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### **Recent developments and new challenges in commodity markets, and policy options for commodity-based inclusive growth and sustainable development**

Note by the UNCTAD secretariat

#### *Executive summary*

This background note reviews recent developments in key commodity markets and analyses the factors that contributed to fluctuations in commodity prices in 2013. Overall, commodity prices eased and were less volatile compared with previous years. However, they remained elevated relative to their long-term trends. Improved weather conditions and good harvests drove food prices down from their high in the summer of 2012. Base metal prices were relatively bearish mainly due to ample supply as well as uncertainty over global economic recovery. Projections indicate that by the end of 2013, the average annual price of gold will have likely experienced its first drop in 13 years.

The note also explores some policy issues relating to the recent developments in global commodity markets and provides recommendations that could help commodity-dependent developing countries to achieve sustainable development and inclusive growth. In particular, adequate policies to ensure food security in vulnerable countries, local content policies to promote broad-based development in resource-rich developing countries and options for sustainable energy development are proposed.

## Introduction

1. Paragraph 208 of the Accra Accord mandated the Trade and Development Board to establish a multi-year expert meeting on commodities and development. The Accra Accord was reaffirmed in paragraph 17 of the Doha Mandate.
2. This background note analyses commodity market developments over the first 10 months of 2013, focusing on price trends and driving forces of price movements. The three major commodity groups covered in this note are (a) agricultural commodities – food, tropical beverages, vegetable oilseeds and oils as well as agricultural raw materials; (b) minerals, ores and metals; and (c) energy – oil, gas, coal and renewable energy.
3. The note also highlights some key policy issues linked with recent market developments and provides some recommendations that could assist commodity-dependent developing countries in achieving sustainable development and inclusive growth. Policies aimed at enhancing food security, local value addition and sustainable energy development are particularly emphasized.

## I. Recent developments in commodity markets

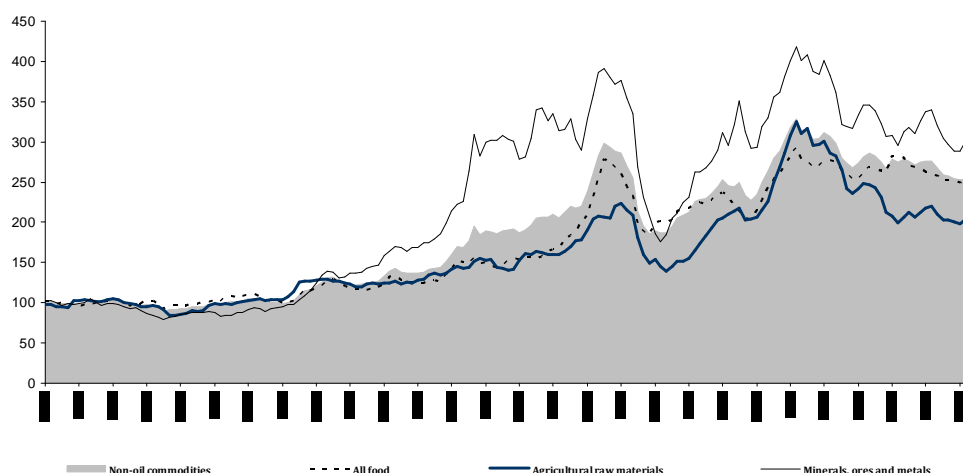
### A. General overview

4. Over the first 10 months of 2013, non-oil commodity prices eased although different commodity groups displayed various patterns (figure 1). The non-oil nominal commodity price index<sup>1</sup> of UNCTAD fell steadily, losing 9.4 per cent of its level between January and September 2013. It rose slightly in October 2013 owing to the rebound in the prices of food (mainly wheat and sugar) and vegetable oilseeds and oil (led by palm oil). Despite the drop recorded over the first 10 months of 2013, the index remained high compared to its long-term trend, particularly in the first half of the 2000s.

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<sup>1</sup> The UNCTAD non-oil nominal commodity price index covers the following subgroups of commodities: food, tropical beverages, vegetable oilseeds and oils, agricultural raw materials, and minerals, ores and metals.

Figure 1  
**Price indices of selected commodity groups, January 2000–October 2013**  
 (2000=100)



Source: UNCTADStat database.

5. From January to October 2013, agricultural commodity markets were characterized by price easing with less volatility than in previous years. The UNCTAD all food commodity price index<sup>2</sup> fell by 8.7 per cent from January to September 2013 thanks to good cereal harvests. It rebounded slightly in October 2013. By the end of the 2013/2014 crop season, grain markets will most likely display a production surplus estimated at about 40 million tons, a change from three consecutive seasons of production deficits. In the short and medium term, unless there are severe adverse weather conditions prices in agricultural commodity markets will continue to trend downward, reinforced by the ongoing replenishment of stocks.

6. In the base metal markets, prices showed an indecisive pace over the first 10 months of 2013.<sup>3</sup> In January and February 2013, the UNCTAD minerals, ores and metals price index<sup>4</sup> trended upward driven by signs of global economic recovery. However, the index steadily declined in the following months due to a decrease in the prices of major base metals. From 340.5 points in February 2013, the index dropped 15.3 per cent to 288.5 points in June 2013. The drop was mainly due to weak demand resulting from lower-than-expected world economic growth, macroeconomic uncertainty in the eurozone and growth deceleration in China, a major metal-consuming country. This occurred at a time when the supply of several commodities in this category was boosted by large investments made during the commodity price boom. However, in August 2013, owing to faster manufacturing growth in China, the index rebounded to 301.6 points and fluctuated at around 298 points in the following two months.

7. The precious metals market was bearish in 2013. In the gold market for example, the price dropped by 23 per cent from January to July 2013 due to various factors, in particular

<sup>2</sup> The UNCTAD all food commodity price index covers the following subgroups of commodities: food, tropical beverages and vegetable oilseeds and oils.

<sup>3</sup> Base metals include iron, aluminium, copper, lead, nickel, tin and zinc.

<sup>4</sup> The UNCTAD minerals, ores and metals price index covers copper, aluminium, iron ore, nickel, lead, zinc, tin, phosphate rock, manganese and tungsten ore. Gold is not included in this price index.

concerns over the easing in the asset purchase programme of the United States Federal Reserve and the sizeable investment outflows from exchange-traded funds. From July to October 2013, the gold price fluctuated led by worries about the unfolding Syrian crisis, concerns over the shutdown of the Government of the United States of America and uncertainties in outlook of the United States stimulus programme.

