude oil prices recede and palm oil production in Indonesia and Malaysia accelerates.

Impact on Africa:

While remaining far smaller than the Asian market, West Africa will be an increasingly important hub for the palm oil industry over the coming years. In terms of consumption, palm oil demand in West Africa is expected to increase strongly due to rising incomes,

urbanisation and the development of retail facilities, which will increase demand for vegetable oil. Ghana, Côte d'Ivoire and Nigeria are expected to be the main growth markets for palm oil demand. In terms of production, countries including Nigeria, Côte d'Ivoire, Ghana and Cameroon are all set for expansion.

West Africa will remain a small and roughly self-sufficient part of the global palm oil market. Investment by South-East Asia-based palm oil producers has weakened since 2018, having accelerated over the previous five years. Increased sustainability concerns are increasingly deterring multinational firms from investing in the West African palm oil sector due to concerns over deforestation. Some Asian palm oil firms, especially large corporations leading in sustainability efforts such as Sime Darby and KL Kepong, will be cautious of initiating new operations in West Africa, and instead focus on improving the credentials of their roles in South-East Asia.

Côte d'Ivoire will be a leader in palm oil exports to the wider West African region. Production in Côte d'Ivoire was an estimated 170% of domestic consumption in 2021, resulting in an exportable surplus of around 215,000 tonnes. While Côte d'Ivoire will remain a significant regional exporter, strong local demand for palm oil is expected to prevent any growth in exports over the coming years.

Palm oil production in Ghana will grow strongly. As consumption will grow even more strongly, this will create opportunities for domestic palm oil processing for sale to the local market. Production is forecast to increase by an average of 1.6% year-on-year over 2022 to 2026. A number of recent establishments of both industry and government bodies to regulate and support the Ghanaian palm oil industry have improved the potential of the national sector, compared with other countries in the region. The Oil Palm Development Association of Ghana (OPDAG) was revived in 2015 and is currently being supported by Solidaridad in a strategic plan to improve its governance and administration by 2024. The government is also encouraging domestic production through protecting the industry from international competition.

Nigeria is forecast to enjoy steady growth as investment into modernising the country's agricultural sector from both the government and private firms, such as Dangote, continues. The government has ambitious targets for increasing domestic palm oil output, although actual expansion will be far more modest. In 2019, the government announced a USD500 million credit scheme for Nigeria's palm oil farmers with an aim to increase output sevenfold between 2019 and 2027.

Africa – Palm Oil Production, '000 tonnes						
Country	2021	2022	2023	2024	2025	2026
Nigeria	1,275	1,313	1,353	1,393	1,435	1,478
Côte d'Ivoire	515	520	536	552	568	585
Ghana	365	370	377	385	391	396
Cameroon	308	319	330	342	353	366
Angola	52	53	53	54	54	55

Source: FAO, USDA, Fitch Solutions

Global Drivers of Price View:

Palm oil prices have been significantly boosted by higher crude oil prices since mid-2021. This is primarily because higher crude oil prices increase demand for biofuels, including biodiesel derived from palm oil. At the same time, new rules in Indonesia (the world's top producer) mandating that domestic producers sell at least 20% of their output domestically has restricted the availability of palm oil on the global market. Logistical disruption throughout Asia and a small import duty cut from India (the world's top vegetable oil importer) have also supported palm oil prices.

Looking beyond 2022, palm oil prices are forecast to decline gradually to MYR3,000/tonne by 2025. Global supply growth will accelerate as the easing of Covid-related travel restrictions will

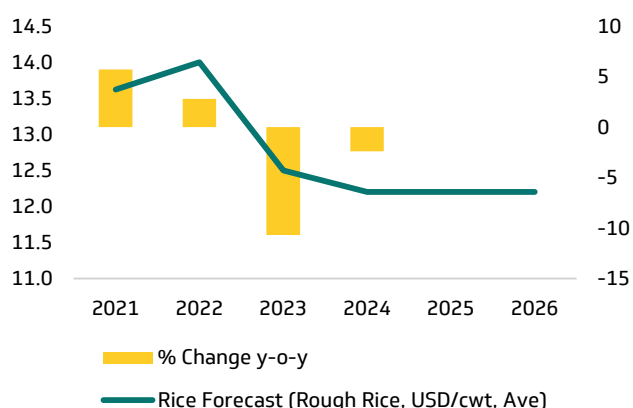
enable migrant labour to return to Malaysia and Indonesia and allow for more plantings and harvesting, thereby boosting production prospects. At the same time, global demand growth should slow as crude oil prices moderate from the highs of 2022. Demand for palm oil in the EU should weaken particularly sharply due to regional pledges to phase out the use of palm oil in biodiesel and restrict the imports of agricultural products linked to deforestation (including palm oil).

While some of the reduction in demand in the EU and the Americas will be offset by stronger demand in Asia resulting from higher biofuel mandates, global production growth is expected to outpace that of consumption in the coming years, which should drag prices lower.

Rice: Price Increases will not be Evenly Distributed

Price Forecasts 2021-2026						
	2021	2022	2023	2024	2025	2026
Price (rough rice, USD/cwt, ave)	13.6	14.0	12.5	12.2	12.2	12.2
% Change y-o-y	5.7	2.8	-10.7	-2.4	0.0	0.0

Rice Forecast (Rough Rice, USD/cwt, Ave)



Source: Fitch Solutions

- Global rice prices will be boosted by high global grain and fertiliser prices in 2022.
- The upside potential for rice prices is less than for grains such as corn, wheat and soybean as government support will partially insulate farmers from higher fertiliser costs in large rice-producing countries including China and India.

Impact on Africa:

Prices received by rice farmers in Africa are significantly influenced by government policy. This typically dilutes the impact of global rice price trends on rice production in Africa, apart from in major rice importers including South Africa, Senegal and Côte d'Ivoire.

High international rice prices in 2022 are forecast to boost production in most of Africa's largest producers, including Nigeria,

Tanzania and Côte d'Ivoire. Production in many countries will benefit from increased investment into irrigation and post-harvest management by government, multilateral and private enterprises, including in Côte d'Ivoire, Nigeria and Tanzania.

Egypt is the only major regional rice producer in Africa with a declining output trend. The long-term decline in rice production in the country is due to government policy aimed at gradually reducing acreage dedicated to the crop in order to ration water used in the farming sector. Rice production in Egypt is forecast to decline by 13.8% in 2022 to 3.5 million tonnes, following on from a 7% decline in 2021. As a result, Egypt will continue to import over one million tonnes of rice annually over the coming years. The government is taking a strong stance on water conservation, having passed a bill in July 2017 that penalises the farming of water-intensive crops, especially rice, outside designated areas. Construction of the Grand Ethiopian Renaissance Dam, which threatens Egypt's water supply via the Nile, has exacerbated water security concerns. A long-term upside for rice production could stem from government plans announced in April 2021 for a megaproject to cultivate roughly one million acres west of the Nile Delta with various crops and create a modern agribusiness hub.

Although Nigeria is Africa's largest producer of rice, the country will remain a major net importer over the coming years. The government is pursuing self-sufficiency by restricting imports via a 70% duty and, beginning in 2019, by obstructing food importers from acquiring foreign currency and by closing land borders with neighbours Benin, Cameroon, Chad and Niger. The Central Bank of Nigeria has enacted a number of subsidies, including a USD130 million fund to offer concessionary loans to farmers with over one hectare of land. The Central Bank announced in March 2022 that rice-milling capacity in the country rose to three million tonnes from 68 integrated mills, compared to 350,00 tonnes from ten mills in 2015.

In Tanzania, rice production will be boosted by government and multilateral financial support. Tanzania is currently in the second phase (2019–2030) of the government-implemented National Rice Development Strategy (NRDS-II). The strategy aims to transform the existing subsistence-dominated rice sector into a commercially viable industry. This includes targets to double both the area under rice cultivation, as well as doubling yields. The government hopes to increase rice production from 2.3 million tonnes in 2020 to 8.8 million tonnes in 2030.

In Côte d'Ivoire, Moroccan firm OCP Africa, a subsidiary of OCP, and the International Islamic Trade Finance Corporation (ITFC) agreed investment into rice farming in April 2021. The programme aims to help 20,000 farmers improve rice productivity through the provision of fertilisers, hybrid seeds and training.

Africa – Rice Production, '000 tonnes						
Country	2021	2022	2023	2024	2025	2026
Nigeria	4,890	5,120	5,455	5,672	5,889	6,106
Egypt	4,000	3,450	3,475	3,421	3,437	3,453
Tanzania	2,310	2,400	2,425	2,511	2,633	2,755
Côte d'Ivoire	962	1,251	1,313	1,379	1,462	1,549
Mozambique	228	234	250	268	287	307

Source: FAO, USDA, Fitch Solutions

Global Drivers of Price View:

Global rice prices, as measured by CBOT futures, are forecast to average USD14 per hundredth weight in 2022 compared to USD13.4 per hundredth weight in 2021. Higher rice prices in early 2022 have been due to higher prices for substitute grains such as corn, wheat and soybean. Higher grain prices will both increase demand for rice as a cheaper alternative for consumers and encourage some farmers to switch from planting rice to other more profitable grains.

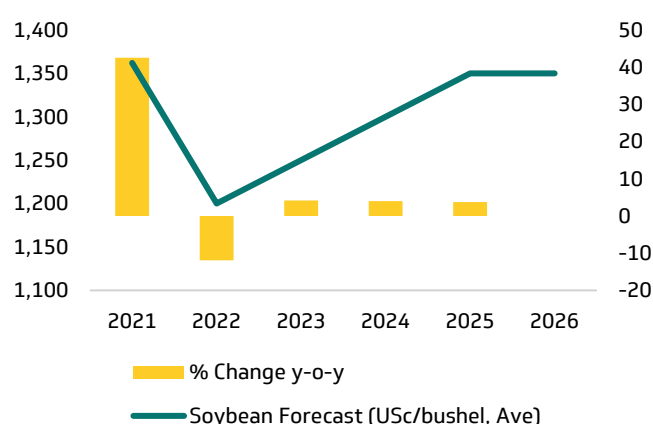
The increase in rice prices will be less significant in some countries. In particular in top producers China and India, government subsidies for local rice farmers have increased and this will boost output in 2022 and 2023.

Looking at 2023 and beyond, global rice prices are forecast to gradually decline through to 2026. Price weakness should be underpinned by strong global production growth as high international prices encourage farmers to boost planted acreage and invest in boosting yields.

Soybean: Surging Corn Prices to Boost Soybean

Price Forecasts 2021-2026						
	2021	2022	2023	2024	2025	2026
Price (USc/bushel, ave)	1,362	1,200	1,250	1,300	1,350	1,350
% Change y-o-y	42.5	-11.9	4.2	4.0	3.8	0.0

Soybean Forecast (USc/bushel, Ave)



Source: Fitch Solutions

- Global soybean prices have been boosted by concerns over the supply of other grains such as wheat and corn following Russia's invasion of Ukraine in February 2022.
- High prices for corn will reduce plantings of soybean in major producers including the United States as farmers switch to the more profitable crop.
- A strong soybean production rebound in 2023 should drive international prices lower.

Africa – Soybean Production, '000 tonnes						
Country	2021	2022	2023	2024	2025	2026
South Africa	1,891	1,850	1,887	1,981	2,041	2,102
Nigeria	898	997	1,107	1,229	1,364	1,514

Source: FAO, USDA, Fitch Solutions

Global Drivers of Price View:

Russia's invasion of Ukraine in February 2022 has significantly increased global soybean prices due to potential disruption to the supply of other grains such as wheat and corn. High prices for corn will reduce plantings of soybean in major producers including the United States as farmers switch to the more profitable crop. Global soybean prices have also been boosted by concerns about lower global supply resulting from the La Niña in Latin America, a region that accounts for around half of global supply.

Impact on Africa:

Africa will remain a minor producer and net importer of soybeans despite rapid production growth in Nigeria and South Africa. These two countries dominate regional soybean production, with significantly smaller output in Ethiopia and Uganda.

In South Africa, soybean production is expected to decrease by 2.2% to 1.85 million tonnes in 2022. While a contraction, this would still be the second-highest annual output on record, lagging only the bumper 2021 crop. Soybean production in South Africa is estimated to have increased by 54% to a record 1.9 million tonnes in 2021 due to high prices and favourable weather. Strong domestic production should result in the lowest level of soybean imports in several years, likely around 350,000 tonnes, according to the US Department of Agriculture. This growth is in line with efforts by the government to boost soybean production in order to reduce the national poultry sector's reliance on imported soy-based feed. South Africa's soybean plantings have risen from just over 300,000 hectares in 2010 to around 925,000 hectares in 2021. As a result, imports of soybean oilcake halved over the period to less than 500,000 tonnes. The government is also supporting investment into downstream soybean-processing capacity, which has already risen from roughly 860,000 tonnes in 2012 to around 2.2 million tonnes in 2020. Over 90% of South Africa's soybean crop utilises genetically modified seeds.

Nigeria will remain Africa's other significant soybean producer. Output will benefit from an upgrading of the country's farming infrastructure and financing resulting from significant government and private sector investment, including by Dangote. Currently low levels of soybean farming yields suggest that production could grow strongly, should farming practices improve. Soybean yields in Nigeria are currently only a quarter of levels in the United States and a third of levels in Argentina. In order to develop a more dynamic soybean production sector, Nigeria will likely require construction of increased soybean-crushing capacity. Singaporean firm Olam will be a key driver of growth in crushing capacity through the company's Animal Feeds and Protein segment, which sources over 150,000 tonnes of soybean from local farmers each year. The company aims to boost Nigeria's soybean production to over two million by the end of the decade. Soybean production in Nigeria will also benefit from a special agricultural processing zone being set up in Oyo State to focus on cassava, soybean and rice.

Prices are forecast to weaken from the multi-year high posted in early 2022 by the end of 2022. A strong soybean production rebound in 2023 should drive international prices lower than 2021.

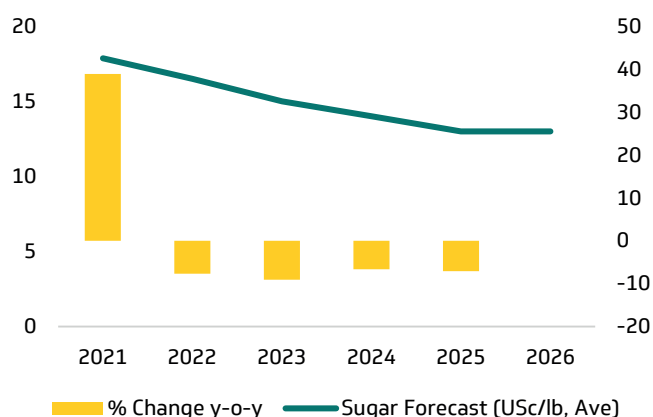
The longer-term price outlook remains positive. Despite a strong increase in soybean production over the coming years, annual demand is expected to steadily outstrip supply out to 2026. Soybean demand in China is expected to be particularly strong as the country's pork sector recovers from the African Swine Fever outbreaks of recent years. Not only will an increase in China's pig herd boost overall demand for feed in the country, but a government drive to improve food safety standards will lead to an increase in demand for crop-based animal feed such as soybeans, at the expense of other sources of feed protein such as meat.

