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Recent developments, challenges and opportunities in commodity markets

Note by the UNCTAD secretariat

Summary

This note examines recent developments and trends in key commodity markets, analysing the factors influencing commodity prices in 2022 and the first quarter of 2023. Most commodity prices (food and agricultural commodities; minerals, ores and metals; and energy) increased in the first quarter of 2022, mainly driven by the war in Ukraine causing uncertainty and supply-related disruptions in food and fuel sectors. This affected the prices of minerals, ores and non-precious metals, which increased due to high input costs. The prices of precious metals also rose due to war-related uncertainty. However, the prices of non-fuel commodities declined in the rest of 2022 and into March 2023 (the latest month for which most data are available), mainly due to contracting demand caused by fears of a global economic recession and affordability concerns. Weak demand from China due to lockdowns and monetary tightening in various countries to address inflation also contributed to this drop. Energy prices remained high due to geopolitical tensions affecting natural gas supply in the European Union but decreased in the last four months of 2022 and early 2023 as demand weakened after rebuilding gas inventories. Ongoing geopolitical and economic uncertainty will likely contribute to continued volatility in 2023. This report explores policy considerations arising from these developments and suggests recommendations to help commodity-dependent developing countries achieve sustainable development.

Introduction

1. The Trade and Development Board was given a mandate in paragraph 208 of the Accra Accord (TD/442, chapter II) to establish a multi-year expert meeting on commodities. The mandate was reaffirmed in paragraph 17 of the Doha Mandate of 2012 (TD/500/Add.1), which extended it to 2016. The mandate was further extended to 2020 in paragraph 100 (s) of the Nairobi Maafikiano (TD/519/Add.2) and, more recently, reiterated in paragraphs 123 and 127 (l) of the Bridgetown Covenant (TD/541/Add.2).

2. In this note, commodity market developments during 2022 are analysed, focusing on price trends and the causes of price fluctuations. Some policy issues associated with recent developments are highlighted and lessons drawn, in the form of policy recommendations, to assist commodity-dependent developing countries in efforts to achieve inclusive economic growth and sustainable development. The commodities analysed in this note are grouped into three categories; (a) food and agricultural commodities (food, tropical beverages, vegetable oil seeds and oils, and agricultural raw materials); (b) minerals, ores and metals; and (c) energy (crude oil, natural gas, coal and renewable energy).

I. Recent developments in commodity markets*

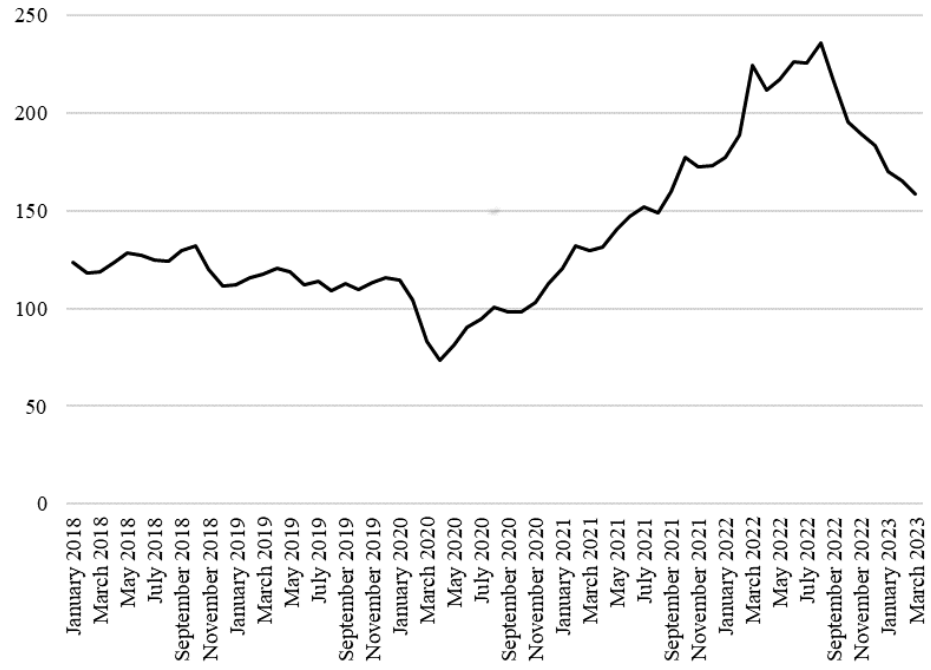
A. Overview

3. The UNCTAD free market commodity price index [1] for all commodity groups followed the upward trend that started in mid-2020 due to the coronavirus disease (COVID-19) pandemic and reached a high of 235.6 points in August 2022, primarily due to supply disruptions and price hikes across commodities resulting from the war in Ukraine (figure 1). In September 2022, the index reversed its course, declining to 158.5 points by March 2023. This decline resulted from reduced demand triggered by concerns about a global economic recession and aggressive monetary tightening in various countries to combat inflation.

* All websites mentioned in this note were accessed in June 2023. All prices are in United States dollars.

[1] This index has been rebased to 2015=100, incorporating new commodities, weights and separate indices for fuels and a subgroup of precious metals.

Figure 1
UNCTAD free market commodity price index for all groups, January 2018–March 2023
(2015=100)



Source: UNCTAD, based on UNCTADstat database.

B. Developments in key commodity sectors

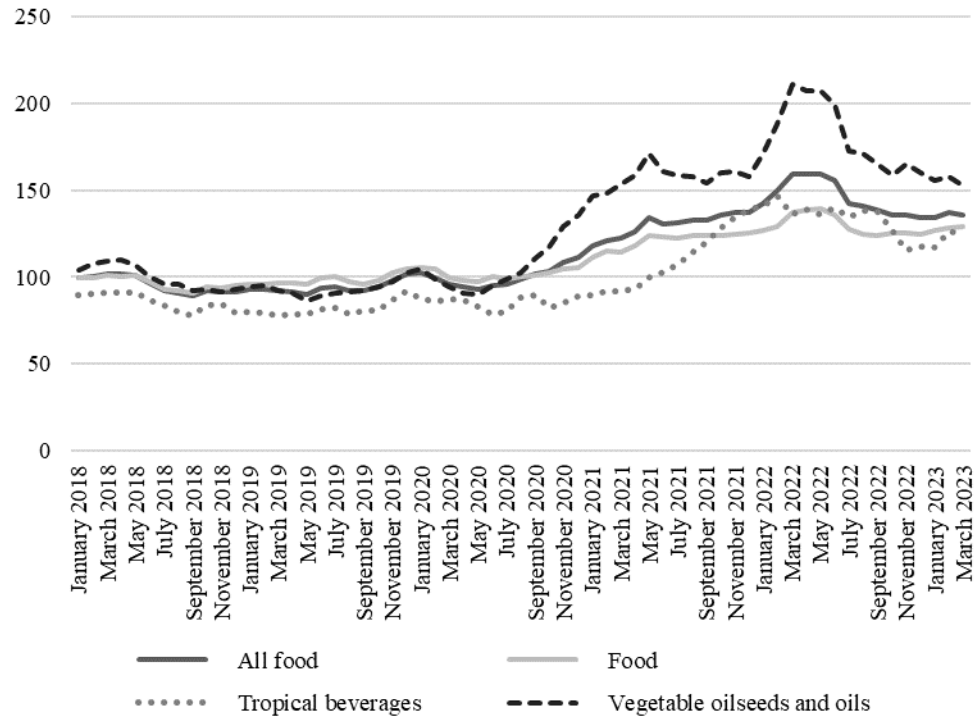
1. Food and agricultural commodities

4. The UNCTAD food price index peaked in May 2022, reaching 159.2 points, but dropped to 135.6 points in March 2023 (figure 2). This pattern closely follows the fluctuations in the index of food and vegetable oilseeds and other oils, which experienced the largest variations among all food groups. The war in Ukraine, the Black Sea Initiative,[2] weather conditions and soaring fertilizer costs are some factors behind these fluctuations.[3]

[2] Launched in July 2022 by the Russian Federation, Türkiye, Ukraine and the United Nations for the safe export of grain, related foodstuffs and fertilizers from designated Ukrainian ports.

[3] UNCTAD, 2023a, A trade hope: The impact of the Black Sea Grain Initiative, UNCTAD/OSG/INF/2023/3, Geneva.

Figure 2
Price indices of selected commodity groups, January 2018–March 2023
(2015=100)