8. Oil, natural gas and coal exhibited different price trends during the first 10 months of 2013. Crude oil prices remained elevated due to various factors such as geopolitical risks in the Middle East and North Africa and supply disruptions in some member countries of the Organization of the Petroleum Exporting Countries (OPEC). Natural gas prices continued to record notable differences across regions. In the United States, the world's largest natural gas producer in 2012, natural gas prices recovered from their low in 2012 largely owing to improved market fundamentals. In contrast, the seaborne thermal coal market was depressed as the abundance of supply weighed heavily on prices.

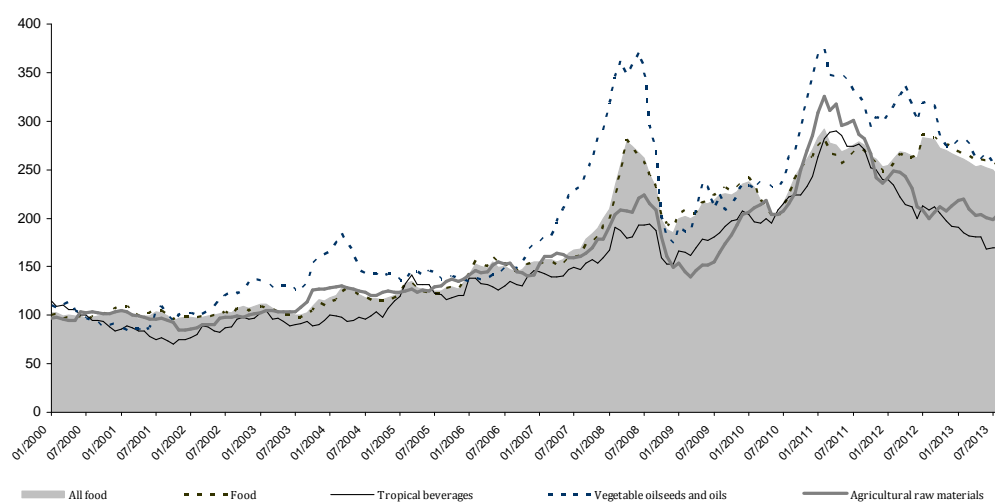
## B. Developments in key commodity sectors

### 1. Food and agricultural commodities

9. Adverse weather during the 2012 summer pushed up the prices of major cereals. Afterwards, owing to the improvement in global agrifood production, especially for cereals, agricultural commodity prices eased and displayed less volatility than in recent years (figure 2).

Figure 2

**Price indices of selected food and agricultural commodity groups,  
January 2000–October 2013**  
(2000=100)



Source: UNCTADStat database.

10. From January to September 2013, the UNCTAD food price index trended downward, dropping by 8.7 per cent. However, in October 2013, owing to the surge in some agrifood commodity prices (including wheat and sugar), the index gained about 2 points from the 245 points in September. Yet it remained 8 per cent below the value in January 2013. With respect to cereal prices in 2013, they continued a downward trend that started in the second half of 2012. From US\$382 per ton in September 2012, wheat prices declined by 18 per cent to reach US\$313 per ton in September 2013. However, due to concerns over crop harvests in the Black Sea region and Argentina following dry weather,

wheat prices rebounded to US\$334 per ton in October 2013. In the maize market, prices dropped by 37 per cent from their historical peak of US\$334 per ton in July 2012; they reached US\$211 per ton in October 2013. Expectations of continued growth in wheat and maize global production will likely keep the cereal price trend downward until the end of the current crop season. In its November 2013 update, the International Grains Council estimated that global wheat and maize production would peak at 698 million tons and 950 million tons, respectively, at the end of the 2013/2014 season.

11. In the rice market, after relative stability at around US\$580 per ton in 2012, the price of Thai rice – the Asian benchmark – has been trending downward since early 2013. It declined by 21 per cent from January 2013 to reach US\$453 per ton in October 2013, the lowest level since February 2008. The drop in rice prices was underpinned by the comfortable level of global stocks and the release from the Government of Thailand's public rice reserve.<sup>5</sup> Trade in rice remains strong as well, mostly helped by shipments from the main exporting countries (including Thailand and Cambodia) and strong demand from China. Recently, Myanmar, the largest rice exporter in the early 1960s, announced its intention to challenge the current main rice-exporting countries. The country's Government devised new trade policies aimed at more than doubling rice shipments by 2015.<sup>6</sup>

12. The sugar price fell by 11 per cent from January 2013 dropping to 16.84 United States cents per pound in July 2013 as a result of a production surplus and the retreat of speculative funds from the sugar futures market. The price rebounded from August, however, reaching 18.66 United States cents per pound in October 2013 owing to various factors such as a decline in sugar production from Brazil following excessive rainfalls that hit sugarcane-producing regions and interrupted harvest activities; a rise in sugar demand, especially from China and Indonesia; a strengthening of the Brazilian real; and some increases in activities of investment funds.

13. The prices of vegetable oilseeds and oils trended down in late 2012 and early 2013 and fluctuated afterwards. From 320 points in August 2012, the UNCTAD vegetable oilseeds and oils index declined by 18.7 per cent to 260 points in April 2013, driven by soybean, soybean oil and palm oil prices. Over this period, soybean and soybean oil prices dropped respectively by 28 and 13 per cent due to favourable harvests in the main soybean-producing countries and weaker growth in demand from China and the European Union. Meanwhile, palm oil prices dropped by 16 per cent thanks to ample supplies from Malaysia and Indonesia, the world's top palm oil producers. Between May and July 2013, vegetable oilseeds and oils markets remained relatively stable. From July to September 2013, soybean and soybean oil prices rose respectively by 9 and 3 per cent, following dry weather in the Midwest of the United States and some key growing regions in Brazil amid strong demand from China. In October 2013, palm oil prices increased by 5 per cent while soybean and soybean oil prices decreased respectively by 2 and 4 per cent. This mirrored the competitiveness in the prices of soybean oil and palm oil owing to their substitutability in food and fuel production.

14. During the first 10 months of 2013, the market for tropical beverages was generally bearish as a result of significant drops in coffee and tea prices. The UNCTAD tropical

<sup>5</sup> The Government of Thailand started releasing rice from its pledging stocks for exports and aims at exporting about 8 to 10 million tons of rice next year. *The Nation*, 2013, Government focuses on G2G deals to boost rice exports, 18 October, available at <http://www.nationmultimedia.com/business/Govt-focuses-on-G2G-deals-to-boost-rice-exports-30217376.html> (accessed 21 January 2014).