Sugar: Lower in the Long Term

Price Forecasts 2021-2026

	2021	2022	2023	2024	2025	2026
Price (USc/lb, ave)	17.9	16.5	15.0	14.0	13.0	13.0
% Change y-o-y	38.9	-7.7	-9.1	-6.7	-7.1	0.0

Sugar Forecast (USc/lb, Ave)



Source: Fitch Solutions

- Sugar prices rose significantly in early 2022 as waves of frost and heat damage led to a slump in production and mill refinery activity in Brazil, which is the world's top sugar producer.
- Higher crude oil prices have also increased production of ethanol derived from sugar in Brazil, which has reduced the country's exportable surplus of sugar.
- Sugar prices are forecast to decline in the coming years as the global market posts steady annual production surpluses.

Impact on Africa:

Many countries across Africa are targeting their respective sugar production sectors for investment and growth, a strategy that will be supported by surging sugar prices in 2022. Rising domestic consumption, privatisation of mills, government subsidies and significant export opportunities will all facilitate the development of sugar production in many African countries. This is despite sugar exporters on the continent having struggled to maintain sales since the EU abolished its internal sugar production quotas in 2017, which reduced EU demand for African sugar exports.

Egypt and South Africa will remain the largest sugar-producing countries in Africa by a significant margin in the coming years, despite faster growth in other emerging growers. While harvesting far less sugar, Eswatini, Mauritius and Morocco will export most of their production and thus remain three of the largest sugar exporters along with South Africa and Egypt. Other producers such as Mozambique, Tanzania and Zambia will also see gradual gains in sugar output from lower starting points.

Intra-Africa sugar trade will grow as surpluses from countries including South Africa, Egypt and Morocco head to markets with strong consumption growth, such as Nigeria, Mozambique and Tanzania. Ethiopia will be a particularly strong growth story as government investment and privatisation turns the country from

a significant net importer to a major regional supplier over the coming decade.

South Africa is the second-largest sugar grower in Africa and the largest exporter. The near-term outlook is mixed following mill closures in recent years, as well as damage to the industry caused by civil unrest in the country during June 2021. The civil unrest caused disruption to sugarcane production and the harvest in multiple provinces, including Gauteng, Mpumalanga and the Northern Cape. In July 2021, the SA Canegrowers Association estimated revenue losses for sugarcane producers at ZAR221 million of crops. The longer-term production outlook is more optimistic, as President Cyril Ramaphosa has signalled that it is his priority to expand production in export-oriented crops such as sugar and corn. One of the ways the government is trying to achieve this is through the implementation of sector-specific 'Master Plans'. The South Africa Sugarcane Value Master Plan hopes to increase domestic demand for South African sugar to prevent it being sold at a lower price on the global market. Despite slow growth in domestic consumption, South African sugar producers are in a good position to increase exports across Africa, especially Nigeria.

New private investment has given Egypt's sugar industry one of the most promising outlooks in Africa. Egyptian sugar production will grow steadily as sugarcane acreage remains stable and sugar beet acreage grows at the expense of cotton. Leading up to 2026, production will strengthen modestly because the government is keen to expand sugar output and reduce import dependency. Most significantly, UAE-based Al Ghurair Group stated in 2018 that it would invest heavily into developing a new sugar factory in Egypt under the Canal Sugar company. The new production facility is expected to cost around USD1 billion, and the firm stated in 2021 that output will be around one million tonnes annually by the end of 2022.

While only just making it into the top-ten African sugar producers in 2021, Ethiopia is expected to be the third-largest regional producer by 2026. Sugar production in the country is forecast to grow by 18.8% to 475,000 tonnes in 2022 and eventually reach 775,000 tonnes by 2026. Ethiopia is thus expected to almost eliminate its 380,000-tonne sugar import requirement by the middle of the decade and potentially become a significant net exporter in the longer term. Ethiopian production growth will be driven by government investment in the sector and the effect of recent privatisations. Over the past decade, the government has built multiple new mills, although these have suffered from inefficiencies and poor maintenance.

In Nigeria, Dangote Group has announced that it plans to invest significantly in the Nigerian agribusiness sector. Dangote Group plans to invest USD3.8 billion in sugar and rice. In 2018, Dangote Group signed a deal to construct integrated sugar plants in six states in Nigeria, which are all expected to have commenced operations by 2022. The company reported group production of 812,000 tonnes in 2021, which was an increase of 9.2% year-on-year. Dangote aims to eventually produce 1.5 million tonnes of sugar annually in Nigeria.

In Tanzania, the government plans to increase domestic sugar production to 800,000 tonnes by 2022. To this end, it has set aside 300,000 hectares of land for cane plantations and has begun restricting sugar imports through taxes and levies. For instance, in February 2021, the government announced that import permits would only be issued if mills gained permission from the Tanzania Sugar Board. The government's production projections are overly ambitious and sugar output in Tanzania is only forecast to grow to 383,000 tonnes by 2026, compared to an estimated 375,000 tonnes in 2021.

The production outlook is weak in Kenya due to low sugar yields and high production costs. Production will be supported in the near term by COMESA's extension of protection for Kenya from an

influx of imports out to February 2023. In the longer term, sugar farmers in Kenya are likely to be undercut by cheaper imports.

Africa – Sugar Production, '000 tonnes						
Country	2021	2022	2023	2024	2025	2026
Egypt	2,780	2,839	2,789	2,846	2,903	2,960
South Africa	2,106	2,108	2,250	2,300	2,350	2,400
Morocco	660	670	675	685	690	700
Kenya	600	650	670	690	700	710
Mozambique	455	460	475	490	502	514
Zambia	445	450	458	470	481	493
Zimbabwe	409	415	428	455	469	456
Ethiopia	400	475	550	655	722	775
Tanzania	375	377	385	382	397	383
Cameroon	136	142	147	152	155	158
Nigeria	75	70	73	76	80	84

Source: FAO, USDA, Fitch Solutions

Global Drivers of Price View:

A doubling in the price of crude oil from February 2021 to February 2022 has placed significant upwards pressure on sugar prices. Higher gasoline prices have encouraged an increase in production of ethanol derived from sugar in Brazil, which has reduced the country's exportable surplus of sugar. As global oil prices are expected to remain high over the course of 2022, this should also support sugar prices over the period.

Sugar prices are forecast to fall gradually from 2023 to 2026, as the global market surplus increases. On the supply side, high prevailing prices will encourage more plantings and weather conditions will generally be better as drought-like conditions linked to the ongoing

La Niña will eventually dissipate. At the same time, crude oil and gasoline prices will eventually decline from their current highs, which will reduce the incentive to produce sugar-based ethanol and lead to a relative increase in refined sugar production. Overall, global sugar production is forecast to recover in 2023 and trend higher in subsequent years.

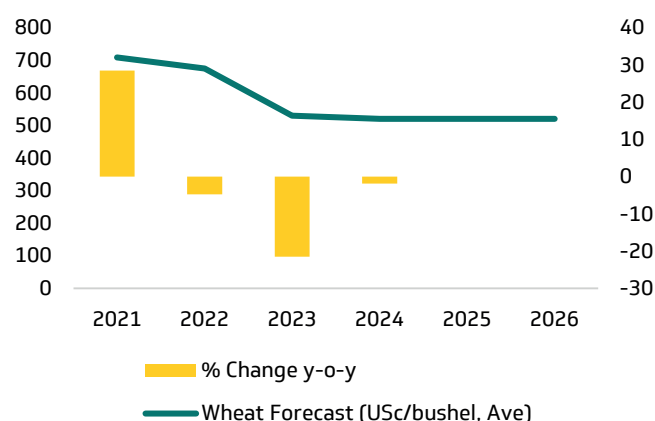
Meanwhile, on the demand side, sugar consumption per capita in developed markets will continue to fall amid greater concern about the potential negative health implications linked to sugar intake. Putting these global production and consumption numbers together, the global market surplus is forecast to gradually expand over the coming years, which should drag prices lower.

Wheat: Supply Vulnerable to Russia–Ukraine War

Price Forecasts 2021-2026

	2021	2022	2023	2024	2025	2026
Price (US\$/bushel, ave)	709	675	530	520	520	520
% Change y-o-y	28.5	-4.8	-21.5	-1.9	0.0	0.0

Wheat Forecast (US\$/bushel, Ave)



Source: Fitch Solutions

- Wheat prices rose to record highs in early March 2022 following Russia's invasion of Ukraine in February 2022. Russia and Ukraine combined would make the world's top exporter of wheat.
- Looking beyond 2022, wheat prices are expected to decline significantly as high prices encourage production growth in other major producers such as in the EU, United States and Latin America.

Impact on Africa:

Major wheat producers in Africa are concentrated in the north and east of the continent, with the largest producers being Egypt, Ethiopia, Algeria and Morocco. The near-term outlook for wheat production in African countries is fairly mixed, with stagnant or lower production forecast in Egypt, Ethiopia, Algeria and South Africa in 2022. The longer-term outlook for production is significantly more positive, in part due to the impact that high international prices will have on incentives for both governments and private farmers to invest in new acreage and yield improvements.

In Egypt, government support will be a major driver of wheat production growth. The government remains committed to conserving water and improving farming practices. The World Bank-funded Farm-level Irrigation Modernization Project (FIMP) aims to increase the efficiency of the country's irrigation system by 75%. The government expanded the area of irrigated land for wheat production from 3.3 million hectares in 2014 to 3.9 million hectares in 2017 and plans to add another 3.8 million hectares by 2035. Concerns over water scarcity have also led the government to discourage rice production and encourage corn and wheat production. Rice paddy farmers are expected to continue shifting to cotton, corn and wheat production.

Wheat production in Ethiopia is forecast to continue expanding rapidly, in line with strong growth of the wider agricultural sector. A repeat of the desert locust swarms that negatively impacted production in 2020 will remain a downside risk to production. Nevertheless, regional governments are implementing broadly effective air and ground pesticide-spraying campaigns to mitigate this risk in future, supported by multilateral agencies including the Food and Agriculture Organization of the United Nations.

Morocco is investing heavily in irrigation due to volatile rainfall in the country, adversely impacting grain production, including wheat. In April 2021, the government allocated USD450 million towards investment in agriculture, which was a 7% increase compared to 2020. Government investment into modernising the agriculture sector, notably through investment into irrigation, will be substantial under the guidance of the Green Morocco Plan. Morocco is set to remain a net importer of wheat. In April 2021, the government also announced that customs duty on soft wheat and durum would be raised in order to protect domestic farmers. The customs duty had been previously removed in order to improve the domestic supply of wheat.

Dry weather during the growing season means that wheat output in Algeria is forecast to decline by 9% in 2022. In the longer term, government support for farmers will boost wheat output in Algeria, which is targeting a sharp reduction to its wheat imports as it tries to rein in its costly subsidised bread programme, in the face of popular protests. The North African country has set an import ceiling for soft wheat imports at four million tonnes per year, down from 6.2 million tonnes. In June 2020, the government enacted the Complimentary Finance Act. The legislation is primarily intended to attract foreign investment into commercial agriculture, such as large-scale modern wheat production.

North Africa will be a globally significant wheat importer, despite being Africa's main wheat-producing sub-region. Large and rapidly growing populations in the sub-region mean that North Africa will be one of the fastest-growing wheat import markets globally over the coming decade. North Africa imported USD6.7 billion of wheat in 2020 and is forecast to experience widening production deficits in the coming years.

Africa – Wheat Production, '000 tonnes						
Country	2021	2022	2023	2024	2025	2026
Egypt	8,900	8,989	9,025	9,061	9,097	9,134
Ethiopia	5,100	4,800	5,045	5,675	5,721	5,767
Algeria	3,900	3,600	3,744	3,894	4,100	4,129
Morocco	2,560	7,540	6,200	7,721	7,890	8,059
South Africa	2,120	2,100	2,090	2,121	2,153	2,185
Kenya	300	360	365	372	385	398

Source: FAO, USDA, Fitch Solutions

Global Drivers of Price View:

Global wheat supply will be significantly disrupted in 2022 as the Russia–Ukraine war continues. Both Russia and Ukraine are significant wheat exporters, and combined, the two countries would be the world's top exporter of the commodity. This comes at a time when adverse weather in top producers, such as Canada, Russia and the United States, throughout 2021 weighed on production and helped swing the global market into a small deficit. This deficit will result in a drawdown of global wheat stockpiles and further support prices until the northern hemisphere harvest

begins in mid-2022.

Looking beyond 2022, prices are forecast to decline gradually to average US\$520/bushel in 2026 compared to highs of over US\$1,000/bushel in March 2022. High prices will accelerate investment into acreage and agri-tech aimed at boosting crop yields in markets including the EU, United States and Latin America. Global production is expected to outpace consumption in the coming years and the resulting increase of global wheat stockpiles should gradually drag prices lower.

Energy

Introduction: High Energy Prices to Sustain Investment in Key Projects

High global energy prices will boost oil, gas and coal sectors in Africa over 2022. Russia's invasion of Ukraine in February 2022 has increased upside risks to prices, which were already at multi-year highs due to the strong recovery in global demand from the Covid-19 pandemic. Although energy prices are expected to start weakening by late-2022, supply risks should remain high by the standards of recent years and this will provide ongoing support for investment into Africa's coal, oil and natural gas sectors.

High prices will encourage commitment to major energy projects in Africa that have yet to reach final investment decisions, such as Aker Energy's Pecan Field development in Ghana; the purchase of Vale's Moatize coal mine in Mozambique; and a raft of natural gas projects in Nigeria. Moreover, heightened risks to energy exports from Russia resulting from more stringent economic sanctions imposed on the country by the West will encourage key customers in Europe to diversify energy suppliers to include markets in Africa. This could include Mozambiquan coal, natural gas from Senegal and Mauritania, and Ugandan oil.

Growing upstream production of oil and natural gas will also add impetus to the development of downstream hydrocarbon processing industries in several African economies. Angola is set to bring 168,000 barrels per day of new refining capacity online by 2024, with an additional 200,000 barrels per day under consideration. This will reduce Angola's reliance on imports and cement the country's status as a net refined fuels exporter by 2024. Elsewhere, Egypt has signed a USD7.5 billion agreement for a major refining and petrochemical plant in Ain Sokhna. The intention is to create high value-added products for the local market and create export opportunities for products including polyethylene, polypropylene, polyesters and bunker fuels.