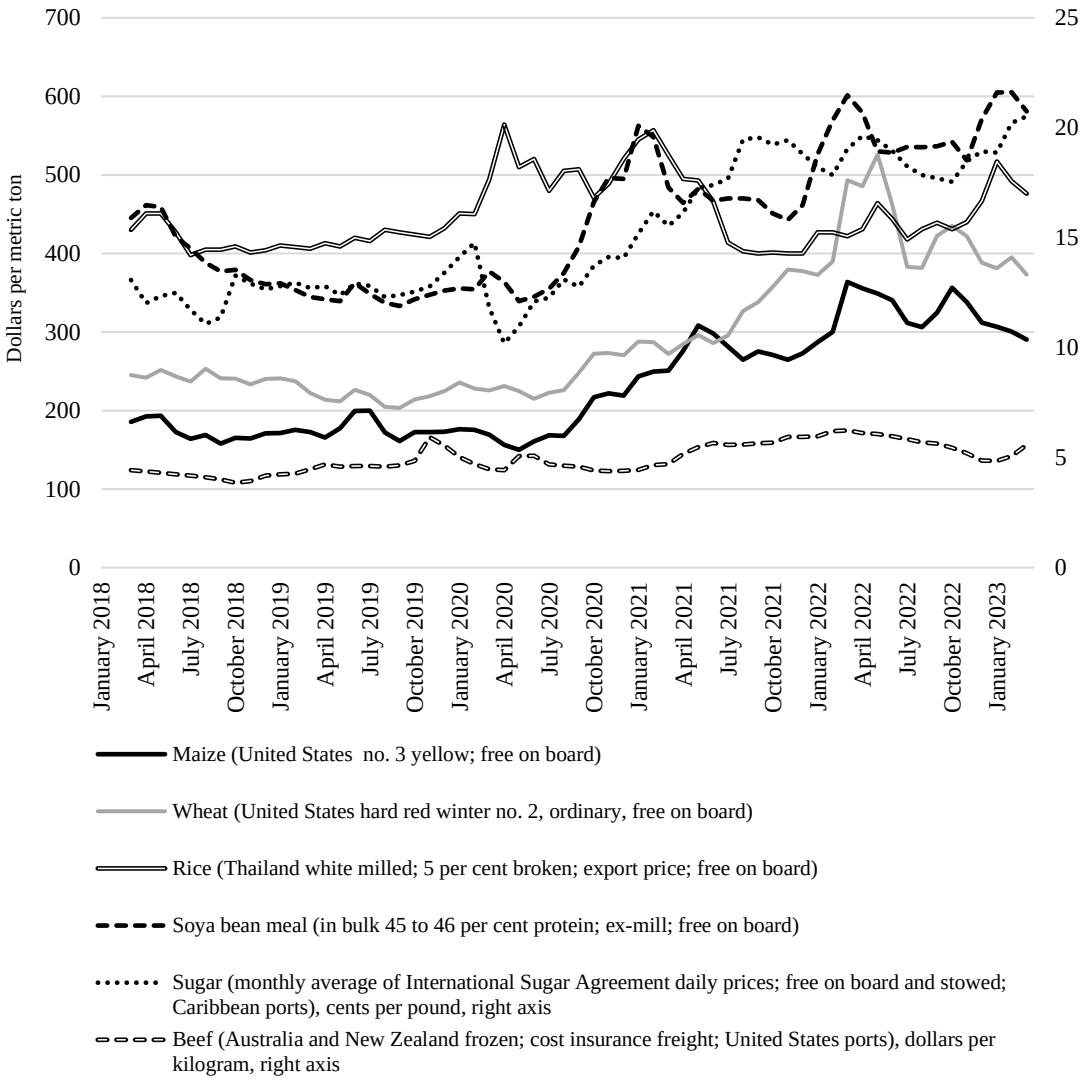


Source: UNCTAD, based on UNCTADstat database.
Note: All food corresponds to the composite UNCTAD food index, covering food, tropical beverage and vegetable oilseed and oil subindices.

5. Maize prices increased to $364 per metric ton in March 2022 (figure 3), driven by disruptions in production in Ukraine, a major exporter, and high fertilizer costs. Maize prices declined throughout the second quarter of 2022, owing to increased production in Argentina and Brazil and weaker demand for animal feed from the European Union and the United States of America.[4,5] Despite an increase in inflationary pressures by October 2022 due to uncertainty surrounding the Black Sea Initiative and unfavourable weather conditions in Argentina, the United States and the European Union, maize prices fell to $290.3 per metric ton in March 2023.[6] Thereafter, increased production in Brazil exerted downward pressure on prices by the end of 2022 and early 2023.[7] Weak demand and anticipated increases in maize production in the United States may contribute to lower prices in 2023. Upward risks remain from uncertainty in the Black Sea region and limited supplies in Argentina.[8]

[4] Food and Agriculture Organization of the United Nations (FAO), 2022a, Food Price Index, July.
[5] World Bank, 2022a, *Commodity Markets Outlook, Pandemic, War, Recession: Drivers of Aluminum and Copper Prices*, Washington, D.C.
[6] FAO, 2022b, Benchmark for world food prices was broadly steady in October, 4 November.
[7] *Bloomberg*, 2022a, Brazil corn exports set to surge just as world needs them most, 19 December.
[8] Economist Intelligence, 2023a, Maize, 1 April.

Figure 3
Price trends of selected food and agricultural commodities, January 2018–March 2023



Source: UNCTAD, based on the UNCTADstat database.

6. The international benchmark price of United States wheat also experienced significant fluctuations in 2022 (figure 3) due to supply disruptions in the Black Sea region. After increasing to $523 per metric ton in May 2022 due to reduced exports from Ukraine,[9] wheat prices declined to $382 per metric ton in August 2022, following higher-than-expected output from Australia, Canada and the Russian Federation and the launch of the Black Sea Initiative.[10,11] Despite a small rise thereafter, higher production and low demand from the United States weighed down on prices again,[12] reaching $373 per metric ton in March 2023. Future price movements will depend on developments in the Black Sea region.[13]

7. The benchmark price of Thailand rice decreased from $464 per metric ton in May 2022 to $431 in October 2022. Despite a price rise between November and January 2023, rice prices declined to $476 per metric ton in March 2023 (figure 3). Fluctuations were

[9] World Bank, 2022b, *Commodity Markets Outlook. The Impact of the War in Ukraine on Commodity Markets*, Washington, D.C.
[10] United Nations, 2022a, Major fall in global food prices for July, but future supply worries remain, 5 August.
[11] Economist Intelligence, 2023b, Wheat, 1 April.
[12] FAO, 2022c, Food Price Monitoring and Analysis Bulletin, no. 10, Rome.
[13] Economist Intelligence, 2023b.

attributed to weather variability affecting supply throughout the year. Increasing prices in November 2022 reflected tight supplies due to dry conditions in China and smaller planted areas in India, which offset increased production in Thailand and Viet Nam.[14] Currency appreciation against the United States dollar in Asian exporting countries also resulted in higher prices.[15]

8. After peaking in April 2022 due to higher input costs,[16] average sugar prices declined, reaching 17.5 cents per pound in October 2022 (figure 3). This was due to a depreciation of the Brazilian real and lower ethanol prices increasing the attractiveness of producing sugar and leading to increased production in Brazil. Improved production prospects in India further contributed to this decline.[17] However, sugar prices rose to 20.5 cents per pound in March 2023 due to unfavourable weather in India and delays in sugarcane crushing in Australia and Thailand.[18] Sugar prices are forecast to continue increasing despite higher production prospects due to supply-related constraints and countries stockpiling as a result of uncertainty and fear of shortages.[19]

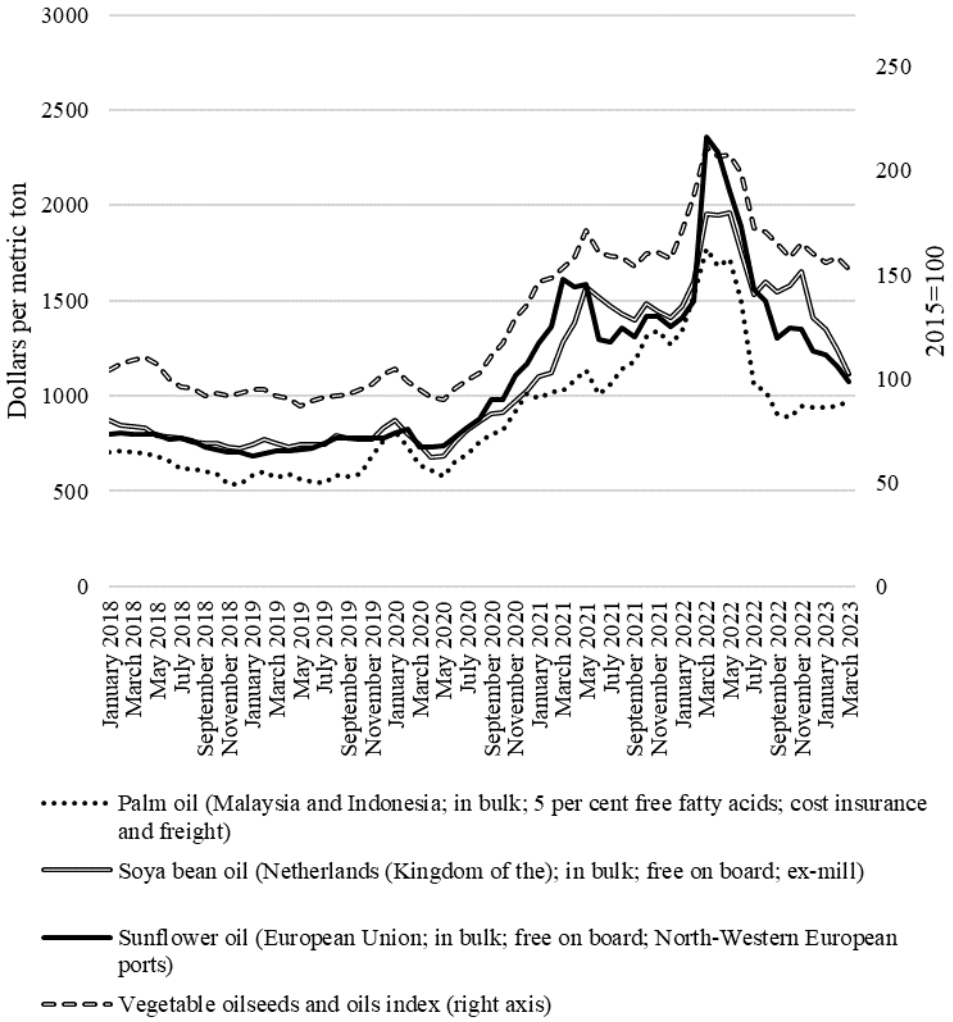
9. After peaking at $601 per metric ton in March 2022 due to increased demand for sunflower seed substitutes, high crude oil prices and unfavourable weather in South America,[20] soya bean prices declined to $519 per metric ton in November 2022 (figure 3). This decline resulted from concerns about an economic slowdown and lower demand from China. Prices rose again in December 2022 due to unfavourable weather affecting Argentina amid strong demand.[21] Despite an increase to $580.7 per metric tons in March 2023, soya bean prices are forecast to decline in 2023 due to record-high production projected in Brazil and the United States. This is expected to outweigh a rebound in demand for biofuels[22] and upward risks associated with unfavourable weather conditions in Argentina.[23]

10. The price of beef declined from $5.97 per kilogram in January 2022 to $5.58 per kilogram in March 2023 (figure 3), due to lower demand for premium beef cuts and increased staffing at meatpacking facilities in the United States.[24] Pressures to sell cattle amid dry weather in Australia also contributed to lower prices.[25] Beef prices are forecast to increase in 2023 as drought shrinks cattle herds in the United States.[26]

11. The UNCTAD vegetable oilseeds index increased from 171 points in January 2022 to 211 in March 2022 (figure 4) due to increased sunflower and soya bean oil prices resulting from the war in Ukraine and the close substitutability of edible oils and oilseeds. However, the index declined to 153 points in March 2023 due to decreased sunflower, soya bean and palm oil prices.