<sup>6</sup> S Suwannakij, 2013, Rice bowl plan brings Myanmar back to the future, *Bloomberg News*, 28 November, available at <http://www.bloomberg.com/news/2013-11-27/rice-bowl-plan-brings-myanmar-back-to-the-future-southeast-asia.html> (accessed 28 November 2013).

beverages price index decreased by 14 per cent from January falling to 164 points in October 2013. In contrast, the cocoa bean price increased from June to October 2013 after some fluctuations over the first half of the year.

15. In the coffee market, the International Coffee Organization composite indicator price continued to tumble from its peak of 228 United States cents per pound, recorded in May 2011. In 2013, the composite indicator price dropped 21 per cent from 135.4 United States cents per pound in January to 107 United States cents per pound in October 2013, the lowest level since April 2009. This sustained decline in coffee prices largely mirrored the price trends of arabica coffee<sup>7</sup> that declined by 26 per cent from January to October 2013, owing to higher yield prospects in Brazil, the world's largest arabica grower, and sluggish demand in traditional coffee-consuming countries. Meanwhile, prices of robusta coffee remained resilient, declining by 15 per cent. The global coffee market remained well supplied as coffee production for 2012/2013 was estimated at 145.2 million bags, 9.8 per cent higher than the previous season.<sup>8</sup> Therefore, further price drops may be expected in the coffee market.

16. In the tea market, the Mombasa tea price dropped from January 2013 by 35 per cent to 222 United States cents per kilogram in October 2013 due to weak demand from some of the main importing countries, including Egypt and Pakistan, following social and political unrest.

17. The continuing drop in coffee and tea prices will certainly weigh on small farmer activities in some key producing countries. This is particularly of concern in the context of high input costs including labour, fertilizer and oil prices.

18. In the cocoa market, prices fluctuated between 97.7 and 106.4 United States cents per pound from January to May 2013. This price volatility was a result of the instability in supply, particularly from Côte d'Ivoire and Ghana following dry and hot weather and uncertainty in demand from the main consuming countries. From June 2013, cocoa prices strengthened, increasing by 20 per cent to reach 123.9 United States cents per pound in October 2013, led by rising demand from the chocolate manufacturing sector in Europe and North America. Expected improvements, albeit slow, in the economic outlook of the major consuming areas are likely to keep firm cocoa demand in the coming months.

19. The UNCTAD agricultural raw materials price index strengthened in late 2012 and early 2013, driven by higher prices of natural rubber, tropical logs and cotton. Thereafter, due to a 24.5 per cent decline in rubber prices between February and July 2013, the index fell from 220 points in February 2013 to 198 points in July 2013. The natural rubber market depends highly on demand from China's tire manufacturing sector.<sup>9</sup> The drop in natural rubber prices during the first half of 2013 was associated mainly with the slowdown in China's economy over the same period. However, as China's manufacturing sector picked up pace from mid-2013, the demand for rubber was boosted. Thus, the natural rubber price rose from US\$2,471.4 per ton in July 2013 to US\$2,657.7 per ton in September 2013, before retreating to US\$2,560.7 per ton the following month amid ample supplies.

20. In the cotton market, the 2012/2013 season was marked by low volatility. Over the first quarter of 2013, the Cotton Outlook A index trended upward, increasing by 10.5 per

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<sup>7</sup> Arabica coffee here refers Brazilian and other natural arabicas.

<sup>8</sup> Estimates are from the International Coffee Organization (see, for example, the Monthly Coffee Market Report for November 2013).

<sup>9</sup> According to estimates, China consumes about one-third of the world's natural rubber production while the tire manufacturing sector represents about 70 per cent of the country's natural rubber consumption.

cent from January 2013 to reach 94.45 United States cents per pound in March 2013. This trend was sustained by factors such as concerns about the tightening supply–demand balance outside China as the country continued to build reserves and, to some extent, speculative fund activities on the New York Mercantile Exchange. However in April 2013, the index dropped to 92.68 United States cents per pound mainly owing to liquidations of speculative positions. Thereafter, it fluctuated within a narrow band ranging from 92.62 United States cents per pound to 93.08 United States cents per pound until August 2013. Balanced supply and demand in the context of comfortable levels of stocks underpinned this price stability. From August, the cotton market weakened, dropping to 89.35 United States cents per pound in October 2013 due to stronger supply from the northern hemisphere. Looking forward, the cotton market will remain sensitive to China’s policy with respect to its stocks given the country’s large State cotton reserves.<sup>10</sup>

## 2. Minerals, metals and ore

21. In base metal markets, price trends mainly depend on factors such as the speed at which new supply comes on stream and the economic outlook in major economies including the European Union, the United States and China. More specifically, as China accounts for almost half of the global demand for metals, its growth prospects are closely monitored by market participants.

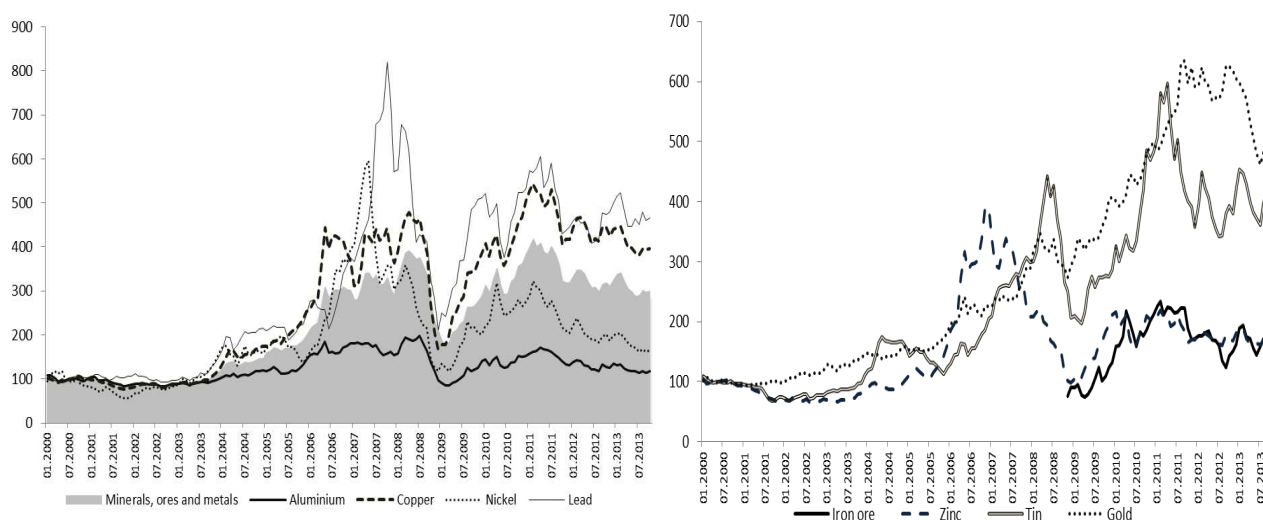
22. The UNCTAD minerals, ores and metals price index<sup>11</sup> rose from 311 points in November 2012 to 341 points in February 2013. It then declined to 289 points in June and July 2013 (figure 3). The drop was due to several factors such as weakening demand induced by the fragile world economic recovery, macroeconomic uncertainty in the eurozone and structural changes coupled with growth deceleration in China, especially slowing growth in China’s real estate sector. Afterwards, owing to signs of economic revival in China, the index rebounded to 302 points in August 2013 before fluctuating at around 298 points in September and October 2013 in the context of ample supply of several base metals.