Energy exports are a key driver of many major economies in Africa including Nigeria, Algeria and Ghana. High energy prices will thus boost the pace of the regional economic recovery from Covid-19. Oil, natural gas and coal are some of the continent's largest industries and accounted for a combined 28.7% of total exports in 2020. At USD108 billion, Africa's energy exports were equivalent to around 4.3% of regional GDP in 2020. Crude oil accounted for 70% of these exports, dwarfing the shares of gas (14.9%), refined oil (10.9%) and coal (4.2%).

This report outlines the prospects for oil, natural gas and coal prices over the coming years. In addition, this report also highlights key industries that will be significantly impacted by this price outlook. This includes how Uganda is moving closer to first oil production by 2025; how high coal prices will sustain growth in South Africa's coal industry despite rising environmental pushback; and how countries including Senegal and Mauritania are moving towards a boom in liquefied natural gas (LNG) exports this decade.

Global Price Overview

- Russia's invasion of Ukraine in February 2022 has created significant upside risks for global energy prices, particularly oil and gas, but also coal.
- European natural gas prices face the most acute upside pressure as Russia is the dominant gas supplier to the region. This will boost European demand for liquefied natural gas and coal sourced from outside of Russia.
- Western sanctions on Russia announced in February 2022 will not significantly restrict Russia's exports of natural gas, oil or coal, and thus 2022 price forecasts for these commodities have generally yet to be revised upwards.

The surge in global energy prices that began at the start of 2021 and accelerated from the middle of the year is expected to gradually unwind over late 2021 and into 2022. Natural gas prices are most susceptible to further price increases, particularly in Asia and Europe, where gas inventories are low and demand during the northern-hemisphere winter is expected to be particularly strong.

In contrast, oil prices are forecast to start losing steam towards the end of 2021 and in 2022. The main driver of lower oil prices is expected to be improving supply as high prices in 2021 will both fast-track the development of new projects and result in relaxed OPEC+ output quotas. Gulf states, including Saudi Arabia, the UAE and Kuwait, have substantial spare capacity, which we expect will be increasingly utilised over 2022.

Like gas, coal prices have surged to multi-year highs since the middle of 2021. However, unlike gas, scarcity in the coal market could start to abate relatively quickly by early 2022. Surging coal import demand from China has been a key driver of higher coal prices in 2021 and this trend is expected to reverse. Chinese government policy aimed at boosting domestic coal mine production, and eradicating coal hoarding already drove down local thermal coal prices by half between mid-October and mid-November 2021. As China's demand for imported coal weakens, this will increase the availability of supply for other significant importers such as India.

Energy Price Forecasts							
Commodity	Unit	2021	2022	2023	2024	2025	2026
Energy Price Index	2010=100	136.0	130.1	121.2	117.3	113.4	110.6
Crude Oil							
Brent Crude	USD/bbl	71.0	76.0	77.0	79.0	82.0	82.0
WTI	USD/bbl	68.1	71.0	73.0	76.0	79.0	79.0
OPEC Basket	USD/bbl	69.9	74.0	75.0	77.0	80.0	80.0
Refined Fuel							
Unleaded Gasoline	USD/bbl	79.3	86.4	86.9	86.3	88.2	88.0
Diesel	USD/bbl	81.2	81.7	81.2	83.7	87.2	87.2
Naptha	USD/bbl	68.5	73.3	74.3	76.3	79.3	79.3
Jet/Kerosene	USD/bbl	77.3	79.5	80.8	84.5	88.5	89.5
Bunker Fuel	USD/bbl	74.0	78.0	78.0	78.0	78.0	78.0
Natural Gas							
NBP	USD/mnBTU	1.2	1.3	0.7	0.6	0.6	0.6
Henry Hub	USD/mnBTU	3.7	4.0	3.9	3.9	3.8	4.0
Singapore LNG	USD/mnBTU	17.8	10.0	9.7	9.5	9.9	9.7
Coal							
Thermal Coal	USD/tonne	137.0	130.0	115.0	100.0	80.0	70.0
Coking Coal	USD/tonne	211.6	275.0	230.0	220.0	220.0	190.0

Note: Annual averages. Source: Fitch Solutions

Impact of Energy Price Trends on the Main Hydrocarbon Producers in Africa

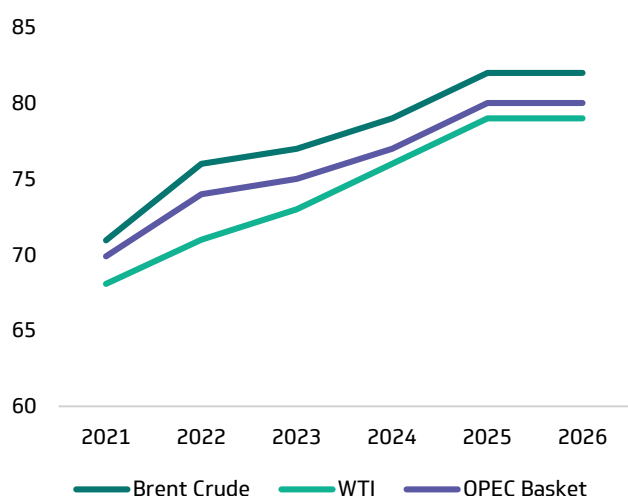
Country	Main Commodities	Energy Exports (Coal, Oil, Gas), 2020 (USDbn)	Price Impact
Nigeria	Crude oil, Refined fuel, Gas	29.5	Oil production will expand in 2022 as OPEC+ production quotas are relaxed. Investment into LNG production remains strong, with Nigeria LNG's USD10 billion Train 7 project having started in June 2021, and the Trans-Nigerian Gas Pipeline is progressing
Angola	Crude oil, Refined fuel, Gas	22.0	The near term outlook for oil production is positive, with Angola set to bring 168,000 barrels per day of new refining capacity online by 2024. The longer-term outlook is negative due to a lack of new investment
Algeria	Crude oil, Refined fuel, Gas	19.1	Relaxation of OPEC+ quotas will allow oil production in to rise in 2022. Both oil and gas exports could decline in the longer term. Gas exports could fall to 26 billion cubic metres by 2025 from about 38 billion in 2020
Libya	Crude oil, Refined fuel, Gas	6.5	The outlook on the Libyan oil and gas sector has improved significantly, after a ceasefire between the Libyan National Army and the UN-recognised, Tripoli-based Government of National Accord was signed in August 2020 and following the formation of a new unity government in March 2021
South Africa	Coal, Refined fuel	5.9	Although Anglo American has committed to divesting its coal assets in South Africa, investment by firms including Thungela Resources should drive gradual production growth in the country
Egypt	Crude oil, Refined fuel, Gas	4.6	The country continues to pour investment into the downstream oil refining and petrochemical industries, most recently via the USD7.5 billion Ain Sokhna plant
Congo-Brazzaville	Crude oil	3.7	Despite stronger oil prices, phasing out OPEC+ cuts and the economy gaining some traction as some Covid-19 restrictions are lifted, structural issues and lack of sufficient investment means that production is unlikely to grow significantly
Ghana	Crude oil	3.1	A multi-well drilling campaign at the Jubilee and TEN fields is ongoing, which will help offset production declines from Ghana's oil fields over the near term. The anticipated development of the 110,000b/d Pecan field holds the key to the country's oil future
Gabon	Oil, Gas	2.8	The Greater Ruche development will boost crude oil output over 2021-2025. However, a thin project pipeline and a mature asset base means that production is forecast to decline in the longer term
Mozambique	Coal, Gas	0.9	Mozambique will experience the fastest growth in natural gas production in Africa over the coming decade. Two projects are under development – Coral FLNG offshore and the onshore Area 1 development

Source: Fitch Solutions

Crude Oil: Lower Prices by Year-End, but Upside Risks are Significant

Crude Oil Forecast (USD/tonne, Ave)						
	2021	2022	2023	2024	2025	2026
Brent Crude	71.0	76.0	77.0	79.0	82.0	82.0
% Change	64.2	7.1	1.3	2.6	3.8	0.0
WTI	68.1	71.0	73.0	76.0	79.0	79.0
% Change	73.0	4.3	2.8	4.1	3.9	0.0
OPEC Basket	69.9	74.0	75.0	77.0	80.0	80.0
% Change	68.5	5.9	1.4	2.7	3.9	0.0

Crude Oil Forecast (USD/tonne, Ave)



Source: Fitch Solutions

- The price outlook for 2022 is highly uncertain, with the major price forecasters deeply divided on the future trajectory for prices.
- Brent Crude prices pushed above USD100/barrel in February 2022 in response to Russia's invasion of Ukraine.

Impact on Africa:

Oil capital expenditure across Africa is forecast to grow strongly in 2022, supported by projects moving forward that faced delays from the Covid-19 pandemic. Final investment decisions are expected for several major greenfield projects that would significantly boost overall capex in the region. These include flagship oil developments in Ghana, Kenya and Uganda.

Improving regulatory environments and competitive landscapes across the region will boost investment. Investment into Nigeria is expected to rise following passage of the Petroleum Industry Act in August 2021, which offers greater fiscal and regulatory clarity for foreign investors. Although no major investments in Nigeria were announced by international oil companies over the second half of 2021, improved regulatory certainty increases the likelihood of

various early-stage field developments moving forward over the near term, including Shell's 225,000 barrels per day Bonga Southwest project and ExxonMobil's 180,000 barrels per day Owowo development. Additionally, in Angola, state-owned Sonangol continues to undergo significant re-structuring, in an attempt to revitalise investment in the country's upstream sector and increase the NOC's focus on exploration and production. A partial disposal of Sonangol is expected to start in 2022, which could see up to 30% of the company being sold. A surge in investment over 2022 in both Nigeria and Angola is much needed, as the region's two largest producers have exhibited significant struggles to raise their oil production over recent quarters, with output falling well below their allocated OPEC+ targets in 2021.

In Kenya, Tullow Oil is expected to reach a final investment decision in 2022 for the 120,000 barrels per day multi-field South Lokichar oil project. According to the revised draft field development plan submitted to the Kenyan government in September 2021, the project's planned gross capital expenditure is now estimated at USD3.4 billion, a 17.2% increase from the original USD2.9 billion estimate. The capex increase is due to a number of factors, including a higher processing facility of 130,000 barrels per day, plans to drill more wells and an increase in the diameter of the 825 kilometre crude oil export pipeline to enable the delivery of 30% more resources from Turkana to the port of Lamu. Despite the increased capex, the estimated overall unit cost has been slashed by 29%, to USD22 per barrel from USD31 per barrel, due to the revised plans. Downside risk to this project lies in the Tullow-led joint venture's ongoing struggle to find strategic partners for the project.

Another key project that is nearing a final investment decision is Aker Energy's 110,000 barrels per day Pecan Field development in Ghana. This has been under revaluation since the oil price collapse in 2020, and the project partners have since announced a strategy shift towards a phased development approach, instead of using a centralised floating production and storage unit (FPSO), which will reduce both capex and the breakeven cost. As of early 2022, the project appears to be making progress, as Aker Energy announced in December 2021 that the project had secured an additional USD100 million in bonds from the Africa Finance Corporation, as well as an FPSO for Phase I of the field development. Given that the successful development of the Pecan Field is critical to help offset the natural declines at Ghana's maturing oil fields, Ghana's government has shown strong support for the project, which increases the likelihood of it moving forward over the coming quarters.

Plans for the USD20 billion Lake Albert development project in Uganda are reaching final stages, meaning Uganda's first oil production is on track for 2025. The East African Crude Oil Pipeline (EACOP) Bill has now been passed by both the Ugandan and Tanzanian parliaments, which paves the way for construction to formally begin on the accompanying USD3.5 billion heated oil pipeline, which is essential to transport Uganda's waxy crude to Tanzania's east coast where it will be geared up for exports. Large-scale oil projects such as Lake Albert are increasingly risky ventures for investors in light of the growing global trend towards decarbonisation and away from fossil fuels. As a result, the joint venture partners will be increasingly conscious of the environmental and social concerns surrounding the controversial project.

Although these major oil projects will contribute to regional oil production growth in the next few years, the longer-term outlook is less positive. Looking beyond 2027, oil production in Africa as a whole

is forecast to gradually decline. As a result, the 2010 high of 10.5 million tonnes will likely remain the historic peak for African oil production.

Africa Overview – Crude Oil Production Forecasts ('000b/d)						
Country	2021	2022	2023	2024	2025	2026
Nigeria	2,071	1,864	1,890	1,923	1,942	1,950
Algeria	1,341	1,386	1,363	1,331	1,291	1,243
Angola	1,255	1,311	1,256	1,193	1,133	1,105
Libya	1,088	1,246	1,307	1,346	1,386	1,414
Egypt	581	586	589	584	578	572
Congo-Brazzaville	295	292	289	286	280	272
Gabon	220	226	240	252	249	244
Ghana	171	167	169	169	182	236
Equatorial Guinea	171	172	169	164	160	156
South Sudan	159	162	163	163	162	159

Source: EIA, Fitch Solutions

Global Drivers of Price View:

The oil market is pricing in increased risk of supply disruptions as the US, in collaboration with the G7 and the EU, ratchets up economic sanctions on Moscow. However, it is unlikely that the West will seek to curb Russian oil and gas exports, given Russia's dominant role in the global oil market and Europe's heavy reliance on its gas. Markets are already extremely tight, with high energy prices fuelling inflation, and governments will be reluctant to exacerbate the issue.

Over 2022 as a whole, the base case remained for global oil supply to grow strongly. For instance, current tensions are not expected to prevent OPEC+ production to increase significantly as the output quotas that have been place for several years are unwound.

The winding down of the OPEC+ production cut deal will be the most important contributor to supply growth this year, with OPEC-10 and Russia accounting for around two-thirds of total global growth.

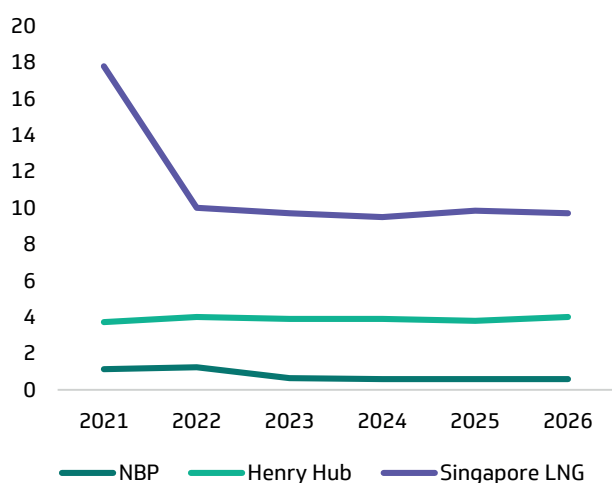
After the deal ends in December 2022, production in Algeria and West Africa is expected to remain significantly below pre-cut levels, while output in the GCC should increase strongly. Russia will be able to restart all the production it initially cut in May 2020 but will struggle to expand its production meaningfully above pre-cut levels over 2022-2023. On an annual average basis, crude output for the OPEC-10 and Russia is forecast to rise by 3.43 million barrels per day in 2022.