[14] World Bank, 2022a.
[15] United Nations, 2023, Downward slide in global food prices continues, 3 February.
[16] *Bloomberg*, 2022b, Brace for even higher sugar prices, Europe's top producer warns, 16 June.
[17] FAO, 2022d, Global food commodity prices decline in July, 5 August.
[18] FAO, 2023, World food prices dip in December, 6 January.
[19] Economist Intelligence, 2023c, Sugar, 1 January.
[20] Economist Intelligence, 2022a, Soybeans, 1 November.
[21] Ibid.
[22] World Bank, 2023, *Commodity Markets Outlook. Lower Prices, Little Relief*, Washington, D.C.
[23] Economist Intelligence, 2023d, Soybeans, 1 May.
[24] T Latham, 2022, Steak, anyone? Prices for the best cuts of beef are falling, *Robb Report*, 22 August.
[25] *ABC News*, 2023, Cattle prices record big drop but consumers unlikely to see cheaper steaks, 16 March.
[26] *The Wall Street Journal*, 2023, Why your steak is getting pricier, 1 June.

Figure 4
Price trends of selected vegetable oilseeds and oils, January 2018–March 2023



Source: UNCTAD, based on UNCTADstat database.

12. Soya bean oil prices rose to $1,963 per metric ton in May 2022 (figure 4), surpassing the already high prices seen in 2021. This was attributed to increased demand for sunflower oil substitutes following supply disruptions in Ukraine.[27] Prices then decreased to $1,113 per metric ton in March 2023 due to favourable growing conditions in South America[28] and the resumption of Ukrainian exports under the Black Sea Initiative. Expectations for record harvests in Brazil and the United States in 2023 will likely contribute to further declines, offsetting severe drought-related losses in Argentina.[29, 30] Sluggish demand from China and India will likely ease pressure on soya bean oil prices in 2023.[31]

13. Palm oil prices continued their upward trend, rising to $1,777 per metric ton in March 2022 (figure 4). Similar to soya bean oil, this increase was attributed to heightened demand to replace sunflower oil.[32] Tight supply was exacerbated by the export ban on palm oil in Indonesia and lower-than-expected output in East Asia, further increasing prices.[33] After

[27] World Bank, 2022b.
[28] World Bank, 2022a.
[29] Standard and Poor's Global, 2023a, South American soybean oil prices drop to more than two-year low, 23 March.
[30] Economist Intelligence, 2023d.
[31] Standard and Poor's Global, 2023a.
[32] *Reuters*, 2022a, Palm oil becomes costlier vegoil as Ukraine halts sunoil supply, 1 March.
[33] World Bank, 2022b.

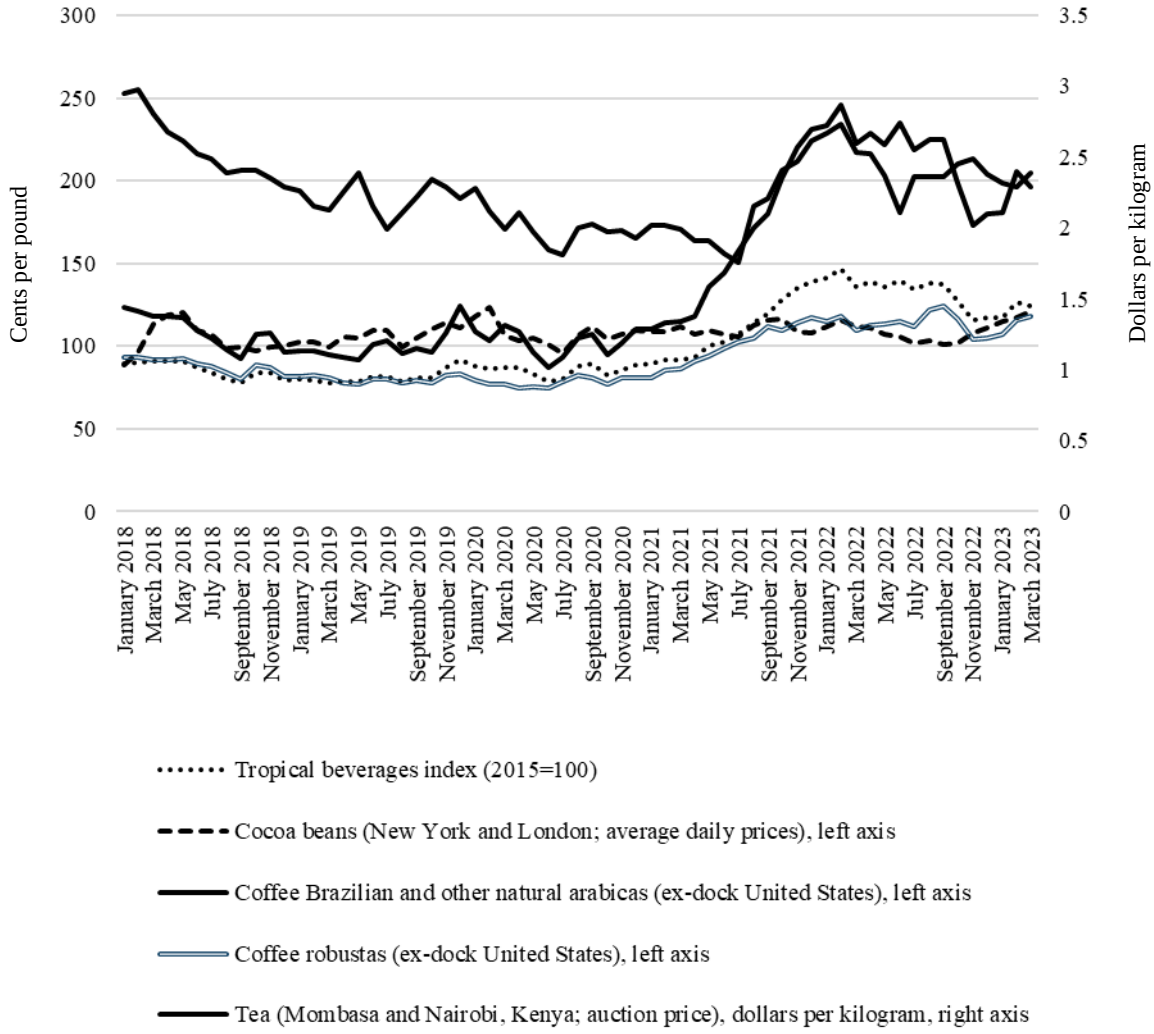
peaking in March 2022, palm oil prices decreased to $940 per metric ton in December 2022 due to factors such as the Black Sea Initiative, Indonesia lifting its export ban and weak demand due to affordability concerns and limited economic growth prospects.[34] Palm oil prices increased to $972 per metric ton in March 2023 and are forecast to continue rising in mid–2023 despite high production due to increased demand in Indonesia, where a new policy requires a higher blend of palm oil in biodiesel.[35] Upward pressures may also arise from the potential of El Niño, leading to dry weather and reduced yields towards the end of 2023.[36]

14. Sunflower oil prices surged to $2,361 per metric ton in March 2022 (figure 4), underpinned by supply disruptions in Ukraine and the Russian Federation, which account for more than 75 per cent of global exports.[37] Prices began declining due to weak demand caused by affordability concerns and improved availability of other vegetable oils.[38] The launch of the Black Sea Initiative in July 2022, which also covered sunflower seed products, contributed to lower prices. By March 2023, sunflower prices had dropped to $1,075 per metric ton, representing a 54 per cent decrease between March 2022 and March 2023. Sunflower oil prices will likely fall further due to competition from substitutes regardless of uncertainty about export routes in the Black Sea region and limited production in Ukraine.[39]

15. The UNCTAD tropical beverages index declined, from 141 points in January 2022 to 117 in December 2022 (figure 5), due to declines in coffee prices. Despite the decline in 2022, since then, the UNCTAD tropical beverages index has remained well above pre-COVID values and increased to 124 points by March 2023.

[34] World Bank, 2022a.
[35] *Reuters*, 2023a, Indonesia's biodiesel policy, dry weather to keep palm oil prices elevated, 9 March.
[36] Economist Intelligence, 2023e, Palm oil, 1May.
[37] *Bloomberg*, 2022c, Record cooking oils are latest threat to surging food inflation, 3 March.
[38] Economist Intelligence, 2022b, Sunflower seed oil, 1 April.
[39] Economist Intelligence, 2023f, Sunflower seed oil, 1 May.

Figure 5
Price trends of selected tropical beverage commodities, March 2012–March 2023



Source: UNCTAD, based on the UNCTADstat database.

16. Cocoa prices averaged 112 cents per pound in January 2022 and remained relatively stable in 2022 until an increase to 121 per cent per pound in March 2023 (figure 5). Consumption is forecast to outpace production due to higher input prices and adverse weather impacting supply, particularly in Côte d'Ivoire, the world's largest cocoa producer.[40] This will likely continue bolstering prices in 2023 despite positive growth prospects of high-quality cocoa in Latin America.

