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Commodity dependence and the Sustainable Development Goals

Note by the UNCTAD secretariat

Executive summary

In the 15 years countries have to achieve the Sustainable Development Goals, the commodity sector will play a crucial role in facilitating their attainment, notably in commodity-dependent developing countries. Sustainable management of the commodity sector can fuel global economic growth while reducing the environmental footprint of human activities, and will be critical in providing opportunities for decent employment, business development and increased fiscal revenues. By contrast, continued mismanagement practices in the commodity sector could make achieving Sustainable Development Goals difficult due to environmental degradation, displacement of populations, worsening economic and social inequality, armed conflicts and tax evasion and corruption. The present note discusses the complex relationships between development in the commodity sector and the Sustainable Development Goals, in particular Goals and targets related to food and energy security, adding value to commodities and improving the management of natural resources.



I. Introduction

1. In September 2015, the 193 Member States of the United Nations adopted the Sustainable Development Goals that should guide development policy over the period 2015–2030. The 2030 Agenda for Sustainable Development represents the world’s most comprehensive plan of action for social inclusion, environmental sustainability and economic development. Achieving its Goals will require an unprecedented effort in terms of cooperation and collaboration among Governments, civil society, the private sector and local communities.

2. In the 15 years countries have to achieve the Sustainable Development Goals, the commodity sector in commodity-dependent developing countries will play a crucial role in facilitating the achievement of the Goals. Sustainable management of the commodity sector can fuel global economic growth while reducing the environmental footprint of human activities. Reducing greenhouse gas emissions related to commodity production and utilization is relevant for climate change mitigation. Improving access to food and energy will support efforts to reduce hunger and poverty while increasing wellbeing. In commodity-dependent developing countries, commodities will also be critical to fostering economic development by providing opportunities for decent employment, business development, increased fiscal revenues and infrastructure development.

3. By contrast, the continuation of mismanagement practices in the commodity sector could make the achievement of Sustainable Development Goals difficult due to environmental degradation, displacement of populations, worsening economic and social inequality, armed conflicts and tax evasion and corruption. In addition, poor results in terms of curbing the utilization of polluting sources of energy could dramatically impact other efforts made to reinforce food security and adapt to climate change in developing countries. In the same vein, the failure to properly allocate food and other commodities such as energy among and within countries will make it difficult to eliminate hunger by 2030, as called for in the Sustainable Development Goals.

4. The interactions between developments in the commodity sector and the Sustainable Development Goals are therefore multiple and complex. They involve a dynamic process of transformation of societies, creating opportunities to build sustainable and innovative economies in commodity-dependent developing countries, while preserving the natural resource base and environment for future generations. Improving management of the commodity sector is one of the main priorities towards the achievement of the Sustainable Development Goals set out under the 2030 Agenda for Sustainable Development. The following Goals and targets are of particular concern: (a) food and energy security (targets 2a, 2b, 2c, 7.1 and 7.b);¹ (b) adding value to commodities (target 9.b);² and (c)

¹ The 2030 Agenda for Sustainable Development defines the following issues in this regard: target 2.a, “increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries”; target 2.b, “correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round”; target 2.c, “adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility”; target 7.1, “by 2030, ensure universal access to affordable, reliable and modern energy services”; and target 7.b: “by 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States and landlocked developing countries, in accordance with their respective programmes of support”.

² Goal 9, target 9.b, “support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities”.

improving the management of natural resources by increasing resource efficiency and renewable energy use (Goals 12, 14 and 15).³

5. The present note discusses the interactions between commodity dependence and achievement of the Sustainable Development Goals in three parts. Chapter II of the note analyses the opportunities and challenges associated with natural resource abundance in light of the Sustainable Development Goals. Chapter III identifies the specific challenges commodity-dependent developing countries need to address in order to increase their chances of achieving the Sustainable Development Goals. Chapter IV proposes some policy options that commodity-dependent developing countries could consider adopting in order to achieve the Sustainable Development Goals.

II. Natural resource abundance: Opportunities and challenges

A. Well-managed commodities provide opportunities

6. Commodity export revenues are essential for a number of commodity-dependent developing countries.⁴ Despite the volatility of commodity prices and their uncertain effects on development, commodities have proved to be a blessing for a few countries where the commodity sector has been managed well, in view of their important contribution to development.⁵ For instance, Chile, the world's largest exporter of copper, has managed to use its mineral wealth to diversify the local economy, to some extent, by developing downstream linkages. This has been the result of policies that fostered the establishment of a strong enabling environment and a successful public-private collaboration. Through the State-owned company Codelco, the world's largest copper mining company, the participation of local stakeholders in the copper value chain has been reinforced. Other private copper mining companies have also partnered with Codelco to support the local network of suppliers. This has helped to generate a vibrant local economy both within and outside the copper sector. As a result, Chile has succeeded in diversifying its exports of copper and non-copper products.