This scenario factors in only limited production growth in Iran at 240,000 barrels per day. Iranian production growth ultimately hinges on progress towards a nuclear deal with the US. While Tehran has adopted a hard-line stance under new President Ebrahim Raisi, there is a generally strong appetite to reach an agreement with Washington, to lift the painful economic sanctions in place on the country. The base case sees a deal brokered before the US midterms in November of this year, paving the way to a full recovery in output in 2023.

Natural Gas: Booming Global Demand to Keep Prices High

Natural Gas Forecast (USD/mnBTU, Ave)						
	2021	2022	2023	2024	2025	2026
NBP	1.15	1.25	0.65	0.60	0.60	0.60
% Change	342.3	8.7	-48.0	-7.7	0.0	0.0
Henry Hub	3.72	4.00	3.90	3.90	3.80	4.00
% Change	74.8	7.4	-2.5	0.0	-2.6	5.3
Singapore LNG	17.8	10.0	9.7	9.5	9.9	9.7
% Change	329.5	-43.8	-3.0	-2.1	3.7	-1.5

Natural Gas Forecast (USD/mnBTU, Ave)



Source: Fitch Solutions

- Global liquefied natural gas (LNG) prices will remain high in 2022 as demand outpaces supply.
- In the wake of the Russia-Ukraine conflict, European economies will attempt to reduce dependence on imports of Russian pipeline gas, which will boost demand for LNG.
- LNG prices will gradually decline in the coming years as exports from countries including Qatar, the US and several African countries including Mozambique, Senegal and Mauritania grow strongly.

Impact on Africa:

Strong demand for delivery of LNG cargoes to Europe and Asia will sustain the development of substantial export capacity in Africa over the coming years. Africa will become an increasingly important contributor to growth in global LNG supply over the coming decade. Nigeria holds a large and underdeveloped resource base and has

ample gas projects awaiting investment. However, regulatory uncertainties, limited infrastructure, lack of reliable power supply and security concerns have led to a sluggish pace of new final investment decisions in recent years. That said, production prospects will be boosted by efforts to reduce flaring, and the Nigerian LNG (NLNG) T7 (2024) project will support growth in LNG exports from an estimated 31.1 billion cubic metres in 2020, to around 41.0 billion when the train is eventually brought online towards the end of the decade.

Other growth markets in Africa stem from the monetisation of large discoveries offshore in Mauritania, Senegal and Mozambique. In Mauritania and Senegal, BP and its partner Kosmos have proposed 30.0 million tonnes per annum of liquefaction capacity to be developed, comprising three 10.0 million tonnes per annum hubs at Tortue, Teranga and BirAllah. However, only the first, 2.5 million tonnes per annum phase of the Tortue development has reached final investment decision, while a decision on the second phase has been delayed from 2020 until the second half of 2022. Full development of these resources will likely be a multi-decade process. As with any project, cost competitiveness will be key, but the phased approach to development and the relatively small size of each liquefaction unit could allow the companies to progress the project opportunistically, filling gaps in the market as and when they arise. BP has plans to double its LNG portfolio by 2030 (to 30.0 million tonnes per annum), however, it is unclear what proportion of this will be made up of its own equity supply and what proportion will be solely traded. It also has plans to reduce its oil and gas production by 40.0% over that same period, and both carbon- and capital-intensity will be important deciding factors in how it rationalises its assets.

In Mozambique, two projects are under development – Coral FLNG offshore and the onshore Area 1 development. A third, Area 4, was also targeting FID by 2020, although this has since been delayed, first due to the oil price collapse and associated cutbacks in spending. More recently, the flare-up of conflict in Mozambique has led to delays of at least one year to the Area 1 project and has cast doubts on the near-term prospects for Area 4. That said, sufficient offtake agreements have been signed to support an investment decision on the latter project, which should see it progress in the coming years.

In North Africa, Algeria and Egypt will dominate natural gas exports. Egypt's resurgent gas production is estimated to have boomed to around 70 billion cubic metres in 2021 from just 43 billion cubic metres in 2016, rapidly outpacing demand growth over the previous five years. At present around 20% of domestic production is exported via Egypt's two LNG facilities. In contrast, Algeria's production, although much more stable, has grown only slightly in recent years, rising from 94.8 billion cubic metres in 2016 to an estimated 101.7 billion cubic metres in 2021 and suffers from less investment. Significant production declines are forecast in Algeria from 2023 onwards, with exports falling even more sharply as more gas is diverted to meet growing domestic consumption.

Africa Overview – Dry Natural Gas Production Forecast (bcm)						
Country	2021	2022	2023	2024	2025	2026
Algeria	101.7	104.8	102.7	99.1	95.1	92.3
Egypt	70.6	72.7	72.0	69.8	67.6	65.5
Nigeria	48.4	50.8	55.8	58.6	61.0	62.8
Libya	24.1	25.3	25.8	26.3	26.8	30.8
Angola	7.4	7.5	7.7	8.0	9.0	9.2
Equatorial Guinea	6.3	7.1	7.4	7.1	6.9	6.7
Mozambique	5.4	6.7	9.8	9.8	10.0	14.5
Ghana	2.7	2.8	2.9	2.9	2.9	2.9
Côte d'Ivoire	2.4	2.5	2.5	2.5	2.5	2.5
Cameroon	2.1	2.1	2.1	2.1	2.7	3.6

Source: EIA, Fitch Solutions

Global Drivers of Price View:

Heightened geopolitical tensions between the West and Russia will keep global LNG prices elevated in 2022. European economies will attempt to reduce dependence on imports of Russian pipeline gas, which will boost demand for LNG. A complete halt to energy trade between Russia and Europe is highly unlikely, as Europe would be unable to source sufficient energy imports elsewhere. Nonetheless, the threat of disruption to already expensive energy supplies in Europe will encourage consumers in the region to accelerate diversification of import sources. Increased European demand for LNG will tighten an already stretched global export market, diverting cargoes destined for other major consumers including China to Europe and boosting global prices.

At the same time, measures aimed at improving the security of supply in major markets outside of Europe, such as Japan and

China, will lead to increased demand over 2022. These measures could include boosting domestic gas storage capacity and forward-purchasing more long-term deals.

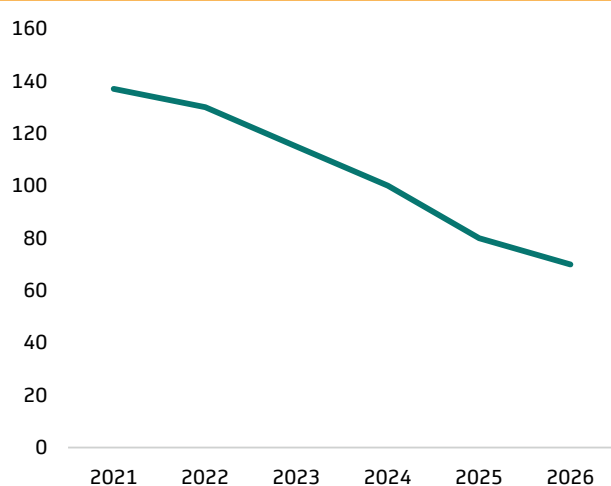
Looking further ahead, six new Asian markets are expected to start importing LNG for the first time within the next two to three years, while the 12 largest markets are expected to see the share of natural gas in the national power mix either increase or remain stable over the coming decade.

LNG prices will gradually decline from their multi-year highs in the coming years as exports from countries including Qatar, the US and several African countries including Mozambique, Senegal and Mauritania grow strongly. In the near term, supply growth is forecast to be strong in 2022 due to easing of lockdown restrictions in LNG producers Brunei, Papua New Guinea, Indonesia and Malaysia.

Thermal Coal: Natural Gas Squeeze to Support Coal Prices in 2022

Thermal Coal Forecast (USD/tonne, Ave)						
	2021	2022	2023	2024	2025	2026
Thermal Coal	137.0	130.0	115.0	100.0	80.0	70.0
% Change	126.0	-5.1	-11.5	-13.0	-20.0	-12.5

Thermal Coal Forecast (USD/tonne, Ave)



Source: Fitch Solutions

- Thermal coal prices will remain strong during the first half of 2022 as high natural gas prices boost demand for coal.
- Although the relaxation of Indonesia's coal export ban in mid-January will help meet strong demand for thermal coal during the first half of 2022, persistently high international prices mean there is significant risk of renewed curbs on exports from the country.
- Prices are forecast to start a multi-year downtrend by the second half of 2022.

Impact on Africa:

Coal production in Africa is forecast to remain on an uptrend in the coming years, having rebounded in 2021 from pandemic-related disruption in 2020. This growth will occur in spite of the global push towards the green transition gathering momentum following the COP26 summit in 2021 and resulting pressure to move away from coal-based electricity generation.

South Africa's coal output will drive absolute growth in regional production, followed by Mozambique and Botswana. South Africa will continue to account for more than 90% of Africa's coal production over the coming decade. Coal production in South Africa is forecast to expand by 1.3% in 2021, after contracting by an estimated 2.0% in 2020 amid Covid-induced disruption and weak demand from Eskom. Coal production growth in South Africa will largely be down to the country's heavy reliance on coal fired

energy, demand from export markets (in particular Asia and China) and continued financing from South African banks. Coal mining will be able to count on political support given its strategic nature for the country in terms of electricity generation (the country already suffers regular power cuts) and employment. Continued growth in coal demand in Asia will also boost export opportunities for South African miners. China has recently emerged as a significant importer of South Africa's coal. Risks to South Africa's coal sector remain as pressures grow and threaten medium- to long-term coal production. In particular, new coal projects in the country could face delays and cancellations.

Growth in Mozambique's coal sector will be largely dependent on how Vale's coal assets in the country are developed after the company exits the sector. Vale announced an imminent exit from Mozambique's coal sector in 2021 and in December that year, agreed to sell the Moatize mine and the Nacala Logistics Corridor to India's Jindal Group subsidiary Vulcan Minerals, for USD270 million. While the Moatize mine mainly produces coking coal, production of thermal coal is also significant. The deal with Vulcan Minerals is a positive result for coal output given that parent firm Jindal Steel & Power has been driving strong growth in coal output elsewhere in Mozambique. Jindal increased output at its Chirodzi mine by 29% year-on-year in the company's 2021 financial year.

In terms of smaller producers, the outlook for coal production in Botswana is particularly positive. The government has announced the construction of new coal-fired power plants to try and turn the country from an electricity importer to a net-exporter. Coal production is forecast to grow by 15.0% in 2022, following growth of 10% in 2021. The recovery in economic activity will help demand for coal, both domestically and in South Africa. Botswana's state-owned Morupule Coal Mine (MCM) also announced in 2020 that it will boost annual output by 35% to 3.8 million tonnes per year after the construction of a new open-cast mine in the central region of Botswana, although the 2021 target date for this expansion was missed. The Motheo project is scheduled to start the commissioning phase by December 2021. Botswana's government also remains committed to developing the country's coal-to-liquid (CTL) fuel sector in order to reduce reliance on imported oil. It announced in February 2020 that it is committed to using its resources to develop a new CTL refinery set to come onstream by 2025.

In Zimbabwe, the government aims to ramp up utilisation of the country's sizeable coal reserves to eventually export electricity to neighbouring countries. The Hwange region is the focus of coal development, with government and Chinese firms undertaking most of the investment. Chinese firms recently issued mining grants in Hwange including Afrochine Energy (owned by Tsingshan Steel) and Zimbabwe Zhongxin Coking Company (joint venture between Zimbabwe Defence Forces and China's Yuxia ZhongXin Coking Company). However, this development suffered a setback in June 2021, when Industrial and Commercial Bank of China (ICBC) announced that it will halt plans to finance the USD3 billion Sengwa coal-fired plant in Zimbabwe. The decision was followed by China's announcement in September 2021 that it would cease funding overseas coal power projects.

Africa Overview – Thermal Coal Production Forecast (million tonnes)						
Country	2021	2022	2023	2024	2025	2026
Thermal Coal						
South Africa	249.2	254.2	259.2	264.4	268.4	271.1
Mozambique	9.3	10.0	10.2	10.4	10.7	10.8
Botswana	3.1	3.5	3.7	3.8	3.9	4.0
Zimbabwe	1.6	1.6	1.7	1.7	1.7	1.8
Zambia	0.9	0.9	1.0	1.0	1.0	1.0

Source: EIA, Fitch Solutions

Global Drivers of Price View:

Thermal coal prices will remain strong during the first half of 2022 as high natural gas prices boost demand for coal. Russia is the largest exporter of natural gas to Europe and the potential for Russia to reduce flows of gas to the region is rising as a result of conflict between Russia and Ukraine.

Coming on the back of the historic surge in natural gas prices over 2021, the threat of interrupted flows of Russian gas to Western Europe is being taken particularly seriously by gas end-users in the region such as power utilities and industrial firms. As a result, we expect consumers to boost inventories of gas as much as possible in the near term, which will increase demand and push up prices even in the absence of supply disruption.

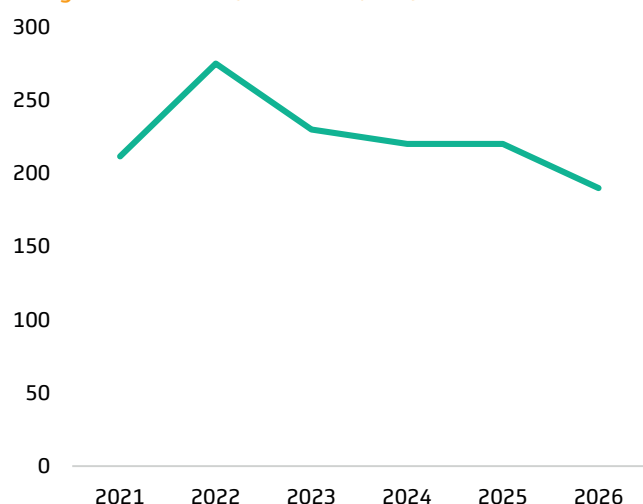
Coal prices are forecast to start a multi-year downtrend by the second half of 2022. Price weakness should persist in 2023 as lower natural gas prices reverse gas-to-coal switching by electric utilities and stronger coal production in China and India reduce coal import requirements in these two countries.

The long-term trajectory for coal prices should remain downward. The COP-26 summit in Glasgow during 2021 suggested that global coal-fired power generation will peak by 2030 and decline steadily over the following decade. Thermal coal prices are forecast to decline to USD65/tonne by 2031. Coal prices to be dragged down by persistent annual coal production surpluses that will be caused by increasingly ambitious phase-outs of coal fired power generation capacity.