17. After increasing to $2.7 per kilogram in February 2022, tea prices declined to $2.1 per kilogram in June 2022 (figure 5). This downward trend reversed, and prices reached $2.4 per kilogram in March 2023, due to challenges in Sri Lanka limiting supply, caused by economic difficulties, and adverse weather conditions in India, Kenya, Malawi and Uganda.[41] Prices are forecast to decline in 2023 due to weak demand in Central Asia, a key consuming region.[42]

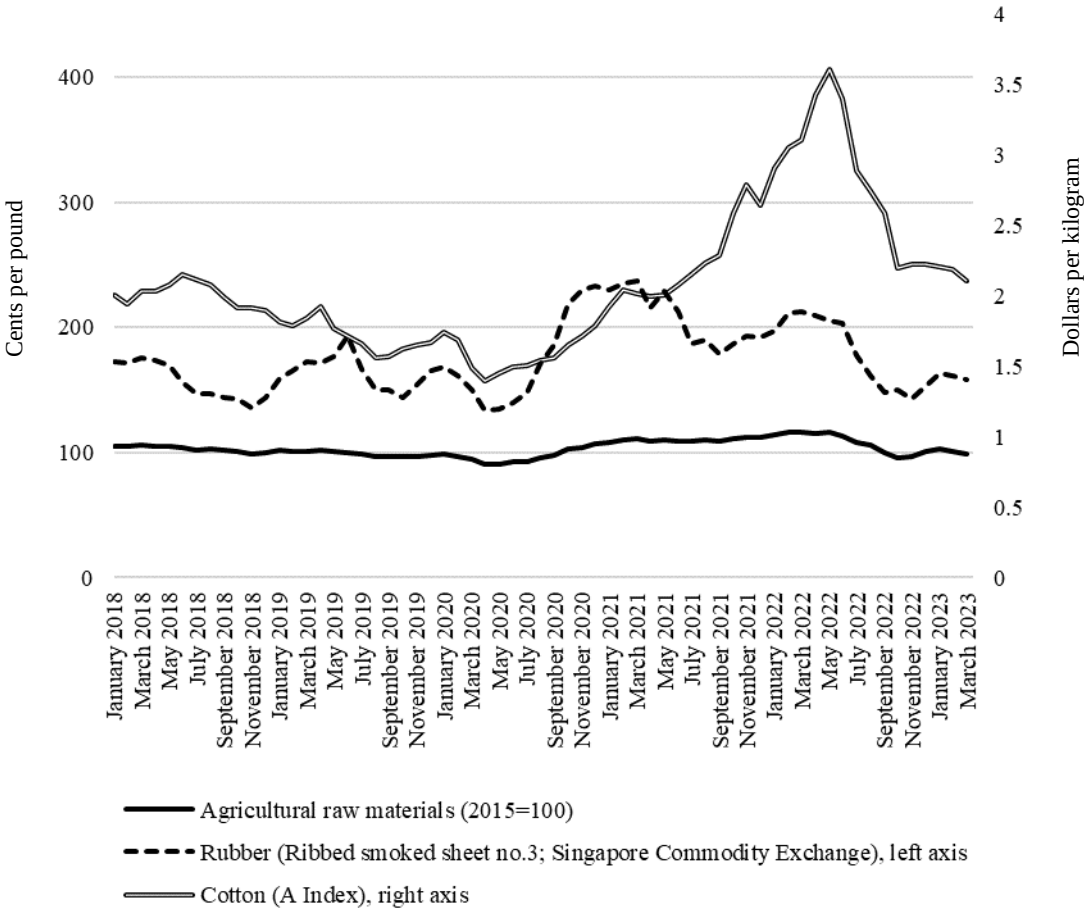
18. The International Coffee Organization's average monthly composite indicator price declined from 204 cents per pound in January 2022 to 157 cents per pound in December 2022. This was supported by positive production prospects for arabica and robusta and weak

[40] Economist Intelligence, 2023g, Cocoa, 1 May.
[41] World Bank, 2022a.
[42] World Bank, 2023, *Commodity Markets Outlook. Lower Prices, Little Relief*, Washington, D.C.

demand amid fears of an economic slowdown.[43] Coffee prices increased to 172 cents per pound by March 2023 and are likely to rise further due to high fertilizer costs and adverse weather.[44]

19. The UNCTAD agricultural raw materials index fell by 12 per cent, from 114 points in January 2022 to 98.9 in March 2023 (figure 6), due to declines in cotton and rubber prices.

Figure 6
Price trends of selected agricultural raw materials, January 2018–March 2023



Source: UNCTAD, based on UNCTADstat and World Bank databases.
Note: Cotton price data from https://www.worldbank.org/en/research/commodity-markets.

20. The cotton A index price, a benchmark for world cotton prices, peaked at $3.61 in May 2022 before declining to $2.10 per kilogram in March 2023 (figure 6). The initial price increase was due to adverse weather in cotton-producing areas in the United States, soaring energy prices and fertilizer shortages following the start of the war in Ukraine.[45] The decline between May 2022 and March 2023 was attributed to low demand amid concerns of an economic slowdown that offset upward pressures resulting from reduced output in India and Pakistan.[46] Cotton prices are forecast to continue trending down in 2023 due to weak demand.[47]

21. After reaching 212 cents per kilogram in March 2022, natural rubber prices declined, quoting 154 cents per kilogram in December 2022 (figure 6). The decline was driven by subdued demand from slowing economic activity and disruptions in the automobile

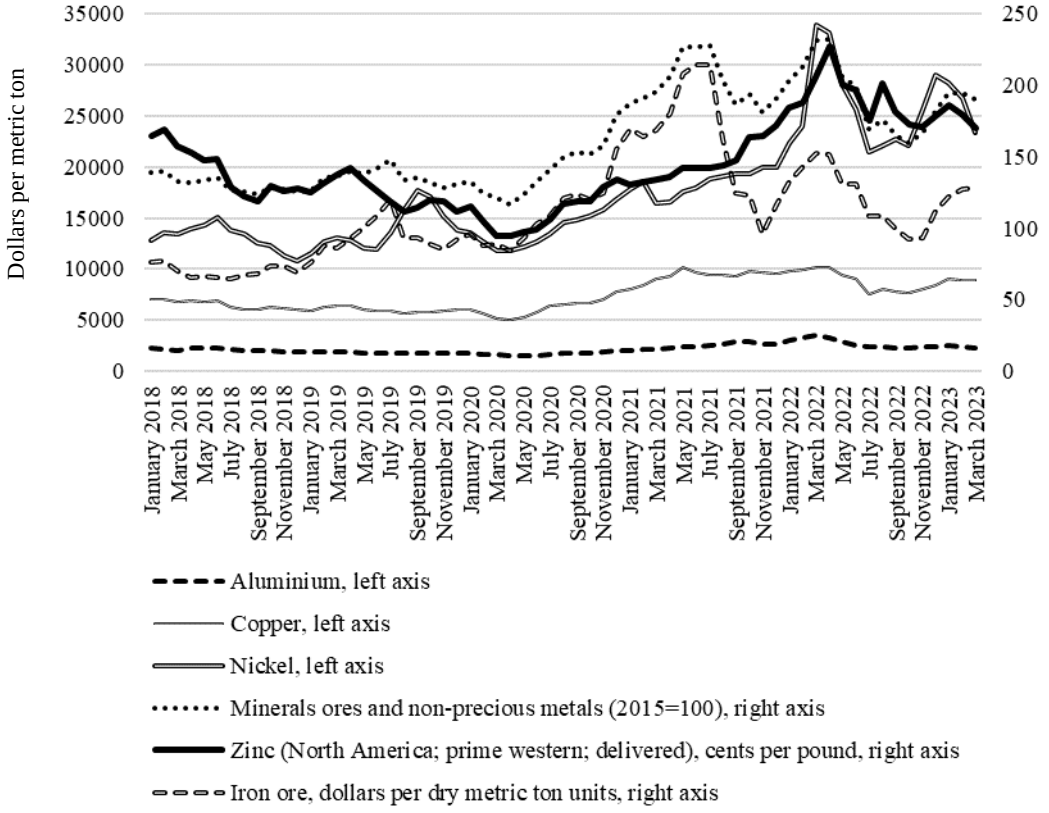
[43] World Bank, 2022a.
[44] Economist Intelligence, 2023h, Coffee, 1 May.
[45] Economist Intelligence, 2022c, Cotton, 1 November.
[46] World Bank, 2022a.
[47] Economist Intelligence, 2022c.

industry.[48] Favourable weather and increased output in Côte d'Ivoire and Thailand also contributed to lower prices.[49] However, prices rose to 158 cents per kilogram in March 2023. Increased demand and improved business sentiment in China will likely raise prices in 2023.[50]

2. Minerals, ores and metals

22. The UNCTAD minerals, ores and non-precious metals price index reached 232 points in April due to price increases across all commodities in the group, particularly nickel, zinc and iron ore (figure 7). In May, this trend reversed, and the index fell to 190 points in March 2023.

Figure 7
Price trends of selected minerals ores and non-precious metals, January 2018–March 2023



Source: UNCTAD, based on UNCTADstat and World Bank databases.
Note: Price data on aluminium, iron ore, copper and nickel from https://www.worldbank.org/en/research/commodity-markets.