7. Similarly, the soybean industry in Argentina and Brazil has helped these countries to improve their social and economic performance, although the environmental impact of the soybean industry has generated some debates. Boosted by relatively high prices, soya has largely contributed to economic growth, generating fiscal and trade surpluses. Brazil has used the windfall gains from the soybean sector to develop an approach based on its export-oriented agribusiness sector to promote greater inclusion of the poor and vulnerable, through for example social protection programmes.⁶ The approach is now far less successful as soybean prices have declined, but it highlights how a commodity can support inclusive development.

8. In some cases, commodity-dependent developing countries have managed to escape the commodity dependency trap, reducing their exposure to the vagaries of international commodity markets and paving the way to sustainable development. For instance, Costa Rica has diversified its economy, from its specialization in coffee and banana, to more advanced manufacturing enterprises as well as services. As a result, its terms of trade drastically improved from the 1980s onward, though banana and coffee prices remained volatile. The economic growth of Costa Rica has remained strongly correlated with its export revenues, but less and less with its commodity exports. These results were achieved

³ Goal 12, "ensure sustainable consumption and production patterns"; Goal 14, "conserve and sustainably use the oceans, seas and marine resources for sustainable development"; and Goal 15, "protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss."

⁴ UNCTAD, 2015, *State of Commodity Dependence 2014*. UNCTAD/SUC/2014/7. Geneva and New York.

⁵ Extractive Industries Transparency Initiative, 2016, *2016 Progress Report. From Reports to Results*. Oslo.

⁶ UNCTAD, 2017, *Commodity and Development Report*. forthcoming.

mainly through public policies that specifically favoured investments geared towards economic diversification.⁷ This highlights the role of public policies, which can transform the “commodity curse” into a blessing.

9. Beyond gross domestic product (GDP) growth, the sustainable management of commodities can also contribute to innovations and to structural economic transformation needed to achieve the Sustainable Development Goals.⁸ This could be attained through key policy actions targeting productivity improvements, innovations and new export markets. Therefore, increasing resource efficiency enhances capital and labour productivity, while allowing for new ways of creating value and addressing environmental issues. Commodities actors can also stimulate demand for green technologies, goods and services, which could create new job opportunities.

10. It should, however, be expected that transforming the commodity sector will imply important changes in the job market. Some activities within the commodity sector will be at risk of job destruction, raising the need to support the reallocation of workers between old and expanding activities. Nevertheless, the potential for job creation is important, as illustrated by developments in the renewable energy sector. Up to 20 million jobs could be created worldwide by 2030 in renewable energy generation and distribution.⁹

B. Association of commodity dependence with low human development and bleak development prospects

11. On average, a negative link has been established between commodity dependence and human development. Several transmission channels through which commodity dependence negatively impacts development outcomes have been identified. These channels include direct as well as indirect links, the most important related to effects of terms of trade, fiscal and monetary policy challenges, and microeconomic channels.¹⁰

12. According to the Prebisch–Singer hypothesis, the terms of trade of economies dependent on primary commodities tend to deteriorate in the long run due to the secular decline of primary commodities’ prices relative to the prices of manufactured goods.¹¹ Therefore, the relative value of these exports follows a downward trend, depressing the purchasing power of commodity exports expressed in terms of the value of imports. Hence, in most developing countries, reliance on commodity exports has not been a viable basis for a long-term development strategy. Moreover, both terms-of-trade shocks and terms-of-trade variability negatively impact economic growth in commodity-dependent developing countries. As poverty is inversely linked to GDP growth and to GDP growth stability, commodity dependence is often associated with high levels of poverty, as discussed below.

13. Instability due to commodity price fluctuations also affects government revenues and capital inflows, which can create pressure on commodity-dependent developing country budgets and balance of payments. As commodity-dependent developing country public revenues depend on commodity exports, price shocks reduce the policy space of Governments. This creates a high level of uncertainty with respect to the continuity of social programmes, infrastructure development and other components of economic and social development. Furthermore, commodity price volatility is often associated with high

⁷ GFC Ferreira, PAG Fuentes and JPC Ferreira, 2017, The successes and shortcoming of Costa Rica exports diversification policies. Food and Agriculture Organization of the United Nations (FAO) Working Paper, (forthcoming). Rome.