Coking Coal: Price Decline In 2022 Will Be Gradual

Coking Coal Forecast (USD/tonne, Ave)						
	2021	2022	2023	2024	2025	2026
Coking Coal	211.6	275.0	230.0	220.0	220.0	190.0
% Change	62.0	30.0	-16.4	-4.3	0.0	-13.6

Coking Coal Forecast (USD/tonne, Ave)



Source: Fitch Solutions

- The outlook for coking coal prices has improved since the start of 2022 and coking coal prices are expected to weaken only gradually over the first half of the year.
- A combination of political risk to supply of coking coal from Russia and a slight improvement in the demand outlook in China has stabilised prices.

- Over the long term, green hydrogen will increasingly be used to decarbonise steel production, which is now a priority goal for many steelmakers in developed markets. This will drag on coking coal demand.

Impact on Africa:

Persistently high seaborne coking coal prices will create opportunities for miners in South Africa and Mozambique to boost exports in 2022. Demand from China is likely to be strong, as the country is actively diversifying away from Australia as a source of imported coking coal.

Coking coal will nonetheless remain a small part of the overall coal industry in Africa. In South Africa, higher coking coal prices will encourage progress at several new projects planned by firms including MC Mining and Universal Coal, as well as the government. However, coking coal only accounts for around 2.5% of total coal production in South Africa, compared to 37.1% in Mozambique.

Mozambique is the dominant coking coal producer in Africa. The outlook for production in the country deteriorated in 2021 following Vale's decision to divest its coal assets in the country. However, Vale agreed in December 2021 to sell the Moatize mine and the Nacala Logistics Corridor to India's Jindal Group subsidiary Vulcan Minerals, for USD270 million. Jindal Group is already active elsewhere in Mozambique and has been boosting production of coal in the country over recent years, which bodes well for future investment into the flagship Moatize mine. Jindal subsidiary JSPL Mozambique Minerals is expected to resume exploration and development to boost coal production to 4.5 million tonnes at the Chirodzi mine in Tete province. According to the company, output at Chirodzi reached 3.2 million tonnes in FY21, which was 29% higher than in FY20. Even without further investment from Vulcan, the impact of legacy investment from Vale is expected to drive a 10% increase in coking coal output in Mozambique over 2022, following growth of 11.0% in 2021.

Another Indian firm, International Coal Ventures (ICV) also has a significant presence in Mozambique. ICV's mining concession covers an area of 17,600 hectares, and by the time the mine is in full production, the company's total investment will have reached USD10 billion.

Africa Overview – Coking Coal Production Forecast (million tonnes)

Country	2021	2022	2023	2024	2025	2026
Coking Coal						
Mozambique	5.4	5.9	6.1	6.2	6.2	6.3
South Africa	4.6	6.6	6.9	7.1	7.2	7.3
Zimbabwe	0.5	0.5	0.5	0.5	0.5	0.5

Source: EIA, Fitch Solutions

Global Drivers of Price View:

The outlook for coking coal prices has improved during the first quarter of 2022. Coking coal prices declined sharply during the last quarter of 2021 due to weakening demand from China's steel sector and improved output from Chinese mines. However, a combination of political risk to supply coking coal from Russia and a slight improvement in the demand outlook in China has stabilised prices. The downtrend in coking coal prices that is forecast for the first half of 2022 will be gradual and will likely be interrupted by short-term spikes similar to that playing out in January and February.

The supply-shock experienced by global steel mills in 2021 will encourage more extensive locking in of prices over 2022-2023. For

instance, mills will likely both forward-purchase a larger proportion of their future coking coal requirements and maintain larger coal inventories. Both of these factors will boost demand over 2022-2025 at the expense of longer-term demand.

Global coking coal demand growth is forecast to outstrip production growth over 2022-2025, leading to a declining annual production surplus. This forecast is underpinned by an expectation that the long-term recovery of global coking coal consumption following the global Covid-19 pandemic will be more rapid than growth in production. A global coking coal production surplus of 32 million tonnes is forecast for 2022 and this is expected to decline to 3.0 million tonnes by 2025. This tightening of the global market will support prices until mid-decade, after which point growing market surpluses should drag prices lower.

Metals

Introduction: Higher Metal Prices to Encourage Mining Investment

Aside from the tragic human consequences, one of the main impacts of Russia's invasion of Ukraine has been a surge in global commodity prices, including for metals. Higher prices for metals including aluminium, copper, gold and nickel will add momentum to an already strong pipeline of mining and metals investment in Africa in 2022.

The investment outlook for mining in Africa had already strengthened in 2021, particularly for metals that are associated with the transition to a low carbon-economy, including copper and nickel. Other metals have also received increased attention, including iron ore, aluminium and bauxite.

While exact trajectories differ, forecasts are generally for metal prices to remain above pre-Covid-19 levels in the coming years, which should sustain development of Africa's mining and metals

sectors. Stronger mining sector growth will have a significant impact on many economies, ranging from major global miners such as South Africa, Ghana and the Democratic Republic of the Congo (DRC), to smaller economies including Botswana, Cameroon and Namibia. Africa's mining and refined metal exports had a cumulative value of USD69.1 billion in 2020, equivalent to around 18.3% of total regional exports. This ranks mining and refined metal exports as Africa's second largest export category, trailing only crude oil (20.1% of total exports).

This report presents the price outlook for six base metals (aluminium, copper, lead, nickel, tin and zinc), two ferrous metals (iron ore and steel) and one precious metal (gold).

In addition to covering price potential, this report assesses the impact that global price trends will have on Africa's mining industry. At an aggregate level, high prices will help to sustain a regional mining project pipeline that currently totals USD58.8 billion. Country-specific impacts that are covered in this report include how the high cost of imported steel will sustain strong growth in Egypt's burgeoning steel production; how threats to Russian exports of nickel will accelerate investment into nickel mining in Tanzania; and how high gold prices will encourage further expansion of a strong gold project pipeline in West Africa.

Global Price Overview

- Russia's invasion of Ukraine in February 2022 has turned the outlook for metal prices in 2022 more positive.
- Metal prices had already made a strong start to 2022 prior to the invasion, in part due to the announcement of plans by China's government to ramp up economic stimulus over the coming months.
- Among major metals, palladium, platinum, nickel and aluminium prices will face the most significant upside pressure as a result of the Russia-Ukraine war.

Metal prices are expected to remain high in 2022, having surged to multi-year highs in 2021. The announcement by China's government of plans for more extensive economic stimulus in the country over the coming months had already underpinned strong gains in metal prices over January and early-February, as China accounts for roughly half of annual consumption of metals.

More recently, Russia's invasion of Ukraine has weakened the prospects for global supply of industrial metals in 2022, which is positive for prices. Western sanctions on Russia's commodities exports are seen as unlikely, given the significant global

dependence on Russian supply and repercussions on global inflation if sanctions were imposed. Nonetheless, regardless of whether or not they are directly targeted, commodity production and especially trade could face disruption due to financial sanctions, in particular following Russia's exclusion from the SWIFT international payments system and severely reduced access to US dollars for Russian firms.

The retaliation by Russia to sanctions, in the form of withholding or restricting commodity supplies could also have a significant upward impact on metal prices. Although this scenario is unlikely given Russia's urgent requirement for foreign currency earnings, the risk of disruption to Russian exports will boost near-term demand by consumers seeking to stockpile supply.

Palladium, platinum, nickel and to a lesser extent aluminium are the metals most at risk of significantly higher prices in the coming months as a result of the Russia-Ukraine war. Russia is a major producer or exporter of platinum (10% of global supply in 2021, second largest producer), palladium (36% of global refined supply in 2021, largest producer), nickel (7% of global supply, third largest producer) and aluminium (8% of global exports, second largest exporter).

Metal Price Forecasts							
Commodity	Unit	2021	2022	2023	2024	2025	2026
Industrial Metals Price Index	2010=100	123.6	123.0	112.2	110.5	108.4	105.7
Aluminium	USD/tonne	2,485	3,000	2,800	2,700	2,750	2,800
Copper	USD/tonne	9,294	9,200	8,700	8,500	8,400	8,500
Lead	USD/tonne	2,189	2,150	2,100	2,200	2,300	2,350
Nickel	USD/tonne	18,466	17,000	17,360	18,230	19,140	20,100
Tin	USD/tonne	31,172	42,000	38,000	38,500	39,000	40,000
Zinc	USD/tonne	3,007	2,900	2,500	2,400	2,250	2,100
Steel	USD/tonne	958	750	550	530	525	520
Iron Ore	USD/tonne	156.0	120.0	110.0	100.0	80.0	60.0
Gold	USD/oz	1,799	1,700	1,650	1,620	1,610	1,600

Note: Annual averages. Source: Fitch Solutions

Impact of Metal Price Trends on Main Mining Markets in Africa

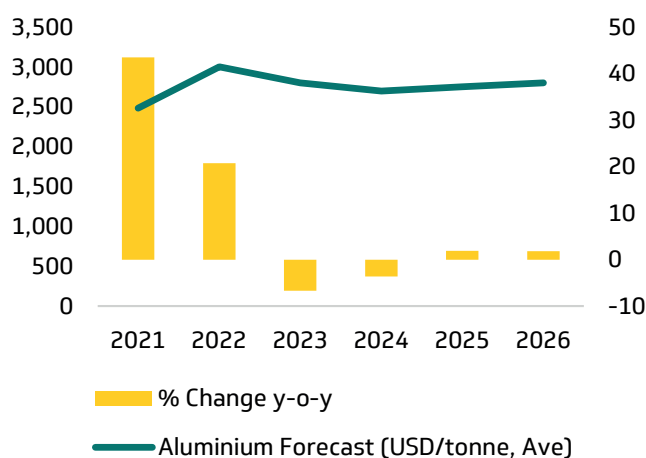
Country	Mining Industry Value, 2021 (USDbn)	Main Metals	Price Impact
South Africa	24.8	Gold, Iron Ore, PGM	Mining output will grow little in the coming years due to rising labour and energy costs
Congo (DRC)	8.6	Copper, Gold, Cobalt	Already the largest copper producer in Africa, the DRC will significantly expand output in 2022 and beyond. This will mainly be due to the Kamo-a-Kakula project and the Mutanda restart
Ghana	8.4	Gold, Bauxite	Ghana's gold, bauxite and aluminium production are forecast to rise strongly in the coming years. The development of a vertically integrated aluminium industry could result in up to USD10 billion of investment over the coming decade
Zambia	6.0	Copper, Gold	President Hichilema's administration aims to more than double copper output to as much as 2.0 million tonnes per annum by 2026
Côte d'Ivoire	4.4	Gold, Iron Ore	Côte d'Ivoire's gold sector will attract strong investor interest in the coming years as a result of improving infrastructure and favourable regulations
Tanzania	4.3	Gold, Nickel	Threats to supply of nickel from top-exporter Russia will accelerate investment into the world-class Kabanga nickel project
Mozambique	3.4	Aluminium	Production will be supported in 2022 by expansion at the Mozal facility. Long-term expansion could be at risk due to parent company South32's aim to reduce carbon emissions
Morocco	3.1	Copper, Lead, Zinc	The government is supporting diversification of the mining sector away from a heavy reliance on phosphates, resulting in increased exploration for copper, lead and silver
Burkina Faso	2.4	Gold	Expected to be one of the fastest-growing gold producers in Africa over the coming years based on a strong project pipeline, favourable tax policies and rising gold prices
Guinea	1.9	Bauxite, Gold, Iron Ore	Guinea has potential to eventually be the most significant iron ore growth centre in Africa. This is mainly due to an expectation that the country's Simandou project will be one of the main targets for increased Chinese investment
Mali	1.7	Gold	Mali's gold production growth will accelerate over the coming quarters as a number of important projects come online
Botswana	1.5	Copper	New projects are now making progress, such as Botswana's newest and only operational copper mine, the Khoemacau mine, which has an annual output building to 60,000-65,000 tonnes of copper concentrate
Mauritania	1.4	Gold, Iron Ore	High gold prices will sustain projects due to come online in the coming years. Iron ore production will grow more slowly, although Mauritania will maintain its spot as Africa's second largest iron ore producer.
Zimbabwe	1.4	Gold, Nickel	Nickel output will benefit both rising prices and investment from Bindura Nickel. All miners will be constrained by a shortage of dollars in the economy
Namibia	1.1	Lead, Zinc, Copper	Namibia will boost output of metals including copper, lead and zinc in the coming years as investment pours in from numerous foreign firms
Angola	0.8	Gold	Gradually rising metal prices will encourage the government to further privatise the mining sector to develop non-diamond sectors
Sierra Leone	0.6	Iron Ore	Chinese investment is set to rekindle growth in the country's iron ore mining sector
Egypt	0.6	Aluminium, Steel, Gold	Steel and aluminium production in Egypt is expected to grow strongly, boosted by high prices and strong demand from local industry
Liberia	0.2	Gold, Iron Ore	Although iron ore production will expand steadily in the coming years as the country's rich reserves are increasingly tapped, weak infrastructure will prevent a more substantial ramp up in output

Source: Fitch Solutions

Aluminium: Upward Pressure from Russia-Ukraine Conflict

Price Forecasts 2021-2026						
	2021	2022	2023	2024	2025	2026
Price (USD/tonne, ave)	2,485	3,000	2,800	2,700	2,750	2,800
% Change y-o-y	43.5	20.7	-6.7	-3.6	1.9	1.8

Aluminium Forecast (USD/tonne, Ave)



Source: Fitch Solutions

- In February 2022, three-month aluminium futures reached record highs of over USD3,200/tonne on the LME.
- Prices will remain elevated during the first half of 2022 due to the potential for Russian aluminium exports to be disrupted by Western sanctions on the country and historically low aluminium stockpiles.
- Aluminium prices are forecast to remain elevated in the coming years, as demand is supported by the accelerating shift to a green economy.

Impact on Africa:

The government of Ghana is prioritising development of a vertically integrated aluminium industry over the coming decade, building on

significant domestic bauxite resources. Ghana already mines significant volumes of bauxite and expanding ore-processing capacity will both help boost employment in the metals sector and facilitate development of downstream manufacturing such as autos. In September 2020, the Ghana Integrated Aluminium Development Corporation (GIADEC) announced a five-year, USD10 billion plan for the country's aluminium sector. In February 2022, the government outlined the Integrated Aluminium Industry (IAI) strategy, which will include expansion of the VALCO aluminium smelter, expansion of the Awaso bauxite Mine with a new refinery, development of the Nyinahin mine project with a refinery, and finally the development of mines at Kyebi.

While Ghana has the most dynamic investment outlook, the largest producers in Africa are South Africa, Mozambique and Egypt. Production in South Africa, which is the largest regional producer is forecast to stagnate over the coming years. Elevated global prices are unlikely to be sufficient to offset steadily rising labour and power costs for domestic producers. On the upside, South32's Hillside smelter finally agreed a new 10-year power supply agreement with the National Energy Regulator in July 2021. The previous agreement expired in 2020, and this progress will reduce uncertainty over power costs at the facility.