23. Iron ore prices increased to $152 per dry metric ton in March 2022 (figure 7) due to reduced output from Ukraine and supply difficulties from the Russian Federation. Labour shortages in Australia and adverse weather affecting output in Brazil also contributed to the price increase.[51] Iron ore prices then declined to $93 per dry metric ton in November 2022 after the demand for steel products plummeted due to a slowdown in industrial and construction activity.[52] Though iron ore prices have since rallied, to $128 per dry metric ton in March 2023 due to recovering demand, prices will likely fall in the second half of 2023

[48] Economist Intelligence, 2022d, Natural rubber, 1 December.
[49] World Bank, 2022a.
[50] European Rubber Journal, 2023, Natural rubber makes strong start to 2023 as prices strengthen, 20 January.
[51] World Bank, 2022b.
[52] World Bank, 2022a.

due to steady supply growth. Uncertainty about the global economy and lacklustre demand in China due to policies seeking to limit steel production to curb pollution are also likely to lower prices in the second half of 2023.[53]

24. After increasing between January and March 2022 due to the war in Ukraine, copper prices declined from $10,231 per metric ton in March 2022 to $7,545 per metric ton in July 2022; prices remained relatively stable until increasing to $8,856 per metric ton in March 2023 (figure 7). As a highly cyclical commodity, copper has a price pattern that mirrors economic activity. Hence, this price slump was attributed to fears of a global recession, discouraging investments in sustainable energy generation and consumption.[54] Prices are forecast to rise further due to a rebound in demand. Despite concerns about slowing economic activity, a price increase is likely to be supported by the energy transition and environmental policies prompting increases in demand for electric vehicles, electric batteries, renewables generation and grid storage.[55]

25. Aluminium prices continued rising in 2022, reaching $3,498 per metric ton in March 2022 (figure 7) due to soaring energy prices, depleted global inventories and supply disruptions of alumina, a key input of aluminium.[56] After peaking in March 2022, prices declined, quoting $2,296 in March 2023. This drop resulted from a slowdown in manufacturing activity due to increasing fears of a global recession and a weak construction sector in China.[57] Prices are forecast to increase due to supply disruptions in Australia and Brazil. High energy costs associated with the war in Ukraine will likely continue affecting European smelters, pushing up aluminium prices.[58]

26. Zinc prices rose to 227 cents per pound in April 2022 (figure 7), primarily due to energy-driven supply cuts in Europe. Similar to aluminium, elevated energy prices increased production costs of zinc, leading to shutdowns or production cuts at smelters. With sluggish demand outweighing production costs in the remainder of the year, zinc prices declined between April 2022 and March 2023, quoting 170 cents per pound in March 2023. Zinc prices are likely to continue decreasing in 2023 due to modest demand and increased output from Australia, China and Peru.[59] However, upward risks from elevated energy prices remain.

27. Nickel prices increased to $33,924 per metric ton in March 2022 (figure 7) due to concerns regarding supply from the Russian Federation, the world's third largest nickel producer.[60] While prices declined thereafter due to sluggish global demand and strong production growth in Indonesia,[61] they resumed an upward trend in October 2022, reaching $28,947 per metric ton in December 2022. This was attributed to strong demand from the electric vehicle sector that coincided with supply disruptions in New Caledonia.[62] Uncertainty brought by the war in Ukraine and lower demand for Russian-produced nickel also contributed to this price rise.[63] Nickel prices have since dropped to $23,288 in March 2023 due to increased output from China and Indonesia.[64]

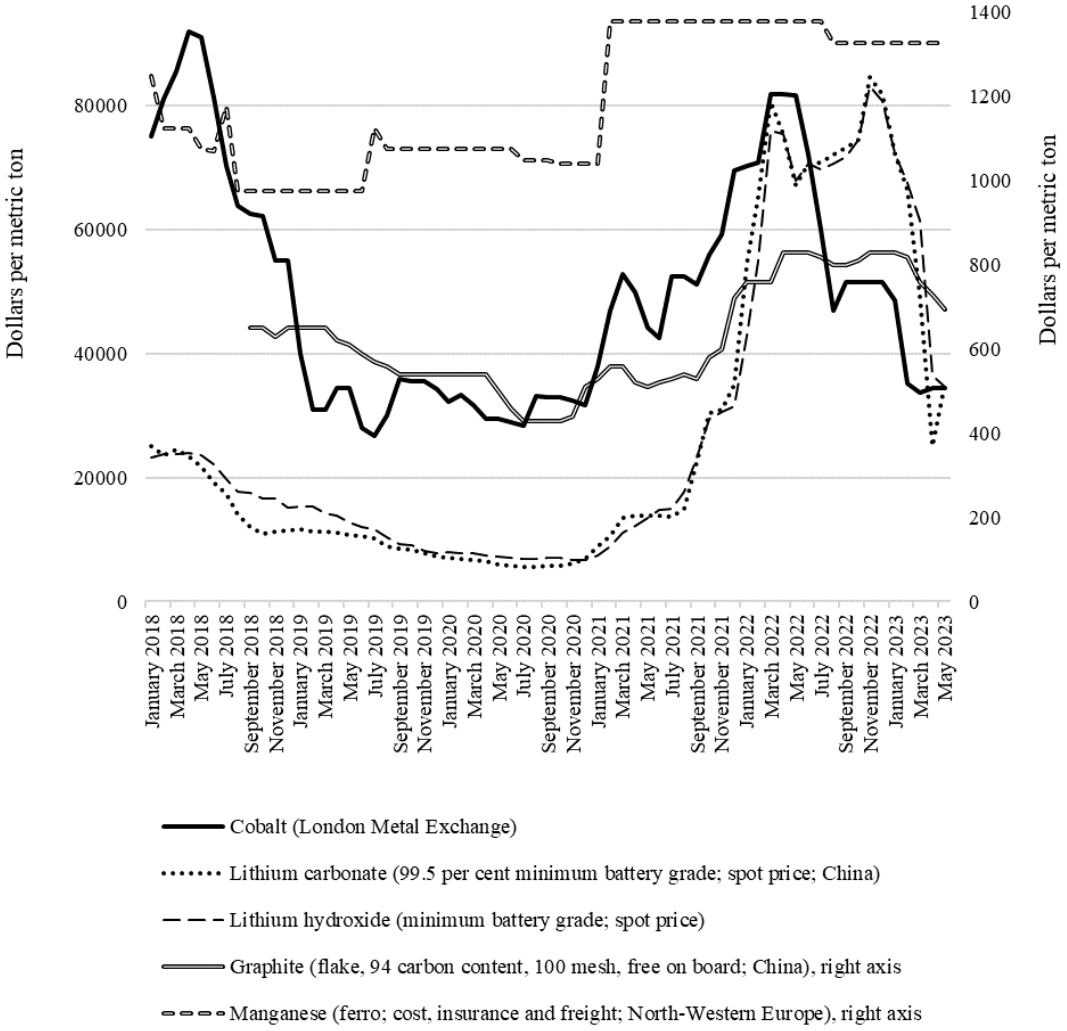
Other critical minerals

28. Lithium hydroxide and lithium carbonate prices increased to a peak of $82,226 per metric ton and $83,632 per metric ton, respectively, in November 2022 (figure 8). This was driven largely by strong demand amid limited supply. Prices have since decreased to an

[53] World Bank, 2023.
[54] *Bloomberg*, 2022d, A great copper squeeze is coming for the global economy, 21 September.
[55] Economist Intelligence, 2023i, Copper, 1 May.
[56] World Bank, 2022b.
[57] World Bank, 2022a.
[58] Standard and Poor's Global, 2023b, Q2 alumina balance hinges on supply disruption risks, lackluster aluminum demand, 18 April.
[59] World Bank, 2022a.
[60] I Halm, 2023, The nickel price rollercoaster of 2022, Mining Technology, 10 January.
[61] World Bank, 2022a.
[62] I Halm, 2023.
[63] Economist Intelligence, 2023j, Nickel, 1 February.
[64] World Bank, 2023.

average of $34,946 per metric ton in May 2023 and are forecast to continue declining due to lower expectations of growth in electric vehicles.[65]

Figure 8
Price trends of selected critical minerals, January 2018–May 2023



Source: UNCTAD, based on Thomson Reuters database.
Note: Price series on graphite flake data starts in September 2018, based on earliest availability.

29. Cobalt prices peaked at $81,820 in April 2022 but declined to $34,505 per metric ton in May 2023 (figure 8). This resulted from easing supply constraints leading to higher production in the Democratic Republic of the Congo and increased production in Indonesia, which eased supply bottlenecks.[66] Reduced demand for electric vehicles in China and reduced global demand for consumer electronics also contributed to lower prices.[67] A shift towards non-cobalt battery chemistries in China, the world's largest electric vehicle market, is likely to continue pushing down cobalt prices.[68]

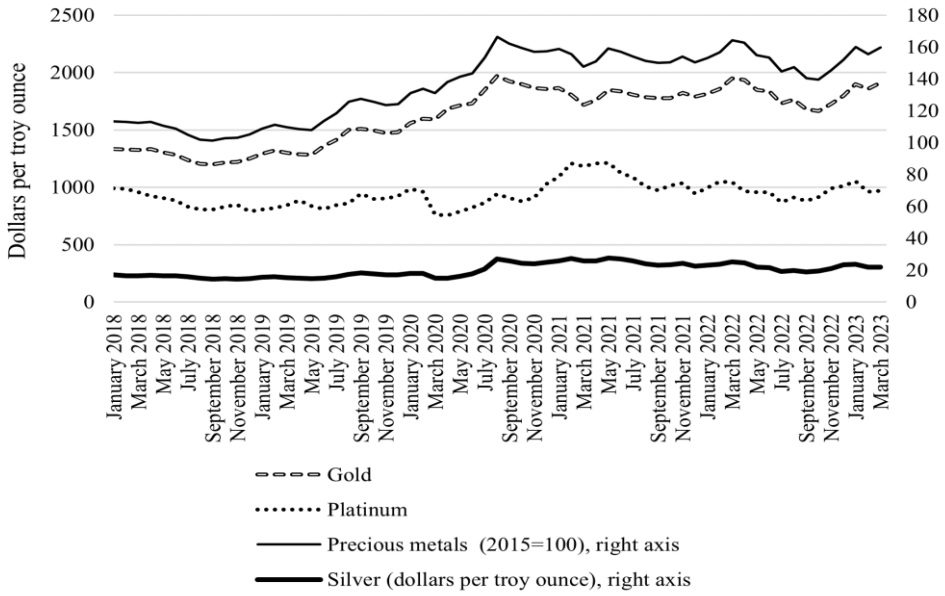
[65] *Reuters*, 2023, Lithium Price Slide Deepens as China Battery Giant Bets on Cheaper Inputs, 28 February, https://www.reuters.com/markets/commodities/lithium-price-slide-deepens-china-battery-giant-bets-cheaper-inputs-2023-02-28/
[66] Cobalt Institute, 2023, Cobalt Market Report 2022, Guildford, United Kingdom.
[67] *Wall Street Journal*, 2023, Battery metal prices fall back to Earth, 28 February.
[68] *Reuters*, 2023c, Cobalt price slump triggers lift-off in futures trading, 7 February.