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<sup>10</sup> According to the International Cotton Advisory Committee, China’s national cotton reserve is estimated at close to 9 million tons as of the end of June 2013, accounting for about 50 per cent of the global ending stocks in 2012/13. China is projected to hold close to 60 per cent of the global stocks by the end of 2013/14. (See International Cotton Advisory Committee, 2013, The cotton supply and demand variables, 1 July, available at <https://www.icac.org/Press-Release/2013/PR-14>, accessed 22 January 2014.)

<sup>11</sup> The UNCTAD minerals, ores and metals price index covers copper, aluminium, iron ore, nickel, lead, zinc, tin, phosphate rock, manganese ore and tungsten ore. Gold is not included in the price index.

Figure 3  
Price indices of selected metals, January 2000–October 2013  
(2000=100)



Source: UNCTADStat database.

23. On the London Metal Exchange, copper prices followed the general trend in the global base metals market in 2013. Amid the optimism regarding the prospects of economic recovery in the United States and China, copper prices rose from US\$7,694 per ton in November 2012 to US\$8,070 per ton in February 2013. Lower-than-expected growth in the major copper-consuming countries, coupled with supply surplus, drove the price down to US\$6,896 per ton in July 2013. However, in August 2013 the price of copper rallied thanks to signs of revival in China's growth, as the country accounts for almost 40 per cent of world copper demand.

24. Aluminium, nickel and zinc exhibited price trends comparable to those of copper. After a rally in early 2013, aluminium and zinc prices decreased 14 per cent each from February to July 2013. Meanwhile, the price of nickel, a crucial raw material in the production of stainless steel, dropped by 21 per cent. It hit a four-year low of 642 United States cents per pound in July 2013.<sup>12</sup> Chronic oversupply, high stocks and eroded demand due to slowing global economic growth contributed to a drop in aluminium prices which had various impacts on extractive companies. For example, Rusal, a top aluminium producer, had to shut down unprofitable plants in 2013.

25. The global lead market, a key input for lead-acid batteries, fluctuated during the first 10 months of 2013. The price of lead rebounded in early 2013, to US\$2,376 per ton in February, following signs of strengthening in the United States' economy, the world's second largest lead consumer. Afterwards, lead prices dropped 15 per cent to US\$2,028 per ton in May 2013 due to improving output. Global refined lead metal production increased by 5.8 per cent during the first five months of 2013 compared to the corresponding period in 2012.<sup>13</sup> From June to October 2013, the price of lead swung between US\$2,049 per ton

<sup>12</sup> The four-year period covers from August 2009 to July 2013.

<sup>13</sup> International Lead and Zinc Study Group, 2013, Press release, 23 July, available at <http://www.ilzsg.org> (accessed 23 January 2014).



and US\$2,174 per ton due to fluctuations in refined lead demand amid the weak and unsteady global economic recovery.

26. In the tin market, prices decreased by 21 per cent from US\$24,651 in January to US\$19,583.5 per ton in July 2013. This was mainly due to weak demand and destocking by Indonesia, the world's largest tin exporter. Thereafter, prices rebounded and reached US\$23,123 per ton in October 2013. This sudden price rise was associated with a new trade policy introduced in late August by Indonesia that required all tin ingots to be traded on a local exchange before their shipment. The new regulations caused a contraction in tin exports, affecting global supply and pushing up tin prices.

27. Prices in the iron ore market in early 2013 continued the upward trend that started over the last quarter of 2012. The iron ore price reached US\$155 per ton in February 2013, up from US\$99.5 per ton in September 2012. Restocking by Chinese steelmakers, disruptions in iron ore production and shipments due to unfavourable weather conditions and the iron ore export ban in India contributed to the price surge. Afterwards, largely due to shrinking demand for steel by China's construction and manufacturing industries, iron ore prices declined by 26 per cent from February to June 2013. However, in July and August 2013 the iron ore market strengthened owing to the higher-than-anticipated growth of the Chinese economy and optimism over the global economic outlook. In the subsequent two months, iron ore prices stabilized at around US\$133 per ton.

28. In the precious metals market, the price of gold continued trending down during the first seven months of 2013. It dropped from US\$1,747 per troy ounce in October 2012 to US\$1,671 in January 2013 and to US\$1,287 in July 2013, the lowest level since October 2010. Key factors that contributed to the decline include the sizeable outflow from exchange-traded funds in reaction to a more positive outlook on the United States' economy and expectations about tapering the quantitative easing programme of the United States Federal Reserve. In June 2013, exchange-traded funds were 33 per cent lower than their peak level in April 2011. However, due to global geopolitical risks induced by the Syrian crisis and fears over the shutdown of the Government of the United States, gold prices rebounded 5 per cent from July to September 2013. The decision by the Federal Reserve in September to keep its bond purchasing programme unchanged surprised the market and also contributed to supporting gold prices. In October 2013, the monthly price of gold averaged US\$1,316 per troy ounce.

**Box 1. Prospects in global non-oil commodity markets: The end of a commodity super-cycle?**

Forecasting the outlook of world commodity markets is challenging. Global economic and political environments determine commodity market outcomes and thus swings in political and economic factors, as observed recently, create instability in markets. World commodity markets have been bearish over the past months, although prices have remained high compared to their long-term trends. The overall easing in prices recorded from 2011 in some major commodity markets has raised concerns in many low-income commodity-dependent developing countries as to whether the commodity boom is over. For example, if the downward trend in the minerals, ores and metals markets persists, it will weigh negatively on the budgets of metal-exporting countries, especially those of least developed countries, which depend heavily on revenue from commodities exports.