Aluminium production in Mozambique will be underpinned by expansion of South32's Mozal facility over the coming years. Australian firm South32 raised its stake in Mozal Aluminium to 72% in October 2021. The Mozal smelter produced 268,000 tonnes in FY2021 and is expected to produce 273,000 in FY2022. The plant's hydropower source results in relatively low-carbon aluminium, which could become increasingly important to metals consumers. This aligns with parent company South32's aim to halve scope 1 and 2 carbon emissions by 2035.

Aluminium production in Egypt will grow as rebounding economic growth pushes up domestic consumption and prices. Local production will be supported by the government's decision in April 2021 to impose anti-dumping measures on aluminium imports for three years. Egyptalum is considering plans for a two-phase addition of 500,000 tonnes of production. This would boost Egypt's output to a similar level to Mozambique and South Africa. Nonetheless, Egypt will likely remain one of the largest net importers of aluminium in Africa over the coming years.

Turning to consumers of aluminium in Africa, the Russia-Ukraine war has pushed prices to record highs. Rising aluminium prices will increase import costs for manufacturers across Africa, including in the automobile sector. Major infrastructure projects across the continent will also have to pay more for aluminium inputs. Aluminium is heavily used in the transport infrastructure industry.

Africa - Aluminium Production, '000 tonnes						
Country	2021	2022	2023	2024	2025	2026
South Africa	672	654	655	633	612	612
Mozambique	577	577	577	577	577	577
Egypt	261	254	245	241	238	233

Source: USGS, International Trade Centre, Fitch Solutions

Global Drivers of Price View:

The ramping up of economic sanctions on Russia will place upward pressure on global aluminium prices. Russia accounted for 8% of global aluminium exports in 2021, and although commodity exports had not been targeted by Western sanctions as of late-February 2022, the extensive financial sanctions placed on Russia's economy mean that aluminium production and trade in the country could be disrupted.

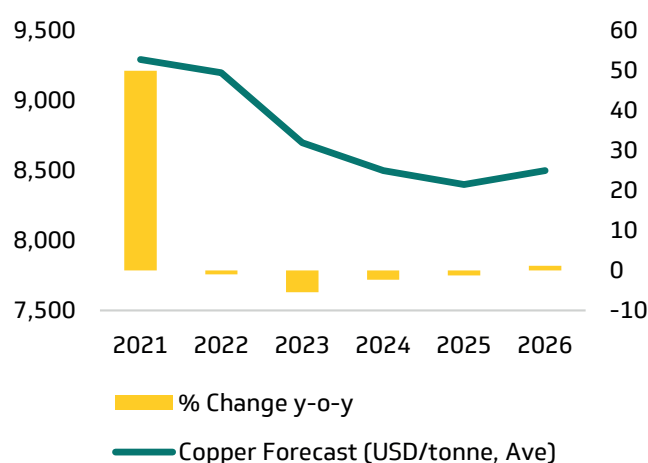
Prices are expected to remain near record highs over 2022. Even if aluminium exports are not disrupted, high energy prices will limit

production growth in other major producers including in China, the US and Europe. The market will remain particularly sensitive to supply shocks given the historically low stockpiles of the metal. For instance, LME stocks on warrant fell to below 420,000 tonnes in February 2022, the lowest level since 2001. Any further disruption to supply could cause stocks to fall lower still, especially with demand set to pick up over 2022 and beyond. This growing market tightness will mean that supply issues, or anticipated supply issues, will have an outsized impact on prices.

Copper: Remaining High

Price Forecasts 2021-2026						
	2021	2022	2023	2024	2025	2026
Price (USD/tonne, ave)	9,294	9,200	8,700	8,500	8,400	8,500
% Change y-o-y	50.0	-1.0	-5.4	-2.3	-1.2	1.2

Copper Forecast (USD/tonne, Ave)



Source: Fitch Solutions

- Copper prices are forecast to average lower in 2022 than in 2021, as price fundamentals are expected to weaken in the coming months.
- Nevertheless, positive long-term investor sentiment towards the metal will continue to place a floor under prices and prevent them from returning to levels seen before 2021.
- Over the long term to 2030, the copper market is forecast to post repeated annual production deficits as consumption continues to outpace supply.

Impact on Africa:

Foreign investment into copper mining in Africa is accelerating as copper prices have risen to new highs since 2020. In the DRC, the two largest contributors to growth within the sector in the coming years will be the USD1.3 billion Kamoa-Kakula project and the possible resumption of production at Mutanda starting in 2022. Kamoa-Kakula is a joint venture owned by Ivanhoe Mines, Zijin Mining, Crystal River Global and the Congolese government. In May 2021, Ivanhoe Mines started producing copper concentrate at its Kamoa-Kakula mine ahead of schedule. Ivanhoe previously expected first production from its concentrator plant in July 2021. The firm expects production to reach between 290,000-340,000 tonnes of copper concentrate in 2022. Kamoa-Kakula involves a two-phase expansion, moving from an

initial annual mining rate of 3.8 million tonnes of ore to 7.6 million tonnes. Production will be enhanced by the mine's high-grade copper ore, expecting to average over 6.0%. The first two project phases will result in an annual copper production of 400,000 tonnes, with the company envisioning a further expansion detailing copper production in excess of 800,000 tonnes per annum.

Although the production outlook in Zambia is less positive than in the DRC, prospects have been improving since August 2021, when new President Hakainde Hichilema came to power. Hichilema's administration aims to more than double copper output to as much as 2.0 million tonnes per annum by 2026 and ultimately about 3.0 million tonnes per annum in 10 years, as per the new Finance Minister Situmbeko Musokotwane. According to Musokotwane, the new government aims to improve the country's business environment and attract more foreign investment into the sector. In October 2021, the government announced tax breaks to the mining sector as part of the 2022 budget discussions, with mining royalties to be deductible from income taxes.

Botswana is a potential source of rapid copper production growth from a currently low level. A number of copper mines stopped operating over recent years due to high operating costs at a time when copper prices were low. Botswana produced about 39,000 tonnes of mined copper between 2009 and 2013. New projects are now making progress, such as Botswana's newest and only operational copper mine, the Khoemacau mine, which has an annual output building to 60,000-65,000 tonnes of copper concentrate. Production began in 2021, with first copper-silver concentrate achieved in July 2021. The mine is owned by US-based private equity firm Cupric Canyon. Meanwhile, Sandfire Resources announced in December 2020 that it is moving forward with the commercial development of the T3 Motheo copper-silver project. Sandfire's schedule is to start mining at T3 in January 2022, then commence processing and ramp-up in January 2023. There is also growing interest in reviving idled mines. BCL Mine, which has been in liquidation since 2016, has recently attracted interest from foreign investors. In February 2021, Canada's Premium Nickel Resources was chosen by the government as the preferred bidder for BCL.

Namibia will emerge as an increasingly important miner of copper in the coming decade as rising copper prices are encouraging exploration and investment. In the near term, Trigon Metals' management anticipates initial production at the Kombat project will be 6,000 tonnes of copper in concentrate for 2022, with initial mining having begun in late 2021. More significantly, Canada-based firm Deep-South hopes to bring an 86,000 tonne per year copper cathode and sulphate mine online at a cost of USD341 million. The proposed Haib Copper Project would have an output of 35,000 tonnes per year of copper cathodes and 51,000 tonnes per year of copper sulphate, although this is unlikely to come online before 2024. Planned production will increase to 16,500 tonnes of copper in concentrate in 2024, when higher grade underground ore begins to be recovered and as planned upgrades to crushing and milling are incorporated. Namibia will also continue to see strong growth in refined copper production, exports of which increased almost three-fold to USD1.8 billion in the five years to 2020, supported by imports of copper ore and semi-processed copper from Zambia and the DRC.

Africa – Copper Mine Production, '000 tonnes						
Country	2021	2022	2023	2024	2025	2026
Congo (DRC)	1,390	1,529	1,682	1,716	1,750	1,785
Zambia	815	858	894	912	930	944
South Africa	60	61	62	64	65	66
Mauritania	31	31	31	31	31	31
Botswana	27	60	70	72	73	75
Morocco	25	25	26	27	27	28
Tanzania	19	20	21	22	23	23
Zimbabwe	9	9	9	9	9	9

Source: USGS, International Trade Centre, Fitch Solutions

Global Drivers of Price View:

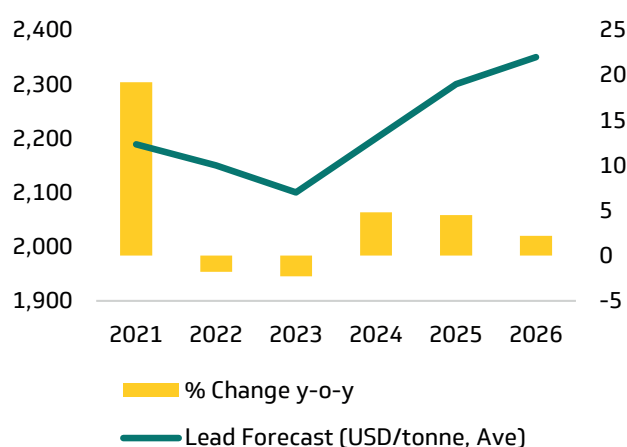
Prices are not expected to rise significantly in 2022 following significant increases in recent years. The current scarcity in global copper inventories will improve slightly in 2022. Stocks on the Shanghai Futures Exchange hovered near 12-year lows as of February 2022 and are expected to rise over the year as a whole. This will be due to Chinese smelters increasing production again following cuts in the second half of 2021 due to power rationing on the back of China's energy crisis and winter. Global inventories have already started to increase, with on warrant stocks of copper at the LME rising to 81,400 tonnes at the start of 2022 compared to 14,200 tonnes in October 2021.

Over the long term to 2030, the global copper market is forecast to remain in deficit as consumption continues to outpace supply, driving prices higher over the coming years. The main driver of demand growth will be the global transition to a green economy. For example, global electric vehicle sales are forecast to reach 15.0 million by 2030, up from an estimated 3.0 million in 2021. According to the Copper Alliance, plug-in hybrid electric vehicles contain approximately 60 kilograms of copper metal, and battery electric vehicles contain around 83kg. This contrasts with conventional automobiles, which contain on average between 8 and 22 kilogrammes of copper metal. Nevertheless, the market deficit is forecast to ease over the coming decade, as rising prices start incentivising new projects and ramp ups to existing capacity.

Lead: Limited Impact from Russia-Ukraine Crisis

Price Forecasts 2021-2026						
	2021	2022	2023	2024	2025	2026
Price (USD/tonne, ave)	2,189	2,150	2,100	2,200	2,300	2,350
% Change y-o-y	19.2	-1.8	-2.3	4.8	4.5	2.2

Lead Forecast (USD/tonne, Ave)



Source: Fitch Solutions

- The Russia-Ukraine conflict is not expected to have a significant upward impact on lead prices in 2022.

Africa – Lead Mine Production, '000 tonnes						
Country	2021	2022	2023	2024	2025	2026
South Africa	34.4	34.7	35.1	35.4	35.8	36.1
Morocco	25.8	26.0	26.3	26.7	27.1	27.5
Namibia	8.6	8.8	9.0	9.2	9.4	9.5

Source: USGS, International Trade Centre, Fitch Solutions

Global Drivers of Price View:

The Russia-Ukraine conflict is not expected to have a significant upward impact on lead prices in 2022. Russia is a only a mid-sized supplier in the global lead market and disruption to Russian exports of lead will not significantly impact the global market. In 2021, Russia accounted for 8.7% of mined lead exports and only 2.8% of refined lead exports.

There will also be some downward impact on global demand for refined lead as a result of the Russia-Ukraine conflict, which should offset any reduced supply from Russia. In particular, an escalation of sanctions poses a downside risk to European autos production, which is a key source of refined lead demand. While Russia has not, at the

- Russia is only a mid-sized supplier in the global lead market and disruption to Russian exports of lead will not significantly impact the global market.

Impact on Africa:

Most of the growth in lead production in Africa will occur outside the region's largest producer, South Africa. In South Africa, the output gains will be limited by rising operating costs for miners, particularly power and labour costs.

Namibia is receiving investment into the lead sector, for instance through Trigon Metals. In October 2021, Trigon reported an updated mineral reserve of 1.5 million tonnes for the Kombat lead mine in Namibia with an intended restart date by the end of 2022. The Kombat mine previously ceased production in 2008. Also in Namibia, Sabre Resources reported in October 2021 that it had completed the first phase of the Gross Otavi mine's scoping study, which has inferred resources of 16.2 million tonnes.

Lead production will grow in Morocco, where a recovery in domestic and European vehicle production will increase demand for Morocco's lead for use in lead-acid batteries. Moreover, the government is supporting diversification of the mining sector away from a heavy reliance on phosphates, resulting in an increased exploration for copper, lead and silver.

There are several other lead mining developments in Africa. In Algeria, Terramin Australia reported in October 2021 that it was continuing its negotiations to submit the project applications with the Algerian mining regulator for final approval of the USD486 million Tala Hamza. In Zambia, Jubilee Metals Group received renewal of small scale mining licence for the Kabwe lead project in September 2020.

time of writing, restricted gas supplies to Europe, there remains an opportunity for Russia to retaliate, particularly in response to a hike in sanctions. If Russia was to limit gas supplies, European energy prices would surge, and this would both increase automakers' operational costs and deter investment into production.

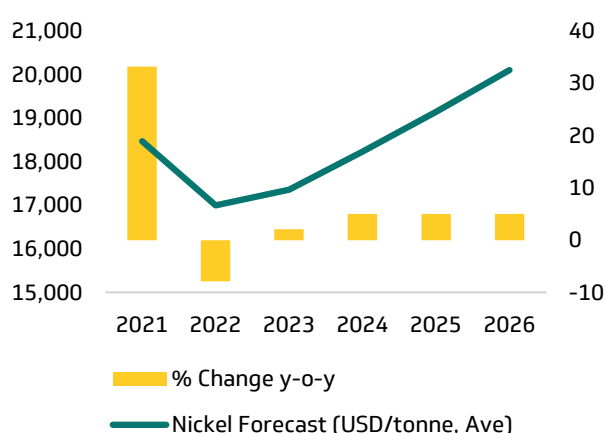
In the long term, lead prices are expected to trend gradually higher as the market tightens. Refined lead demand growth is forecast to outstrip production gains, which will gradually erode the 2021 annual production surplus. The global market is forecast to slip into a production deficit of 49,000 tonnes in 2029, widening to 149,000 tonnes by 2031.