30. Natural graphite (flakes) prices followed a rising trend from early 2020 to mid-2022 due to increased demand from the electric vehicle market and limited supply (figure 8). Various factors, including labour disputes, environmental concerns halting mining operations and the COVID-19 pandemic, contributed to tightening supply. In the second half of 2022, the price trend reversed as the capacity for synthetic graphite production increased, and the demand for electric vehicle in China declined following the end of subsidies for electric vehicle purchases.[69]

31. Manganese (ferro) prices have remained relatively stable since 2021, averaging $1,380 per metric ton until July 2022 (figure 8). A slight decline to $1,328 per metric ton occurred in August 2022 and persisted until May 2023, influenced by reduced demand and lower freight rates in South Africa, the leading manganese exporter.[70]

32. The UNCTAD precious metals index remained relatively unchanged from 153 points in January 2022 to 152 points in December 2022 despite some fluctuations (figure 9). The index has since increased to 160 in March 2023.

Figure 9
Price trends of selected precious metals, January 2018–March 2023



Source: UNCTAD, based on UNCTADstat database and World Bank data.
Note: Price data from https://www.worldbank.org/en/research/commodity-markets.

33. After an increase between January and March 2022 due to the war in Ukraine, gold prices declined from $1,948 per troy ounce in March 2022 to $1,664 per troy ounce in October 2022 (figure 9). This was attributed to weak demand caused by rising interest rates and the appreciation of the United States dollar, which offset the positive impacts of increased demand for safe-haven assets amid inflation and geopolitical tensions.[71] Gold prices reversed their downward trend and increased to $1,913 per troy ounce in March 2023 due to a weakening dollar, increasing the metal's safe-haven appeal towards the end of 2022 and early 2023.[72] Gold prices are likely to continue increasing due to ongoing uncertainty.[73]

34. Silver prices rose from $23 per troy ounce in January 2022 to $25 per troy ounce in March 2022 (figure 9). Prices declined to $19 per troy ounce in October, owing to lacklustre

[69] J Stibbs and S Pan, 2023, Graphite anode market: A rocky road, but brighter skies ahead, Fastmarkets, 13 March.
[70] J Stibbs, L Allen, C Patel-Campbell and H Chant, 2022, Manganese ore price hits two year low after fall in freight rates, Fastmarkets, 18 November.
[71] World Bank, 2022a.
[72] World Gold Council, 2023, Gold market commentary, London.
[73] World Bank, 2023.

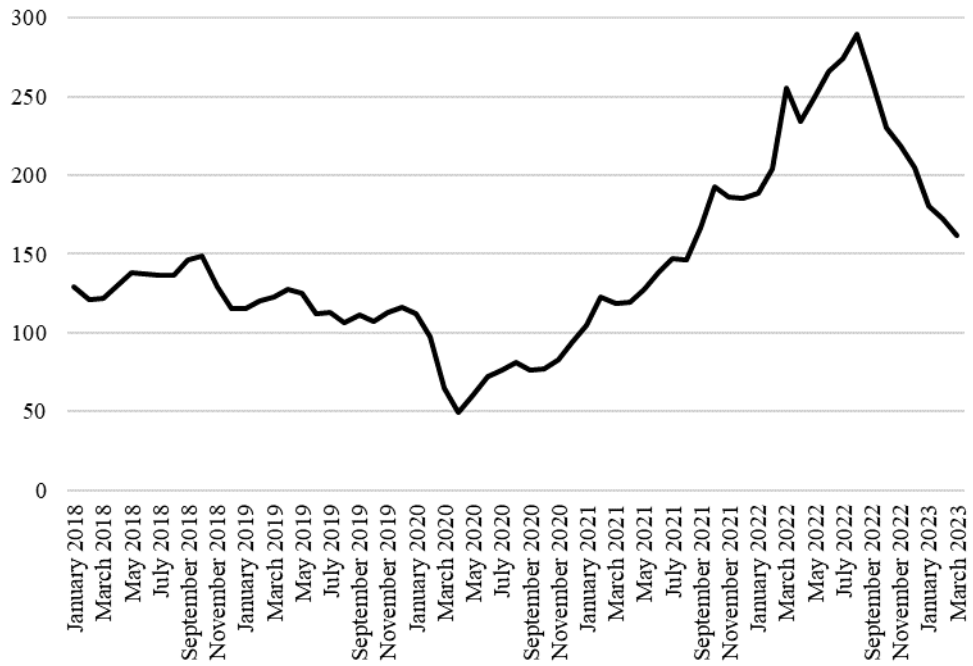
industrial demand and tight monetary policy that also affected gold prices.[74] Silver prices increased again to $22 per troy ounce in March 2023 due to a rebound in demand from photovoltaic manufacturing sector and consumer electronics.[75] Silver prices are likely to continue increasing in 2023 due to limited supply and recovering demand.[76]

35. Platinum prices followed a similar trend to gold and silver (figure 9). They increased to $1,043 per troy ounce in March 2022 and declined until September 2022, due to high-interest rates and sluggish demand caused by concerns of an economic recession.[77] This temporarily offset upward pressures from supply disruptions in South Africa and North America.[78] However, increased demand to substitute palladium pushed prices to $1,011 per troy ounce in December 2022 amid continuing supply constraints.[79] While platinum prices declined to $971 per troy in March 2023, they are forecast to resume increasing in 2023 due to higher demand from the automotive industry. Supply disruptions associated with power outages in South Africa will likely contribute to inflationary pressures.

3. Energy

36. The UNCTAD fuel index continued its upward trend, climbing to 290 points in August 2022 due to increases across all fuel commodities, particularly natural gas and coal (figure 10). While the index declined to 205 points in December 2022, there was a net 9 per cent increase in the UNCTAD fuel index between January and December 2022.

Figure 10
Fuel price index, January 2018–March 2023
(2015 = 100)



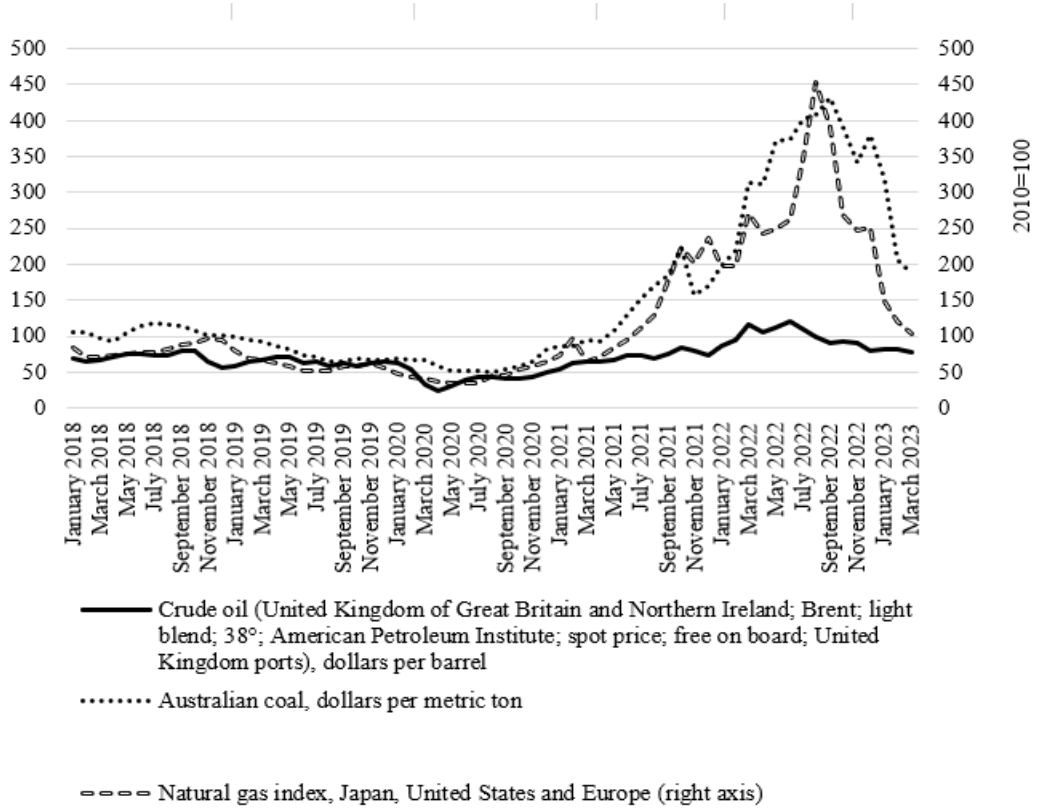
Source: UNCTAD, based on UNCTADstat database.
Note: Price data on coal and natural gas from https://www.worldbank.org/en/research/commodity-markets.

[74] World Bank, 2022a.
[75] World Bank, 2023.
[76] *CNBC*, 2023a, Silver prices could touch a 9-year high in 2023 – with a bigger upside than gold, 19 January.
[77] World Bank, 2022a.
[78] Ibid.
[79] *CNBC*, 2023b, Power cuts, war, and hybrid cars are predicted to cause a platinum price surge in 2023, 15 March.

Crude oil

37. Brent crude oil prices increased from $86 per barrel in January 2022 to $120 per barrel in June (figure 11). This resulted from geopolitical tensions in the Black Sea region and low crude oil inventories after a rebound in demand following the easing of COVID-19 restrictions.[80] Prices then declined to $81 per barrel in December 2022 due to concerns about a global economic slowdown and improved supply prospects in the Russian Federation.[81] Oil prices declined in March 2023 and are forecast to continue trending downwards due to concerns about a recession and sharp monetary tightening in many Organisation for Economic Co-operation and Development countries.[82] Nonetheless, upward risks stem from production cuts by the Organization of the Petroleum Exporting Countries Plus and anticipated low production from the Russian Federation, coupled with signs of economic recovery in China.[83]

Figure 11
Price trends of selected fuels, January 2018–March 2023



Source: UNCTAD, based on UNCTADstat and World Bank databases.

Natural gas

38. The natural gas index climbed to a record-high of 454 points in August 2022 (figure 11), driven by price surges in the index's three regional markets, with Europe exhibiting the largest increase. Though the index declined to 252 points in December 2022, there was a net increase of 28 per cent between January and December 2022. The natural gas index continued falling in 2023, reaching 105 points in March 2023.