Moreover, the decline in prices of industrial metals has prompted discussions on whether the so-called commodity super-cycle has come to an end. In other words, is the commodity boom part of the past? Will commodity prices likely go back to their pre-2003 levels in the coming years? There are different viewpoints. For some observers, the expansionary phase of the commodity super-cycle started a decade ago still has some years

to run. This school of thought argues that emerging economies including China and India will continue to grow at a fast pace, keeping commodity prices firm. Others contend that the world economy has entered a new phase of calmer and more stable growth, with commodity prices remaining higher than their pre-2003 levels. Those holding this point of view believe that the pre-2003 levels of commodity prices are part of the past. Finally, there are analysts who believe that the expansionary phase of the commodity cycle has come to an end and that further price drops should be expected. The ongoing restructuring of China's economy may, to some extent, sustain this viewpoint.

Regardless of these viewpoints and albeit the recent easing in commodity markets, commodity prices are likely to stay high, at least in the short and medium term. Thus, there are challenges associated with high commodity prices that need attention, particularly in the post-2015 development agenda. These challenges include the contribution of small farmers in developing countries to food security, economic diversification to reduce overdependence on primary commodities and the efficient use of commodity windfalls in resource-rich developing countries to put their economies on a broad-based sustainable growth trajectory.

### 3. Energy

29. Oil, natural gas and coal continued to dominate the world's primary energy mix, though their combined share has declined. International Energy Agency (IEA) data show that in 2011, oil, natural gas and coal together accounted for 81.6 per cent of the world's primary energy supply and 66.4 per cent of global primary energy consumption, down from 86.6 per cent and 75.8 per cent, respectively, in 1973.<sup>14</sup> In particular, the share of oil in the world's energy supply and consumption declined significantly in about forty years, in favour of natural gas and other fuels. During the past two decades, the supply of renewable energy (including hydroelectricity) increased steadily, though its share in the total primary energy supply has been relatively stable at about 12 to 13 per cent according to the Organization for Economic Cooperation and Development (OECD) data.<sup>15</sup>

#### *Crude oil*

30. Global oil demand is expected to increase by 1.2 per cent (the same growth rate as in 2012), reaching 91 million barrels per day (b/d) in 2013.<sup>16</sup> The growth is largely driven by non-OECD countries, in particular in Asia, Africa and Latin America where oil demand will reach 3 per cent or more. In contrast, demand from OECD countries is expected to continue to contract by 0.5 per cent, despite a recovery of oil demand in continental America. According to IEA, in 2014 the share of non-OECD countries in global oil demand will exceed that of OECD countries.

31. The global oil supply in the first three quarters of 2013 was characterized by the increase in non-OPEC oil production which contrasted with the reduction in OPEC oil output. Led by the Russian Federation and the United States, oil supply in non-OPEC countries was projected to reach 54.66 million b/d in 2013, compared with 53.36 million b/d in 2012 (up 2.4 per cent). The advances in shale technology have led to increasing production of light oil in the United States. In the second and third quarters of 2013, the country's oil production rose to more than 10 million b/d, the highest in decades. IEA

<sup>14</sup> International Energy Agency, 2013, *Key World Energy Statistics 2013* (Paris, OECD).

<sup>15</sup> OECD, World – renewable and waste energy supply, IEA Renewables Information Statistics database (accessed 11 November 2013).

<sup>16</sup> International Energy Agency, 2013, Oil Market Report, 14 November (see <http://www.iea.org/>, OECD).

projected that the United States would overtake the Russian Federation to become the largest non-OPEC oil producer by 2014.

32. During the first 10 months of 2013, oil prices remained elevated and less volatile than in 2012 (figure 4). Spot prices for the global benchmark Brent crude averaged US\$109, only 3 per cent lower than the average price (US\$112) of the first 10 months of 2012 and 38 per cent higher than the 10-year average (US\$79).<sup>17</sup> Monthly average Brent prices fluctuated within a narrower range of \$103 and \$116 per barrel, compared to 2012 which registered a difference of \$29 between the highest and lowest monthly average prices.

33. During the first two months of 2013, oil prices rebounded against the backdrop of a financial markets rally. Avoidance of the fiscal cliff in the United States and positive economic data from major oil-consuming countries restored confidence in global economic growth and oil demand. Optimistic market sentiment, combined with rising geopolitical risks (e.g. tensions over the Islamic Republic of Iran's nuclear programme), also boosted speculative buying in the oil futures market. Brent price edged up to US\$116 per barrel in February 2013.

34. However, the upward momentum was reversed in the following months with Brent crude falling to US\$103 per barrel in April 2013. Various bearish factors depressed oil prices: weaker-than-expected economic data from China and the United States, the prolonged eurozone economic crisis, seasonal lower oil demand due to refinery maintenance, higher crude production and strengthening of the United States dollar.

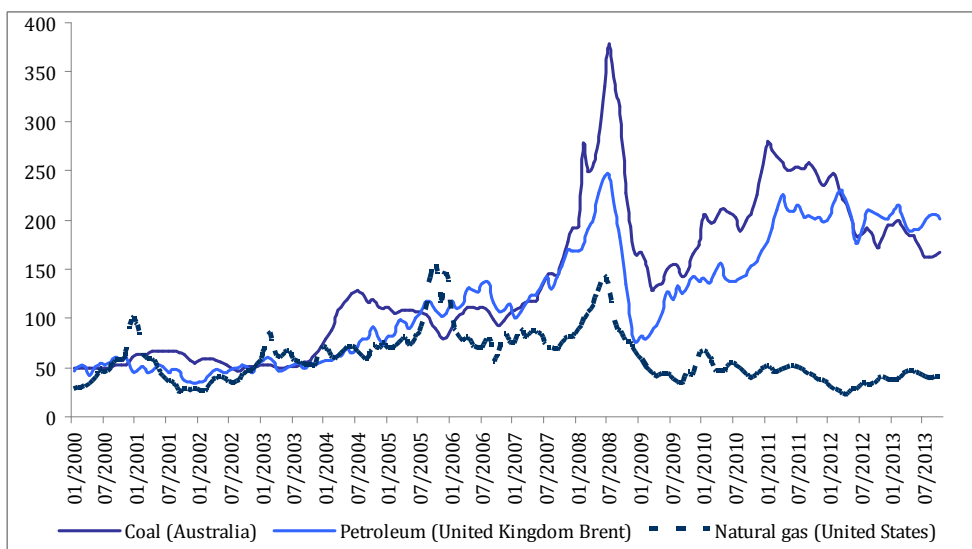
35. After a relatively stable period which saw Brent crude oil prices hover at US\$103 for three months, prices rebounded significantly in the third quarter of 2013. Oil prices rose by 9 per cent, from US\$103 in June 2013 to US\$112 in September 2013. Geopolitical tensions over political turmoil in Egypt and the chemical weapons crisis in the Syrian Arab Republic, coupled with supply disruptions in Libya, Iraq and the North Sea, exerted upward pressure on oil prices. In the third quarter of 2013, Libya's oil production dropped to 0.62 million b/d, only 47 per cent of the production of the previous quarter. Furthermore, increased refinery demand which hit an all-time high in July 2013 and intensified speculation on higher oil prices further fuelled the upward price trend.<sup>18</sup>

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<sup>17</sup> The 10-year average refers to the average spot price of Brent oil from November 2003 to October 2013.