Nickel: One of the Most Exposed Metals to Russia Disruption

Price Forecasts 2021-2026

	2021	2022	2023	2024	2025	2026
Price (USD/tonne, ave)	18,466	17,000	17,360	18,230	19,140	20,100
% Change y-o-y	33.2	-7.9	2.1	5.0	5.0	5.0

Nickel Forecast (USD/tonne, Ave)



Source: Fitch Solutions

- Nickel prices are expected to remain elevated during the first half of 2022 due to risks to global supply posed by Russia's invasion of Ukraine.
- Looking beyond 2022, a steady uptrend in nickel prices is expected to persist over 2023-2027, with prices likely to reach new record highs by the end of this period.
- The electric vehicle market will be a source of growing demand as the use of nickel in lithium-ion battery compositions increase.

Impact on Africa:

While currently small, nickel mining will be one of the fastest-growth areas for investment into Africa mining. This will be in the context of an anticipated surge in global nickel demand to feed the electric vehicle industry. As Russia is the largest exporter of refined

nickel globally, the Russia-Ukraine war will encourage end-users to search for alternative sources of nickel, including in Africa.

South Africa is the largest African producer and gradually rising prices will contribute to an uptick in production levels in the country. In February 2022, Ivanhoe Mines forecast significant nickel production from the firm's Platreef PGM project. By 2027, the mine is forecast to annually produce 590,000 ounces of palladium, platinum, rhodium, gold and more than 40 million pounds of nickel and copper.

The Kabanga Nickel project in Tanzania is Africa's flagship nickel mine development. The project is currently the largest global deposit of battery-grade nickel-sulphide and will create a globally significant source of battery-grade nickel for the electric vehicle market. The deposit holds a mineral resource of 58 million tonnes of nickel, as well as copper and cobalt, thus making it a prime resource to supply electric vehicle battery manufacturing. The joint venture will undertake mining, processing and refining of Class 1 nickel with cobalt and copper co-products. In January 2022, British miner Kabanga Nickel, formerly known as LZ Nickel, inked a framework agreement with the government of Tanzania. The deal created a joint company called Tembo Nickel Corp., owned by Kabanga Nickel (84%) and by the government of Tanzania (16%). Also in January, BHP announced it will invest USD100 million in the Kabanga project. BHP will initially invest USD40 million in Kabanga Nickel and USD10 million in Lifezone, which owns the processing technology. The investment will give BHP a 8.9% stake in Kabanga, which it can bump to 17.8% after it makes an additional USD50 million investment.

In Zimbabwe, high nickel prices should enable Bindura Nickel to progress with plans to increase mined and refined nickel production, for instance through expansion of its Trojan Mine. The project is expected to boost production to more than 60,000 tonnes of ore per month. The company has also started exploration work at the Kingston Mill project. Bindura Nickel aims to pursue a high volume, low grade production strategy, made possible by high global nickel prices. Most of Zimbabwe's nickel exports are destined for neighbouring South Africa.

Elsewhere, Cameroon has the potential to develop into a centre of nickel production. The Nkamouna cobalt-nickel-manganese mine in Cameroon has the largest allocated capital expenditure of any nickel mine in Africa. Project developer Geovic Cameroon has entered into a definitive agreement for the sale of the mixed product with Jiangxi Rare Metals Tungsten Holdings Group of China. Meanwhile in 2020, French miner Eramet announced interest in exploring Cameroon for nickel and cobalt resources.

Africa – Nickel Mine Production, '000 tonnes

Country	2021	2022	2023	2024	2025	2026
South Africa	43.7	44.6	45.7	46.8	48.0	49.2
Zimbabwe	16.4	16.6	16.8	17.0	17.2	17.3
Zambia	3.5	3.6	3.7	3.8	3.8	3.9

Source: USGS, International Trade Centre, Fitch Solutions

Global Drivers of Price View:

Western sanctions on Russia's economy could have a significant upward impact on refined nickel prices if exports from the country are negatively affected. Russia accounted for roughly 20% of global refined nickel exports in 2020. Moreover, Russia is a major producer of battery grade Class 1 nickel, which is a crucial raw material for electric vehicle batteries. Russia has solid resources of high grade sulfide ores, and its Class 1 nickel mining is supported by domestic battery making facilities. Indeed, the world's largest producer of high-grade nickel, Norilsk Nickel, operates a number of Class 1 nickel mines in the country.

In the longer term, higher prices will be sustained by persistent annual production deficits. Demand growth will be driven by expanding global battery production to supply the electric vehicle

and utility storage industries over the coming years. Demand growth from the global stainless steel sector will slow following a strong expansion in 2021.

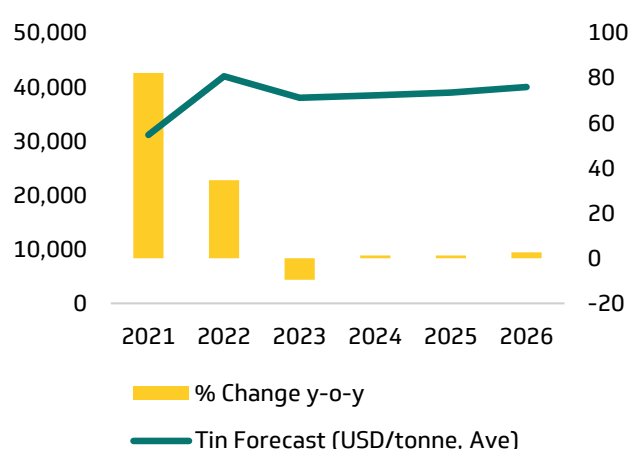
Global production growth will be constrained by Indonesia's ban on exports of nickel ore, which will limit deliveries of ore to nickel refineries in other countries, notably China. Indonesia will become an increasingly important exporter of refined nickel products as the country continues to develop a vertically integrated nickel industry.

Global consumption is forecast to outpace production over the coming years. However, the size of these annual deficits will steadily decline as Indonesia's refining capacity expands, and rising refined nickel prices encourage investment into alternative production facilities.

Tin: New Record Prices in 2022

Price Forecasts 2021-2026						
	2021	2022	2023	2024	2025	2026
Price (USD/tonne, ave)	31,172	42,000	38,000	38,500	39,000	40,000
% Change y-o-y	82.2	34.7	-9.5	1.3	1.3	2.6

Tin Forecast (USD/tonne, Ave)



Source: Fitch Solutions

- Global tin prices have surged to new record highs in the first quarter of 2022, building on the strong rally that has been in place since 2020.
- The slow pace at which global tin supply has recovered from the Covid-19 pandemic has been outpaced by the rapid recovery in demand.

Africa – Tin Mine Production, '000 tonnes						
Country	2021	2022	2023	2024	2025	2026
Congo (DRC)	17.8	17.2	18.1	18.0	19.0	16.4

Source: USGS, International Trade Centre, Fitch Solutions

Global Drivers of Price View:

The market tightness that propelled tin prices to record highs over 2021 will only gradually ease in 2022. Repeated waves of Covid-19 infections in major producers mean that mined and refined tin output will only partially rebound in 2022 after significant weakness in 2020 and 2021. Renewed Covid-19 lockdowns implemented in Malaysia (in May 2021) and Indonesia (in July 2021) amid surging local infections rates suggest that output from these two producers will be the most negatively impacted over the short term.

- Supply tightness should begin to ease by end 2022 and this should start to stabilise prices, but prices will continue to edge higher over the years as demand will continue to be robust and increasingly outstrip supply.

Impact on Africa:

Soaring global tin prices will accelerate development of several tin projects in Africa in 2022 and beyond. The DRC will remain Africa's leading tin miner over the coming decade, mainly due to the presence of Alphamin Resources. The company produces roughly 4% of the world's mined tin from its operations in the DRC. Alphamin reported record tin mine output in 2021 and maintains plans to further expand production. The firm aims to increase overall tin output by 13,000 tonnes in 2022, after increasing by 12,000 tonnes in 2021. Alphamin's output stems from the high grade deposit at Mpama North, but Alphamin has an additional five exploration licenses in North Kivu Province. For instance, Alphamin plans to develop the Mpama South project, for which a mineral resource estimation exercise commenced in December 2021. The Bisie project has reserves of 4.7 million tonnes and a forecast 12.5-year lifespan. Elsewhere in the DRC, AVZ Minerals reported an updated mineral resource of 401 million tonnes at the Manono project in May 2021.

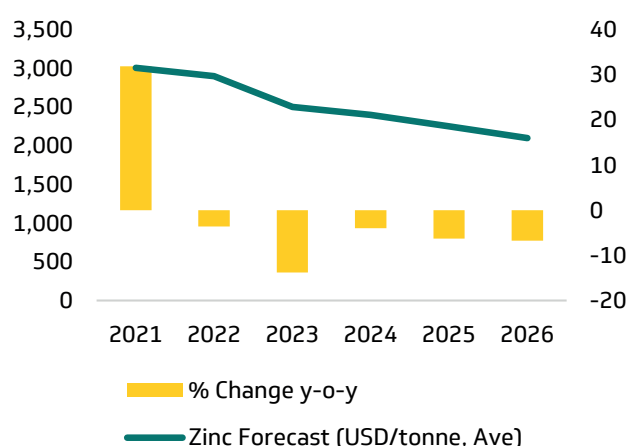
Rwanda will remain a significant tin miner, and output will be boosted by a planned USD20 million investment by TechMet through its Rwandan firm Tinco. TechMet intends to further develop tin and tungsten mining concessions in Rutongo and Nyakabingo. The government is seeking to boost investment into Rwanda's tin, tungsten and tantalum sectors and awarded 36 mining licences across these minerals in 2020.

Nonetheless, the worst of the market tightness that persisted over 2021 has likely passed as the market is expected to begin loosening before the end of 2022. High prices by historical standards are expected to encourage tin smelters to increase capacity utilisation rates, thus allowing lost smelter output to partially recover from Covid-19 disruption. Furthermore, new projects in Peru will ramp up to their first full-years of commercial production.

Zinc: Lower in the Coming Years

Price Forecasts 2021-2026						
	2021	2022	2023	2024	2025	2026
Price (USD/tonne, ave)	3,007	2,900	2,500	2,400	2,250	2,100
% Change y-o-y	31.9	-3.6	-13.8	-4.0	-6.3	-6.7

Zinc Forecast (USD/tonne, Ave)



Source: Fitch Solutions

- Zinc prices will remain high during the first quarter of 2022 due to a longstanding mismatch between supply and demand.
- While global refined zinc production has ramped up since 2020, it has been outpaced by demand.
- Zinc prices are nonetheless forecast weaken steadily over the coming years as global demand slows and supply improves.

Impact on Africa:

Investment by Trevali mining will cement Namibia as Africa's largest zinc miner over the coming decade. The company plans to expand output at the Rosh Pinah zinc-lead-silver mine at an estimated cost of USD93 million. In August 2021, the firm stated that the expanded mine will produce 612,000 tonnes of zinc annually over a mine life of 12 years. Trevali expects construction to commence in 2022, with first production from the expanded plant scheduled for early-2023. Trevali is also developing the Gergarub zinc project, which has indicated resources of 11.4 million tonnes. Elsewhere in Namibia, Sabre Resources reported in October 2021 that results of phase 1 of the Border mine's scoping study are currently being assessed.

South Africa has the most promising production growth outlook in Africa due to the Gamsberg mine, which opened in early 2019. Gamsberg will eventually ramp up to estimated annual full production of 250,000 tonnes of zinc concentrate. Owned by Vedanta Zinc International (69.6%) and Exxaro Resources (24.4%), Gamsberg has an estimated life of mine of at least 30 years and is expected to be one of the world's largest five zinc mines once fully developed. Elsewhere in the country, Orion Minerals is on track to complete resource estimation for the Prieska project in mid-2022.

The outlook for zinc mining in Eritrea is mixed. On the one hand, the country's world-class Bisha copper-zinc mine is expected to suffer significant production declines due to reserve depletion beginning in 2022. On the other hand, there is potential for Sichuan Road & Bridge Mining Investment Development's USD666 million Asmara zinc project to offset some of these declines in national output. Eritrea was Africa's largest zinc exporter in 2018, but output has since stagnated.

In the DRC, Ivanhoe Mines plans to restart the Kipushi zinc mine, which was idled in 1993. In February 2022, Ivanhoe and La Generale des Carrieres et des Mines (GECAMINES SA) signed a new agreement to return the project back to commercial production. Initial plans are to increase output to 240,000 tonnes per year.

In Algeria, Terramin Australia reported in October 2021 that the company is in continued negotiations with the Algerian government to submit the project applications for the USD486 million Tala Hamza zinc project.

Africa – Zinc Mine Production, '000 tonnes						
Country	2021	2022	2023	2024	2025	2026
Namibia	159	162	165	169	172	175
Morocco	57	57	57	57	57	57
South Africa	30	30	31	31	31	32
Congo (DRC)	14	14	14	14	15	15

Source: USGS, International Trade Centre, Fitch Solutions

Global Drivers of Price View:

The surge in zinc prices that has taken place since early-2020 is forecast to gradually unwind over the coming years. The global production surplus that emerged in 2020 should persist into the medium term and the resulting increase of zinc inventories should gradually drag prices lower. Price weakness should be particularly pronounced starting around mid-decade, as a significant widening of the global production surplus is forecast to begin around this time. An average annual production surplus of 476,000 tonnes is forecast over 2026-2030, compared to 203,000 tonnes over 2021-2025.

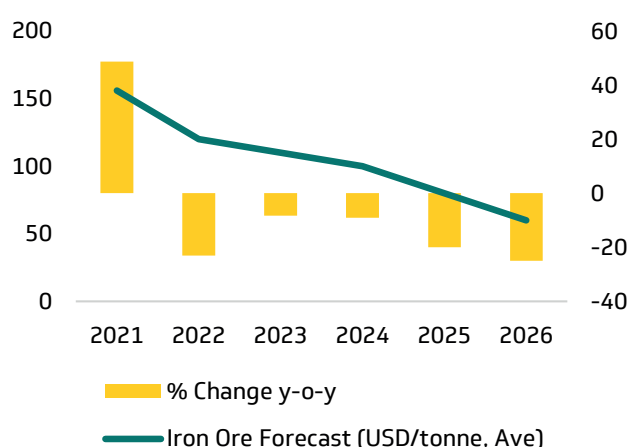
Ultimately, zinc prices will be dragged lower as long-term production growth outstrips subdued consumption growth. The most significant

drag on global zinc demand growth will come from China, which accounts for around half of annual refined zinc consumption. Steel production growth in China is forecast to slow from an annual average of 5.5% over 2018-2022 to just 1.3% over the subsequent five years. As a result, China is expected to flip from being a significant net importer of refined zinc, as has consistently been the case over the past decade, to become a major net exporter. China's annual refined zinc production balance is forecast to average a 196,000 surplus over 2026-2030 compared to a deficit of 292,000 tonnes over 2016-2020, which would make the country a key driver of global zinc oversupply.