39. The average price of natural gas trade in the United States Henry Hub market increased from $4.33 per million British thermal units in January 2022, to $8.79 per million

[80] United States Energy Information Administration, 2023, Crude oil prices increased in first-half 2022 and declined in second-half 2022, 4 January.
[81] *Reuters*, 2022, China outlook is key as crude oil and iron ore prices diverge, 13 December.
[82] Economist Intelligence, 2023k, Crude oil, 1 May.
[83] Ibid.

British thermal units in August 2022 (figure 11). This resulted from higher export demand for American natural gas following the start of the war in Ukraine.[84] Increased supply in the United States[85] and lower export demand eased Henry Hub gas prices thereafter, reaching $2.3 per million British thermal units in March 2023.

40. In the European gas market, natural gas prices increased from $28 per million British thermal units in January 2022 to a record high of $70 per million British thermal units in August 2022 (figure 11). This was driven by announcements by the Russian Federation of reductions in gas supplies to the European Union.[86] The suspension of gas supply by means of the Nord Stream 1 pipeline to the European Union in September 2022[87] and aggressive purchasing by European countries to rebuild gas inventories[88] exerted further inflationary pressures on prices. Natural gas prices declined between August and December 2022, reaching $36 per million British thermal units by the end of 2022, owing to replenished gas stocks in the European Union and lower demand due to a mild autumn and winter.[89, 90] Prices have continued falling in 2023 and are forecast to continue declining due to lower demand, healthy inventories and improved access to supply.[91] Nonetheless, upward risks remain from geopolitical and economic uncertainty.

41. The Asian liquefied natural gas market followed a similar trend, with prices increasing to $23.7 per million British thermal units in September 2022 (figure 11). This was due to strong demand from the European Union to replace Russian piped gas.[92] Subsequent high prices deterred demand and decreased prices to $16 per million British thermal units in March 2023.[93]

Coal

42. Australian thermal coal prices rose from $197 per metric ton in January 2022 to $431 per metric ton in September 2022 (figure 11). While prices fell to $379 per metric ton in December 2022 due to a slowdown in economic activity, they remained elevated, representing a 93 per cent increase in 2022 as demand outpaced supply. High natural gas prices led to significant fuel switching to coal in Europe, and unusually hot weather in China boosted electricity demand for cooling.[94] Coal prices declined to $187 per metric ton in March 2023 and are forecast to decline in 2023 as natural gas regains its cost advantage in the European market. High inventories and increased anticipated production in Australia are likely to support lower coal prices further.[95]

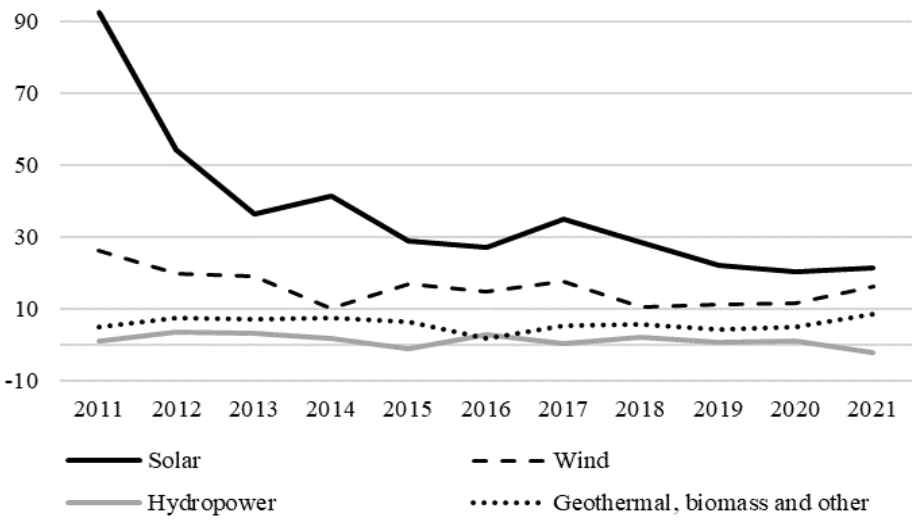
4. Renewable energy

43. Renewable energy demand increased by 14.6 per cent in 2021, driven by consumption growth in geothermal, wind and solar energy (figure 12). Policies and climate targets have underpinned strong demand for renewable sources. Meanwhile, hydropower consumption decreased in 2021 despite capacity additions due to persistent drought in various countries, including Brazil, Canada, China, India, Türkiye and the United States.[96]

[84] Standard and Poor's Global, 2022, U[nited]S[tates] natural gas production growth to exceed demand increases this summer, 11 May.
[85] World Bank, 2023.
[86] European Commission, Market Observatory for Energy, 2023, Quarterly Report on European Gas Markets, vol. 15(3), Brussels.
[87] Ibid.
[88] World Bank, 2023.
[89] *The New York Times*, 2022, Why natural gas prices in Europe are suddenly plunging, 25 October.
[90] World Bank, 2023.
[91] Ibid.
[92] Institute for Energy Economic and Financial Analysis, 2023, Asia's lower L[iquiefied] N[atural] G[as] demand in 2022 highlights challenges for industry growth, 11 January.
[93] Ibid.
[94] International Energy Agency, 2022, *Coal 2022. Analysis and Forecast to 2025*, Paris.
[95] World Bank, 2023.
[96] International Energy Agency, 2022b, Hydroelectricity: Tracking hydroelectricity.

44. Generating capacity increased between 2021–2022, reaching 3,372 gigawatts by the end of 2022, despite global uncertainties and pandemic-driven supply chain challenges.[97] This represents a record-high annual increase of 295 gigawatts, of which 65 per cent came from solar and 25 per cent from wind energy.[98] Though rising input prices and freight rates have increased costs for renewables, wind and solar generation remain more competitive than fossil fuels, notably given the price surges in natural gas and coal. The focus on energy security, particularly in the European Union, has spurred momentum for renewables and is likely to drive further expansions in the renewables market.[99]

Figure 12
Annual consumption growth rates of major renewable resources, 2011–2021



Source: UNCTAD, based on data from BP Statistical Review of World Energy 2022.
Note: The figure ends in 2021 due to data availability.

II. Some policy issues arising from recent market developments

45. The market trends analysed in this note highlight significant price variations, notably price declines across non-fuel commodity groups throughout the second quarter of 2022 and early 2023, after significant price increases in the first quarter of 2022. Fuel commodities exhibited a similar pattern, rising for eight months before declining around September 2022. These price movements were primarily driven by supply and demand variations associated with the war in Ukraine, concerns of a global economic slowdown and aggressive monetary tightening to combat inflation.

46. These price movements affect commodity export-dependent and commodity import-dependent countries, particularly net food and fuel importers. Rising commodity prices may improve exporting countries' revenues, increase government expenditures, and facilitate debt servicing, budgeting and development planning. By contrast, in import-dependent developing countries, high prices of fuels and basic food staples lead to inflationary pressures and difficulties in accessing affordable food and energy supplies. Ultimately, the net effect of these processes depends on whether a country is a net importer or net exporter of a specific commodity.

[97] International Renewable Energy Agency, 2023, Record growth in renewables achieved despite energy crisis, 21 March.
[98] Ibid.
[99] International Energy Agency, 2022c, Renewable power's growth is being turbocharged as countries seek to strengthen energy security, 6 December.

47. Issues arising from the recent developments in commodity markets highlighted in this note and policy options for achieving sustainable development in commodity-dependent developing countries are briefly discussed below. Some of these recommendations will be explored in greater depth in the *Commodities and Development Report 2023*.

A. Mitigating the impact of uncertainty and price volatility

48. Economic and geopolitical uncertainties are likely to exacerbate commodity price volatility, which, in commodity-dependent developing countries, induces volatility in government revenues and in investments in human and physical capital, impacting growth and development.[100] Without sound countercyclical fiscal policy, fluctuating government revenue may result in procyclical spending, undermining fiscal sustainability. It is, therefore, important to consider strategies to mitigate the impact of uncertainty and price volatility in commodity-dependent developing countries.

49. Stabilization funds may protect annual budgets from external shocks, preserving government spending and contributing to the sustainability of national development programmes.[101] These funds, such as the copper-based Economic and Social Stabilization Fund in Chile, can also support countercyclical fiscal policies, which reduce the need for spending cuts to meet debt obligations and build resilience during periods of low commodity prices. Commodity-based stabilization and saving funds require clear flow rules within a well-designed fiscal policy framework to be effective and sustainable. Transparency and good governance are also essential to effectively implement strategic plans. Strengthening market intelligence and monitoring systems that promote market transparency can help reduce uncertainties and volatility. Timely information enables better policy responses to market changes.

50. In the long run, Governments need to diversify output and exports to reduce commodity dependence. Less concentration in commodity sectors lowers vulnerability to shocks and volatility from international commodity markets. This would lead to broader tax bases and higher revenues from non-commodity sectors, allowing stable public spending and revenue flows. To this end, Governments should identify potential sectors for diversification based on a country's productive capacities, strategic priorities and growing demand in global, regional and domestic markets for a sector's products. Targeted support for the development of these new sectors is encouraged, including direct investments or financing instruments that improve access to technology, credit and key inputs.[102,103] Investments in human and physical capital can also foster diversification. Regional cooperation should be extended to the diversification and value upgrading of commodity value chains to optimize resource use and allow for cost-sharing. Regional partnerships that aim at increasing regional trade and developing or strengthening regional supply chains are necessary for this purpose.

B. Enhancing food security

51. Food and fuel prices surged since mid–2020, peaking in May and August 2022, respectively. This has posed significant challenges to the availability of and access to food, and to a lesser extent, energy, in low-income net-importing countries. Higher food prices have disproportionately affected the poorest, as they tend to spend a larger proportion of their income on food. This has been exacerbated by the strengthening of the United States dollar vis-à-vis domestic currencies, which has added to the import bill of food importers.[104] For

[100] International Monetary Fund, 2023, G-20 background note on the macroeconomic impact of food and energy insecurity, Washington, D.C.