<sup>18</sup> Intercontinental Exchange Brent hedge funds posted record net-long positions between 30 July and 3 September 2013. (See International Energy Agency, 2013, Oil Market Report, 12 September, OECD, available at <http://www.iea.org/>.)

Figure 4  
**Price indices of crude oil, natural gas and coal, January 2000–October 2013**  
 (2005=100)



Source: International Monetary Fund, International Financial Statistics.

36. In October 2013 the oil price receded from its September high, dropping to US\$110, as geopolitical concerns subsided and market fundamentals eased. Restoring part of Libya's production in early October, higher North Sea supplies and lower refinery demand as a result of maintenance work and weak margins weighed on oil prices.

37. It is relevant to note that the spread between Brent crude and the United States benchmark, West Texas Intermediate (WTI), narrowed between February and July 2013. In July 2013, the difference between monthly average prices of Brent and WTI shrank to US\$3 a barrel, compared to US\$21 in February 2013. This was partly due to improved oil transportation infrastructure (e.g. the expansion of the Seaway pipeline) which helped to ease the glut at Cushing, Oklahoma, the United States oil storage hub and delivery point for WTI. Rising demand from refineries in the United States, a fall in stock levels and reduced supply from Canada also supported the recovery of WTI prices. As a result, WTI jumped by about US\$9 a barrel from February 2013 to reach US\$105 in July 2013, while the Brent price in July 2013 was still US\$9 below its high level in February 2013.

#### *Natural gas*

38. Prices of natural gas continued to exhibit significant regional differences in 2013 due to the dissimilarity in pricing mechanisms. During the first 10 months of 2013, prices of Indonesian liquefied natural gas, which supplies the Asian market, averaged US\$17.30 per million metric British thermal unit, almost five times the average gas price in the United States. During the same period, the average price of Russian natural gas, mainly exported to the European market, was about three times that in the United States.

39. In contrast with the fall in average prices of Russian and Indonesian natural gas during the first 10 months of 2013,<sup>19</sup> the spot prices of natural gas at Henry Hub – a key

<sup>19</sup> The average prices of Russian and Indonesian natural gas fell by about 7 and 6 per cent, respectively, compared to the same period in 2012.

benchmark for the North American market – recovered from the extremely low prices of 2012. The average price from January to October 2013 was US\$3.69 per million metric British thermal unit, 41 per cent higher than the average price during the same period in 2012. However, it was still 11 per cent below the average price during the first 10 months of 2011.

40. With improved market fundamentals, the United States natural gas price surged to a 21-month high of US\$4.17 in April 2013, up 25 per cent from its January and February level. Higher demand due to colder weather, a tighter supply resulting from the slowing production of United States dry natural gas and reduced stock levels helped to lift gas prices. According to the United States Energy Information Administration, at the end of March 2013 natural gas storage fell below its five-year average for the first time since August 2011.

41. However, United States gas prices have trended downward since May 2013. After four months of steady decline, the price slipped to US\$3.43 in August 2013, down 18 per cent from its April high. The fall was largely owing to cooler temperatures in some summer periods and fewer-than-normal nuclear power plant outages which led to less demand for natural gas. Rising stock also contributed to the price decline. In August 2013, natural gas storage levels rose above the five-year average for the first time since March 2013.<sup>20</sup> In September and October 2013, prices recovered partly due to the increasing seasonal maintenance of some nuclear plants and in anticipation of the winter heating demand.

42. In the United States, with the recovery of natural gas prices and decrease of coal prices in 2013, cost-sensitive electric power plants increased coal use for electricity generation. According to the United States Energy Information Administration, natural gas-fired generation was expected to account for 27 per cent of total generation in 2013, down from 30 per cent in 2012.<sup>21</sup> At the same time, the share of coal-fired generation was expected to increase from 37 per cent in 2012 to 39 per cent in 2013, though it was still well below the typical coal share ranging from 48 per cent to 51 per cent registered between 2001 and 2008.

43. In the *Annual Energy Outlook 2013*, the Energy Information Administration projects that United States natural gas production will increase by about 1 per cent per year from 2011 to 2040, with shale gas as the greatest contributor to growth in natural gas production. In 2040, shale gas is expected to account for half of the United States' total natural gas production, rising from 34 per cent in 2011. The shale gas revolution in the United States has dramatically changed the country's energy landscape and has had a profound impact on the international energy market.<sup>22</sup> Moreover, the relatively low natural gas prices have enhanced the competitiveness of the United States manufacturing industry and boosted investment and employment in energy-intensive industries in particular.

#### *Coal*

44. The market for thermal coal, the major fuel for electricity generation, was bearish throughout most of 2013. During the first 10 months of 2013, the Australian Newcastle spot price for thermal coal, the benchmark for the Asian market, averaged US\$91 per ton, down

<sup>20</sup> United States, Energy Information Administration, 2013, Short-term energy outlook: Market prices and uncertainty report, September.

<sup>21</sup> UNCTAD calculation based on United States, Energy Information Administration, 2013, Short-term energy outlook, November.

<sup>22</sup> See TD/B/C.I/MEM.2/22 for more detailed analysis.

13 per cent from the average price for the same period in 2012, and was about US\$11 below its five-year average.<sup>23</sup>

45. After registering a 35-month low of US\$88 per ton in October 2012, Australian thermal coal prices rebounded to reach US\$102 in February 2013 partly owing to rising seasonal demand as well as supply disruptions in Australia caused by floods. However, the declining trend reappeared in March 2013. Following a six-month steady fall, the price dipped to US\$82 in August 2013, the lowest level since November 2009. An abundance of seaborne thermal coal supply coupled with the deceleration of growth of import demand from Asian emerging markets pushed prices down. September and October 2013 witnessed a slight recovery of coal prices as power utilities started pre-winter restocking.