Iron Ore: Chinese Economic Stimulus to Slow Pace of Price Declines

Price Forecasts 2021-2026						
	2021	2022	2023	2024	2025	2026
Price (USD/tonne, ave)	156.0	120.0	110.0	100.0	80.0	60.0
% Change y-o-y	48.7	-23.1	-8.3	-9.1	-20.0	-25.0

Iron Ore Forecast (USD/tonne, Ave)



Source: Fitch Solutions

- Chinese demand has once again started picking up, and will remain strong in 2022-2023 with the government's renewed stimulus towards the infrastructure sector in the face of slowing economic growth.
- On the supply side, there will not be a significant increase in iron ore supply from major producers who will place an emphasis on value over volume in 2022.
- Over the longer term, iron ore prices are expected to remain on a multi-year downtrend, with prices forecast to decline to average USD50/tonne by 2031.

Impact on Africa:

Africa will be a key global growth centre for iron ore production in the coming decade as China seeks to diversify import sources away from Australia and Brazil. There are currently 40 iron ore projects identified across the continent, making the iron ore mining sector one of the most promising segments of Africa's mining industry.

Output growth will be slow in South Africa and Mauritania, the two countries that currently dominate Africa's iron ore output. In contrast, significant investment is flowing into Central and West Africa, which will boost production in these regions from currently low levels. In December 2020, China's Ministry of Industry and Information Technology stated the government's intention to facilitate development of overseas iron ore mines by 2025 in order to improve China's pricing power in the iron ore market. This follows a surge in iron ore prices during 2020 and 2021 that has significantly reduced the profitability of Chinese steel mills, as well as deteriorating diplomatic relations with top supplier Australia.

Guinea has potential to eventually be the most significant iron ore growth centre in Africa. This is mainly due to an expectation that the country's Simandou project will be one of the main targets for increased Chinese investment. Chinese consortium SMB-Winning has secured rights to develop the Simandou deposit in Guinea, one of the largest untapped deposits of iron ore in the world. Meanwhile, development of the Mbalam-Nabeba iron ore mine on the border of Congo-Brazzaville and Cameroon looks set to accelerate following the transfer of the mining licence to China-based firm Sangha Mining Development.

In Sierra Leone, Chinese investment is set to rekindle growth in the country's iron ore mining sector. In March 2021, Sierra Leone's Minister of Mines and Mineral Resources officially reopened Kingho Mining Company's Tonkolili Iron Ore Mining Project. Over the next three years, the firm expects to ramp up to 20 million tonnes of production from negligible levels in 2020. In October 2021, Marampa Mines, a subsidiary of Gerald Group made its first shipment of iron ore to China following the restart of its operations after being shut down in September 2019.

Africa – Iron Ore Mine Production, million tonnes						
Country	2021	2022	2023	2024	2025	2026
South Africa	74.6	76.8	76.8	76.0	75.3	74.1
Mauritania	16.3	16.8	17.3	17.8	18.3	18.8
Sierra Leone	7.1	12.8	23.1	24.2	25.2	25.7
Liberia	4.9	5.0	5.2	7.2	10.1	14.2
Guinea	3.7	3.8	3.9	4.0	14.0	94.1
Egypt	3.6	3.7	3.7	3.8	3.9	4.0
Côte d'Ivoire	1.3	1.3	1.4	1.4	1.4	1.4
Morocco	0.1	0.1	0.1	0.1	0.1	0.1
Zimbabwe	0.1	0.1	0.1	0.1	0.1	0.1

Source: USGS, International Trade Centre, Fitch Solutions

Global Drivers of Price View:

After weakening sharply over July-November 2021, iron ore prices started to rebound significantly in December 2021. This price recovery was due to continued supply constraints (Vale's fourth quarter of 2021 production of 82.5 million tonnes fell short of guidance levels, Rio Tinto's FY2021 production was lower than guidance) and a strengthening of Chinese demand.

In February 2022, the Chinese government announced a crackdown on speculative trading of iron ore, causing iron ore prices to head lower. The National Development and Reform Commission announced

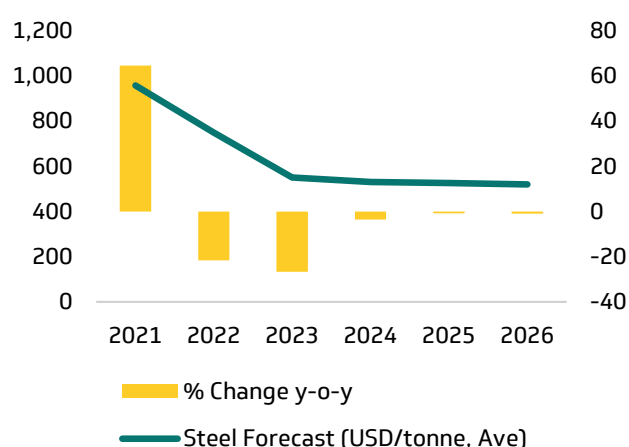
that investigation teams will be sent to the commodity exchange and key ports to look into iron ore inventories and trading in the spot and futures markets. The Dalian bourse then doubled transaction fees for some iron ore futures contracts effective from February 2022.

Despite the crackdown by Chinese authorities, iron ore prices are expected to be resilient in 2022 and remain above pre-Covid-19 levels. Looking beyond 2022, iron ore prices are forecast to follow a multi-year downtrend. The main driver of lower prices in the long term is expected to be weakening Chinese steel production and higher iron ore output from global miners.

Steel: Strong Demand to Support Prices in 2022

Price Forecasts 2021-2026						
	2021	2022	2023	2024	2025	2026
Price (USD/tonne, ave)	958	750	550	530	525	520
% Change y-o-y	64.6	-21.7	-26.7	-3.6	-0.9	-1.0

Steel Forecast (USD/tonne, Ave)



Source: Fitch Solutions

- It is widely expected that the significant rise in steel prices that took place over 2020-2021 is over.
- That said, US steel prices are expected to outperform as demand for steel in the country is boosted by President Biden's Infrastructure Bill.
- Outside the US, Chinese steel demand from the construction industry will continue to weaken in 2022-2025 as project pipelines thin and risks mount on the country's property sector, dampening domestic steel prices.

Impact on Africa:

A significant rise in global steel prices since 2020 will contribute to continued growth in steel production in several African countries in 2022. The high cost of importing steel will boost demand for local

steel production where available and make steel mills in producers including Egypt, South Africa, Morocco and Nigeria more competitive in their respective local markets. However, the high capital and infrastructure outlay required to develop energy-intensive steel mills will limit the development of steel production in other African countries.

Egypt is emerging as Africa's largest steel producer, having overtaken South Africa in recent years. These two countries will continue to dominate regional steel output, having accounted for more than 90% of Africa's production in 2021.

The recovery in steel production in South Africa from disruption caused by the Covid-19 pandemic has been weakened by delays to major infrastructure projects in Mozambique, which were anticipated to generate significant demand for South African steel. In particular, Total declared force majeure on its Mozambique liquefied natural gas (LNG) project in April 2021 following an attack by Islamic militants. Nonetheless, crude steel production increased by 29% year-on-year in 2021, according to the World Steel Association.

Strong economic growth and significant infrastructure investment in Egypt is expected to boost steel demand over 2022-2026. Even in 2020, when most other steel producers were reducing output due to the Covid-19 outbreak, steel production in Egypt increased by 13.4% according to the World Steel Association.

Algeria has become an increasingly important steel producer over recent years, catching up with South Africa's annual production in 2020 for the first time. Steel production in Algeria will continue to grow, although the pace of expansion will slow compared to a five-fold increase that took place between 2017 and 2020. In April 2021, the government announced that the Berrehal Steel Project that was suspended in 2019, will resume and is expected to produce around 850,000 tonnes of steel once complete.

Elsewhere in North Africa, demand for steel in Morocco stemming from the country's export-oriented manufacturing sector will rise. However, Morocco's steel production is expected to remain fairly flat as global steel prices start to decline and make imports relatively cheap once more.

As most of the continent is dependent on steel imports, high global steel prices will contribute to higher costs for businesses including manufacturers of durable goods and operators of infrastructure projects across the continent. Lower steel prices over the coming years should start to reduce operating costs for these businesses.

Africa – Steel Mine Production, '000 tonnes						
Country	2021	2022	2023	2024	2025	2026
Egypt	8,509	8,341	7,542	7,111	6,922	6,849
South Africa	5,977	5,660	5,646	5,734	5,751	5,729
Morocco	654	641	575	551	539	531
Nigeria	100	100	100	100	100	100

Source: USGS, International Trade Centre, Fitch Solutions

Global Drivers of Price View:

Global steel prices are forecast to weaken steadily in the long term out to 2030. Steel prices are forecast to average USD750/tonne in 2022 and USD535/tonne over 2023-2025. Ultimately, a combination of slowing Chinese steel consumption growth and rising global steel market protectionism prompting greater production in affected countries is expected to loosen the global steel market and drag prices lower.

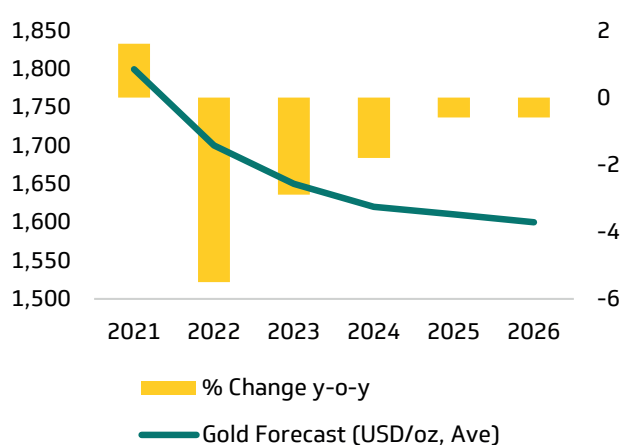
Chinese domestic demand for steel will slow overall in the coming decade compared to the last as the rebalancing of the economy away from heavy industry and towards the service sector resumes, which will drag down domestic steel prices in China and the global average.

In contrast to China, the outlook for steel demand growth in the US is more upbeat. This is mainly due to President Biden's infrastructure plan having been signed into law in November 2021. The Bill will involve traditional as well as new infrastructure with spending spanning over eight years, thus supporting steel demand along with other green metals like copper for a time to come. Alongside traditional infrastructure like bridges, ports, roads and pipelines, the plan addresses climate change through a wide range of projects involving electrification, advanced manufacturing, clean technology, electric vehicle charging stations, broadband, and renewable energy.

Gold: Geopolitical Uncertainty to Keep Gold Prices High

Price Forecasts 2021-2026						
	2021	2022	2023	2024	2025	2026
Price (USD/tonne, ave)	1,799	1,700	1,650	1,620	1,610	1,600
% Change y-o-y	1.6	-5.5	-2.9	-1.8	-0.6	-0.6

Gold Forecast (USD/tonne, Ave)



Source: Fitch Solutions

- Russia's invasion of Ukraine in February 2022 has caused significant uncertainty for the global economy in 2022, which will boost demand for gold.
- Prospects for higher inflation resulting from possible disrupted Russian energy exports will also keep demand for gold strong.
- Gold prices are forecast to gradually decline over the long term as inflation subsides and global interest rates rise.

Impact on Africa:

Gold prices are expected to remain higher than pre-Covid levels in the coming years, which will boost investment into a raft of gold projects in Africa. West Africa has the most densely populated gold project pipeline in Africa, with USD6.7 billion of investment slated for the coming years, compared to USD4.2 billion in second-placed Southern Africa.

Ghana is Africa's largest gold producer and output will grow strongly in 2022, driven by the restoration of mines, the introduction of new gold mining projects and the integration of artisanal miners into Ghana's gold output. In October 2021, Newmont Corp announced that funding for its Ahafo North project had been approved. Ahafo North has roughly 3.5 million ounces of reserves which has the potential to extend the project's life beyond the current 13-year mine life. In July 2021, Newmont Corp also announced the approval of its Ahafo North project, setting the company up to develop four open-pit mines that will produce an estimated 130,000 ounces per annum. Projected capital costs for the project are USD750-850 million with construction expected to be complete in the second half of 2023.

In South Africa, gold production is forecast to grow by just 1% in 2022 following a 7% rebound in 2021. Over the longer term, South Africa's gold mining output will remain constrained by high costs and depleting ore grades. In just over a decade, South Africa has fallen from being the largest gold producer in the world to eighth largest currently, even behind regional rival Ghana.

In terms of smaller producers, as gold has a high value-to-weight ratio, gold mines are less constrained by generally weak logistical infrastructure in many parts of the region than bulk commodities, such as coal and iron ore would be. This will enable investment in other gold mining destinations including Burkina Faso, Mali and Mauritania. Looking downstream, Tanzania was the fifth-largest gold miner in Africa. The development of several gold refineries in the country means that Tanzania could start to process gold produced in neighbouring countries with less developed gold mining supply chains, such as Zambia and Kenya.

Africa – Gold Mine Production, million oz						
Country	2021	2022	2023	2024	2025	2026
Ghana	4.77	4.96	5.11	5.26	5.37	5.48
South Africa	3.09	3.12	3.15	3.19	3.22	3.25
Mali	2.35	2.46	2.59	2.69	2.77	2.86
Burkina Faso	2.06	2.21	2.32	2.41	2.48	2.56
Tanzania	1.65	1.68	1.72	1.75	1.79	1.81
Congo (DRC)	1.63	1.71	1.80	1.87	1.95	2.02
Côte d'Ivoire	1.35	1.38	1.43	1.48	1.50	1.53
Zimbabwe	1.04	1.05	1.06	1.10	1.14	1.18
Guinea	0.57	0.57	0.57	0.57	0.57	0.57
Egypt	0.43	0.40	0.39	0.43	0.52	0.67
Mauritania	0.41	0.52	0.60	0.61	0.62	0.64

Source: USGS, International Trade Centre, Fitch Solutions

Global Drivers of Price View:

Russia's invasion of Ukraine in February 2022 has significantly improved the outlook for gold prices in 2022. First, uncertainty over the impact of the Russia-Ukraine war on the global economy and financial system will boost demand for safe haven assets such as US Treasuries and gold. The prices for both of these assets rose significantly in the week following Russia's invasion. Second, the upward impact on global inflation from disrupted energy exports from Russia will boost demand for gold, which is typically treated as a hedge against inflation.

In the longer term, gold prices are forecast to gradually decline over the coming years. Prices are forecast to average USD1,700/oz in 2022 with continued bouts of volatility, compared to USD1,798/oz reached in 2021. Downward pressure on gold prices as the US Federal Reserve eventually begin to raise interest rates. Prior to the Russia-Ukraine war, the US Fed announced in January 2022 a decision to hike in March 2022, and markets are pricing in further hikes over the remainder of the year.

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