[101] TD/B/C.I/MEM.2/46.

[102] UNCTAD, 2021, *Commodities and Development Report 2021: Escaping from the Commodity Dependence Trap through Technology and Innovation* (United Nations publication, Sales No. E.21.II.D.14, Geneva).

[103] African Development Bank 2021, *Annual Development Effectiveness Review 2021*, Abidjan.

[104] UNCTAD, 2023b, *Trade and Development Report Update: Global Trends and Prospects (April 2023)*, UNCTAD/GDS/INF/2023/1, Geneva.

example, while wheat prices increased by 7 per cent globally between February and September 2022, prices were 22 per cent higher, on average, across sub-Saharan Africa, Eastern Europe and Central Asia.[105] As the world's largest wheat importer in 2020, Egypt illustrates the rising import bills due to exchange rate movements. In 2020, the country imported about 13.2 million tons of wheat. To import the same amount in 2022, Egypt would have to pay an additional $3 billion, a 20 per cent increase in the food import bill from 2020 to 2022.[106] High interest rates and public debt further add to affordability concerns and increase the risk of default for a country as it becomes more difficult to meet its debt obligations.

52. The Black Sea Initiative facilitated the free movement of over 32 million metric tons of food staples.[107] This, along with improved supply, contributed to lower food prices in the second half of 2022 and early 2023. However, prices remain high compared to pre-crisis levels,[108] and the terminated Black Sea Initiative and uncertainty related to the war in Ukraine continue to feed volatility. Restrictions on airspace and overland shipments to avoid conflict areas, contractor uncertainty and security concerns have caused rerouting, raising prices as freight carriers travel longer distances and consume more fuel.[109] This has compounded logistic challenges associated with the COVID-19 pandemic, which have weighed on food. UNCTAD estimates that about half of the increase in consumer food prices between February and May 2022 resulted from higher transport costs.[110]

53. Building more resilient and productive food systems is crucial to mitigate future shocks. Investments in productive agriculture, market linkages and climate-smart practices enhance productivity and diversify the agricultural sector. This may be beneficial in Africa, where there is potential to increase productivity as average cereals yields are less than half the global average This can be achieved by improving access to quality inputs, finance, capacity-building and technology.[111] Technologies such as efficient irrigation, targeted fertilizer use and climate-resilient crop varieties should be encouraged to improve resource utilization.[112] Precision agriculture[113] and the use of frontier technologies for agriculture should also be promoted to develop a dynamic and competitive agricultural sector. Increased productivity enables more competitive exports and allows small-scale farmers to participate in more sophisticated value chains. Governments of food-insecure countries should also consider expanding domestic food production by utilizing unexploited cultivation areas and promoting food production and processing investments.

54. Regional food supply chains located near end-consumers can enhance resilience and benefit small producers that would otherwise face challenges accessing larger markets.[114] Promoting regional integration can facilitate technology and knowledge transfers, reduce costs by sharing resources and infrastructure and isolate logistical disruptions compared to longer supply chains. Shorter distances and transport costs would reduce transport-related emissions and support climate targets. Countries in regional supply chains would also benefit from investments in agroprocessing, adding value and diversifying their product range. This

[105] World Bank, 2022a.
[106] UNCTAD, 2022a, A double burden: The effects of food price increases and currency depreciations on food import bills, UNCTAD/DITC/INF/2022/3, Geneva.
[107] United Nations, 2023, Secretary-General's press encounter on the Black Sea Initiative, 17 July.
[108] UNCTAD, 2023a.
[109] UNCTAD, 2022b, Maritime trade disrupted: The war in Ukraine and its effects on maritime trade logistics, UNCTAD/OSG/INF/2022/2, Geneva.
[110] Ibid.
[111] African Development Bank, 2021, *Annual Development Effectiveness Review 2021*, Abidjan.
[112] United States Agency for International Development, 2023, Climate-smart agriculture and food systems, Washington, D.C.
[113] Precision agriculture uses data and technology to make farming more efficient and productive. Tools include mobile phones and remote sensing using satellites, which allow for greater information flows for farmers (see United Nations Development Programme, 2021, *Precision Agriculture for Smallholder Farmers*, Singapore).
[114] RS Evola, G Peira, E Varese, A Bonadonna and E Vesce, 2022, Short food supply chains in Europe: Scientific research directions. *Sustainability*, 14(6):3602.

strengthens the competitiveness of regional chains and reduces post-harvest losses and waste.[115]

55. Diversifying food import sources is encouraged to reduce vulnerability and enhance food security, particularly in net food-importing countries. For example, Singapore imports more than 90 per cent of its food from more than 170 countries to reduce the risks of reliance on a narrow set of suppliers. This is a key aspect of the country's food security system, highlighting the importance of engaging with industry players to facilitate food imports to respond to logistical issues that might arise from external shocks. The Singapore Food Agency aims to further enhance food security by setting a target to increase local food production to meet 30 per cent of food needs.[116]

56. Food-exporting countries should respect their commitments under the rules of the World Trade Organization to ensure the free flow of food products, refraining from imposing export bans and distorting measures that hinder food availability in vulnerable food-importing countries. The need for open food, fuel and fertilizer trade, avoiding ad hoc policy measures such as trade restrictions, stands out amid the war in Ukraine.

C. Renewable energy and the energy transition

57. The global energy crisis triggered by the war in Ukraine has reignited the focus on energy security. As a result, there is a renewed emphasis on renewable energy to enhance energy security and accelerate the energy transition. While the surge in natural gas prices led to increased coal reliance for power generation, this is expected to be short-lived, particularly in Europe.[117] Moreover, despite a decline from the peak in August 2022, coal prices remain high, narrowing the competitiveness gap with lower-carbon alternatives and making renewables more attractive.[118] Indeed, about two thirds of newly installed renewable power in 2021 had lower costs than the cheapest coal-fired options in the Group of 20.[119]

58. Additions in power generation from renewables reached a new record in 2022 and are projected to increase, driven by policies including the fourteenth five-year plan of China, the United States Inflation Reduction Act and the Repower the European Union plan.[120] In 2022, renewable energy production was the most traded environmental good, totalling almost $600 billion, according to UNCTAD calculations. Given the climate crisis and the need for a greener, more diversified and reliable energy mix, commodity-dependent developing countries with potential for renewable energy should develop and expand renewable markets. This presents an opportunity to participate in new export markets and avoid lagging behind decarbonization efforts and the push towards the energy transition. Africa, in particular, has considerable potential for solar power, with an estimated 7,900 gigawatts capacity using 1 per cent of land.[121] Moreover, there is untapped potential for hydropower (1,753 gigawatts), wind energy (461 gigawatts) and green hydrogen.[122] The latter presents a significant market opportunity. According to net zero scenarios of the International Energy Agency, hydrogen may supply about 15 per cent of energy consumption by 2050, with two thirds stemming from green hydrogen and one third from blue hydrogen.[123, 124] Countries should thus explore avenues to become players in emerging markets. Namibia, for example, aims to be a global

[115] World Bank, 2022c, The fight against food insecurity in the Caribbean, 28 June.
[116] See https://www.sfa.gov.sg/homepage.
[117] International Energy Agency, 2022d, The world's coal consumption is set to reach a new high in 2022 as the energy crisis shakes markets, 16 December.
[118] TD/B/C.I/53.
[119] International Renewable Energy Agency, 2022, Renewable power remains cost-competitive amid fossil fuel crisis, 13 July.
[120] International Energy Agency, 2022e, *Renewables 2022. Analysis and Forecast to 2027*, Paris.
[121] International Renewable Energy Agency and African Development Bank, 2022, *Renewable Energy Market Analysis: Africa and Its Regions*, Abu Dhabi and Abidjan.
[122] Ibid.
[123] International Energy Agency, 2021, *Net Zero by 2050: A Road Map for the Global Energy Sector*, Paris.
[124] TD/B/C.I/53.

leader in green hydrogen production, leveraging its wind and solar potential.[125] In the Latin American region, Chile has similar ambitions in leveraging its natural resources.[126] Differences in natural endowments and renewable potentials mean that Governments should assess their specific circumstances to strategically develop renewable markets that align with their resource abundance.

59. Expanding renewable energy markets may also improve energy access if used to generate electricity in unserved areas. This may also lead to better educational and health outcomes; by electrifying schools, for instance, educational facilities can use information technology equipment and adopt more advanced curricula and teaching materials, which can allow low-income households to build higher levels of skill. Furthermore, households would also gain access to energy and cleaner cooking technologies, which may result in lower pollution-related deaths. In order to boost access, Governments should identify green growth opportunities and incentivize investments in sustainable infrastructure, low-carbon technologies and energy efficiency. They should also prioritize expanding electricity grid infrastructure and electrification to facilitate fuel switching, as clean energy is primarily generated as electricity.

60. Governments should facilitate access to finance for renewable energy projects. Building partnerships is important for knowledge and technology transfers and to encourage investments in resilient infrastructure. These efforts can reduce emissions and create opportunities to diversify the energy mix, build resilient energy systems and stimulate job creation and economic development.

61. Beyond renewable energy markets, commodity-dependent developing countries should also consider opportunities in biodiversity-based products, leveraging from increased green consumption and the push for the energy transition based on pre-existing capacities and resources. One example is the production and commercialization of marula oil in Namibia. A cooperative that is processing and commercializing marula oil has provided employment to 2,500 women in rural areas. The cooperative's factory produces up to 12 tons of processed oil annually, which is either traded locally or in international markets.[127] Mining commodity-dependent developing countries should similarly consider avenues to add value on-site to the commodity value chains of critical minerals needed for the energy transition.

[125] Namibia, Ministry of Mines and Energy, 2022, Namibia. Green Hydrogen and Derivatives Strategy, Windhoek.

[126] Chile, Ministry of Energy, 2020, National Green Hydrogen Strategy, Santiago.

[127] UNCTAD, 2021, Women in rural Namibia profit from biodiversity-friendly trade, 19 May.