46. Falling prices and rising costs have squeezed the margins of coal mining companies. It was reported that some large mining companies that have diversified mining assets started to move away from coal (e.g. Rio Tinto).<sup>24</sup> Most analysts are not optimistic about the outlook of thermal coal prices in the short term. A recent report by Goldman Sachs suggests that most thermal coal projects would struggle to earn a positive return for their owners as demand for seaborne thermal coal will be weakened due to structural changes, namely tightened environmental regulations, strong competition from gas and renewable energy and improvements in energy efficiency.<sup>25</sup>

#### *Renewable energy*

47. In 2012, the share of renewable energy (including hydroelectricity) in the world's primary energy consumption reached a record of 8.6 per cent, up from 8.2 per cent in 2011. Notably, consumption of non-hydro renewable energy registered a 15 per cent growth rate, the highest compared with other energy sources.<sup>26</sup>

48. Renewables are becoming an increasingly important energy source for electricity generation, and to a lesser extent, for transport and heat. As the largest renewable source, hydroelectricity grew by 4.3 per cent in 2012, accounting for 16.3 per cent of global power generation. China led the world's hydroelectricity consumption (23.4 per cent of the world total), followed by Brazil and Canada. Non-hydro renewable power generation continued to grow rapidly in 2012, exceeding 1,000 terawatt-hours for the first time. Though the share of non-hydro renewable energy in global power generation was small (4.7 per cent in 2012), it contributed to 31 per cent of growth in the global power generation in 2012.

49. The rapid growth of non-hydro renewable energy was driven largely by wind and solar power. In 2012 wind power generation increased by 18 per cent, accounting for about half of the electricity generated from non-hydro renewable energy. While the United States was the top consumer of wind power, China registered the largest cumulative installed wind capacity. Led by Germany and Italy, solar power which represented 8.9 per cent of non-hydro renewable energy in 2012, enjoyed another year of rapid growth (58 per cent). The costs of solar photovoltaic technology decreased further in 2012 due to the excess in

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<sup>23</sup> The five-year average price of thermal coal covers from November 2008 to October 2013.

<sup>24</sup> BBC, 2013, Rio Tinto to sell stake in Australian coal mine for \$1bn, 28 October, available at <http://www.bbc.co.uk/news/business-24705754> (accessed 24 January 2014).

<sup>25</sup> Goldman Sachs, 2013, *Rocks and Ores: The Window for Thermal Coal Investment Is Closing*, 24 July (see <http://www.goldmansachs.com>).

<sup>26</sup> Unless otherwise indicated, data in this section are drawn from the BP, 2013, *Statistical Review of World Energy* (United Kingdom of Great Britain and Northern Ireland) or calculated by UNCTAD based on the workbook of this review. Non-hydro renewable energy sources include wind, solar, geothermal, biomass and waste.

manufacturing capacity. As a result, the cumulative installed photovoltaic power capacity jumped by 43 per cent from 2011 to 2012.

50. World biofuel production decreased by 0.4 per cent in 2012, the first decline since 2000. In Brazil, biofuel output increased by 2.4 per cent boosted by a good sugarcane harvest. However, in the United States, the world's largest biofuel producer (45 per cent of the world total), lower gasoline demand as well as the technical and economic challenges of blending more than 10 per cent of ethanol into the gasoline pool drove biofuel production down 4.3 per cent in 2012. Despite these short-term developments, IEA projected that global biofuel production would rise by over 25 per cent from 2012 to 2018.<sup>27</sup>

51. Following its peak in 2011, investment in renewable energy and fuels (including small hydroelectric projects) fell by 12 per cent, dropping to US\$244 billion in 2012 mainly due to the policy uncertainties in some key markets of developed economies. However this general trend disguised a remarkable shift in renewable energy investment from developed to developing countries. Indeed, total investment in developing economies continued its upward trend since 2004 to reach US\$112 billion in 2012, up 19 per cent from 2011. In contrast, investment in developed economies dropped to US\$132 billion, down 29 per cent from 2011.<sup>28</sup> In terms of new investment in renewable energy in 2012, China, India, South Africa and Brazil were among the top 10 countries for investment.

## II. Some policy issues arising from recent market developments

52. This chapter discusses some key policy issues arising from recent developments in commodity markets and puts forward some policy options that are important for sustainable development and inclusive growth in commodity-dependent developing countries. In particular, policies on food security, local value addition and sustainable energy are highlighted.

### *Enhancing food security for the poorest*

53. The issue of food security, especially in low-income net food-importing countries, remains prominent on the policy agenda and should remain so in the discussions on the post-2015 development agenda given that high food and energy prices persist. Policies to ensure food security for everyone need to adopt a more holistic approach that takes into account social protection, the right to food and human rights, as well as broader developmental concerns such as the role that smallholders can play in agricultural development and in international markets.

54. A number of options exist to foster world food security. Developing countries may draw many benefits from policy options compatible with those of the World Trade Organization (i.e. special and differential treatment, "Green Box", *de minimis*, input subsidies) for reconciling producer and consumer objectives (ensuring a good price for producers while providing financial support to targeted consumers such as those with low incomes). It appears that some progress has been made in this area. As part of a trade agreement adopted by the World Trade Organization at its Ninth Ministerial Conference in Bali, Indonesia in December 2013 – the Bali package – an interim "peace clause" was

<sup>27</sup> International Energy Agency, 2013, Executive summary, in *Medium-Term Renewable Energy Market Report 2013*, 14–22 (Paris, OECD).

<sup>28</sup> Frankfurt School of Finance and Management–United Nations Environment Programme Collaborating Centre for Climate and Sustainable Energy Finance, *Global Trends in Renewable Energy Investment 2013* (Frankfurt).

agreed on the issue of public stockholding for food security. According to the clause, World Trade Organization members will temporarily refrain from lodging a legal complaint if a developing country exceeds its “Amber Box” limits as a result of stockholding for food security. There is also a need for strengthening regional integration, establishing rules that foster cooperative behaviour among developing countries and ensuring that these rules play their expected role in food crisis management. Furthermore, developing countries need to provide support to domestic producers in order to increase their capacity to cope with shocks to their production. Such support could include agricultural research, pest and disease control as well as marketing. Vulnerable countries could also consider making food security stocks an integral part of their food security strategies. Such stocks would help to minimize the negative effect of international food market price hikes on local consumers. In addition, the international community should come together to ensure multilateral harmonization of standards in order to eliminate disguised protectionism and dumping practiced by large net food exporters. It is also crucial that international organizations continue to play their role by formulating trade rules that treat net food importers and net food exporters differently as they have different needs.

*Local content policy to retain value locally for resource-rich low-income countries*<sup>29</sup>

55. Many low-income resource-rich countries do not seem to have fully benefited from the windfall gains from high commodity prices that have prevailed over the last few years.<sup>30</sup> As prices are likely to remain strong in mineral and metal markets, at least in the short and medium term, these countries have to find adequate ways to use revenues from their resources for a broad-based development path. A local content policy that assures foreign investor profits, while at the same time pursuing locally sustainable growth and development goals, should be envisaged. This could require higher taxes or increasing the government share of profits arising from the sale of natural resources in order to generate employment and reallocate these revenues. It is also important that linkages be established between multinational companies active in the commodities sector and local suppliers of goods and services at the various stages of the commodity value chain. Such policies could play a constructive role in the process of sustainable development by transferring capital, skills and know-how to host countries, which are essential in promoting production linkages between the commodities sector and the wider economy. However, the extent to which local content strategies contribute to development depends on the policy context in the host countries, in particular macroeconomic and structural conditions that should be improved in many resource-rich low-income countries.

*Sustainable energy development*

56. Access to sustainable and affordable energy is crucial for poverty reduction and addressing climate change. It is estimated that globally 1.2 billion people are living without electricity and 2.8 billion people, without modern cooking facilities. IEA’s recent study shows that the carbon intensity of the global energy supply has scarcely changed from 1990 to 2010, despite efforts to adopt renewable energy.<sup>31</sup> To address these challenges, the Secretary-General of the United Nations launched a global initiative called “Sustainable Energy for All”. It aims at achieving universal access to modern energy services, doubling

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<sup>29</sup> Local content policies are discussed in TD/B/C.I/MEM.2/26.

<sup>30</sup> See UNCTAD, 2013, *Commodities and Development Report: Perennial Problems, New Challenges and Evolving Perspectives* (Geneva, United Nations publication).

<sup>31</sup> International Energy Agency, *Tracking Clean Energy Progress 2013: IEA Input to the Clean Energy Ministerial* (Paris, OECD).



the rate of improvement in energy efficiency and doubling the share of renewable energy in the global energy mix by 2030.

57. Natural gas plays an important role in the transition to a lower-carbon economy. As witnessed in the United States, cheap natural gas displaced coal-fired power plants and could contribute to a significant reduction in CO<sub>2</sub> emissions. In the short term, switching from coal to gas in electricity generation is highly dependent on the price of gas relative to coal. In the long term, a number of factors such as expected fuel prices, technology advances, operational costs, financing and energy security will largely affect decision-making. To enhance the competitiveness of gas prices, Governments should adopt appropriate carbon policies (e.g. trading schemes for carbon emissions) and increase gas supply through trade and/or gas extraction. Developing unconventional gas resources requires sound regulation and should address environmental concerns. Learning from the experience of countries which are well advanced in unconventional gas extraction could be helpful. The United States launched the Unconventional Gas Technical Engagement Program to share best practices on issues such as water management, methane emissions, air quality, permitting, contracting and pricing to help increase global gas supplies and facilitate the development of associated infrastructure that brings them to market.<sup>32</sup> Moreover, government policies should ensure that the development of natural gas will not hinder the growth of renewable energy.

58. The coal market in 2013 was depressed not only due to lower prices but also a number of international actions aimed at reducing investment in new coal plants and coal consumption. In June 2013, as part of his broad plan to cut carbon pollution, the President of the United States called for an end to government support from the country for public financing of new coal plants overseas, except in rare circumstances (e.g. support funding for coal plants in the world's poorest countries where no other economically feasible alternative exists). This initiative was later joined by Denmark, Sweden, Norway, Finland, Iceland and the United Kingdom and by a number of multilateral development institutions including the World Bank, the European Investment Bank and the European Bank for Reconstruction and Development. In its new energy strategy document, the World Bank committed to providing financial support for greenfield coal power generation projects only in rare circumstances. The European Investment Bank announced an end to funding coal power plants unless they can meet a new Emission Performance Standard.

59. Though these actions send a strong message on the urgency of reducing carbon emissions, the real impact may be limited as most planned coal-powered plants are located in large emerging countries which do not rely on outside sources for coal financing. There are concerns that smaller and poorer developing countries, in particular the least developed countries that contribute the least to global emissions and are in acute shortage of electricity for economic development and poverty reduction, may be most affected by these new lending policies.

60. China made important steps in 2013 towards curtailing rising carbon emissions and improving air quality. According to the Action Plan on Prevention and Control of Air Pollution released by China's State Council in September 2013, the share of coal in China's total energy consumption will be reduced to less than 65 per cent by 2017, while the share of non-fossil energy consumption will be increased to 13 per cent. China also began to experiment with market-based mechanisms to slow growth of emissions. By the end of November 2013, three carbon trading platforms out of seven that were planned had been launched. Trade in the carbon market of Guangdong Province, expected to be the world's

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<sup>32</sup> United States, Executive Office of the President, 2013, The President's Climate Action Plan, June (Washington D.C.).

second largest in terms of carbon dioxide covered, started in December 2013.<sup>33</sup> These pilot projects will provide first-hand experience in establishing a nationwide carbon trading scheme in China.

61. Renewable energy plays an important role in improving energy access and achieving sustainable development in developing countries. In 2012, an encouraging fact was that investment in renewable energy in developing countries continued to rise. Apart from large emerging economies, some Latin American and African countries also benefited from important investment in renewable energy. For example, renewable energy projects were developed in Peru (wind and solar), Uruguay (wind), Ecuador (small-scale hydropower), Morocco (wind and solar), Kenya (geothermal) and Ethiopia (wind). However, many of these developing countries are newcomers in the renewable energy market and the least developed countries largely lag behind. In 2012, Africa accounted for 2.9 per cent of the global hydroelectricity consumption and 0.6 per cent of the world's non-hydro renewable energy consumption.<sup>34</sup>

62. Appropriate policies coupled with cost reduction of some clean energy technologies (i.e. solar photovoltaic and onshore wind) could stimulate renewable energy investment. Developing countries could learn from the experience and lessons of developed countries to devise suitable supporting measures and policy packages in response to market needs. Among the policy options are fixed feed-in tariffs, green certificate schemes and feed-in premiums allocated by auction. Recent trends in investment in renewable energy in developed countries also illustrate the importance of maintaining predictable renewable energy policies. Furthermore, more support from developed countries in the areas of technology transfer and financing and enhancing South–South cooperation are important for the development of renewable energy in developing countries.

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<sup>33</sup> *Reuters*, 2013, Expected to be China's biggest, Guangdong carbon market begins briskly, 19 December, available at <http://in.reuters.com/article/2013/12/19/china-guangdong-carbon-idINL3N0JY0MS20131219> (accessed 27 January 2014).

<sup>34</sup> BP, 2013, *Statistical Review of World Energy* (United Kingdom).