⁸ Organization for Economic Cooperation and Development, 2011, Towards green growth. A summary for policymakers. Paris.

⁹ Ibid.

¹⁰ The following discussion is based on the forthcoming 2017 edition of the *Commodities and Development Report*.

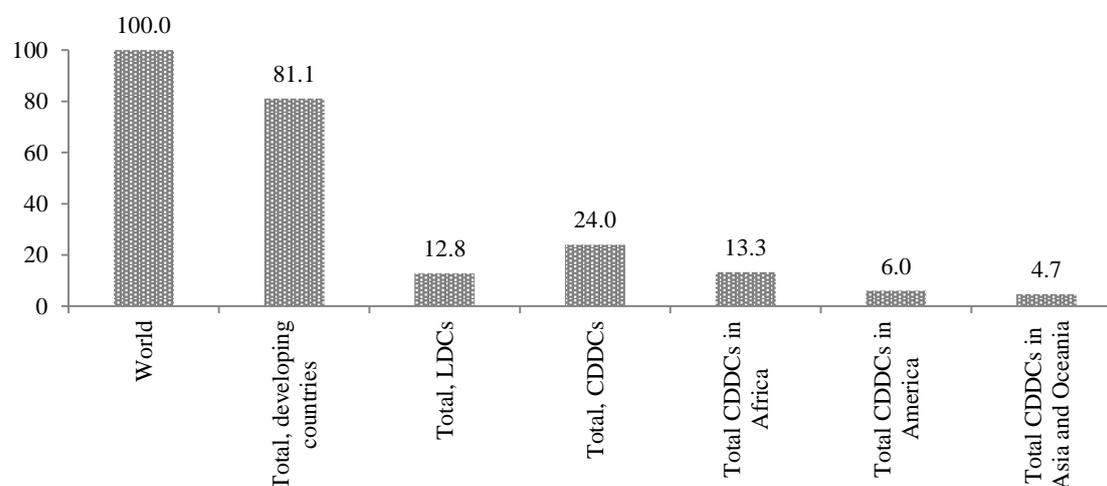
¹¹ HW Singer, 1950, [United States of America] foreign investment in underdeveloped areas: The distribution of gains between investing and borrowing countries. *American Economic Review, Papers and Proceedings*, 40:473–485.

domestic price fluctuations and inflation. In addition, strong exchange rate fluctuations associated with commodity dependence can reduce long-term productivity growth.¹²

14. At the micro level, severe price variations make individual decisions and financial planning difficult, in particular for poor households that do not have savings to mitigate overall economic fluctuations. A drop in commodity prices and revenues can lead producers and households to delay important investment expenditures, including on health and education. For instance, when coffee producer prices fell by more than 50 per cent in 10 least developed countries following a period of generalized price decline from 1995 to 2000, coffee producers' consumption and investment decisions were severely curtailed.¹³ Commodity price increases can also negatively affect local producers and households in commodity-dependent developing countries. Food and energy price increases affect the purchasing power of the poorest, notably poor net food buyers. This exacerbates food insecurity potentially leading to chronic hunger and malnutrition, with substantial negative impacts on health and human capital in the long term. In the medium term, a rise in food prices can stimulate investments, provided that smallholders own their land and have access to local factors of production and the agricultural inputs needed to expand production.

15. This link helps to understand why commodity dependence is strongly associated with poverty in many countries. Recent statistics show that 64 per cent of developing countries are dependent on commodity exports, while 45 per cent are dependent on commodity imports.¹⁴ Nearly one quarter of the world's total population lives in commodity-dependent developing countries (figure 1). Moreover, commodity dependence is particularly prevalent among the group of least developed countries, as 79 per cent of them are dependent on commodity exports.¹⁵

Figure 1
Population in 2015, by number of inhabitants
(Percentage)



Source: United Nations, 2015, *World Population Prospects: The 2015 Revision – Key Findings and Advance Tables*, New York.

Abbreviations: LDCs, least developed countries; CDDCs, commodity-dependent developing countries.

¹² P Aghion, D Hemous and E Kharroubi, 2009, *Credit constraints, cyclical fiscal policy and industry growth*. Working Paper No. 15119, National Bureau of Economic Research, Cambridge (Massachusetts), United States of America.

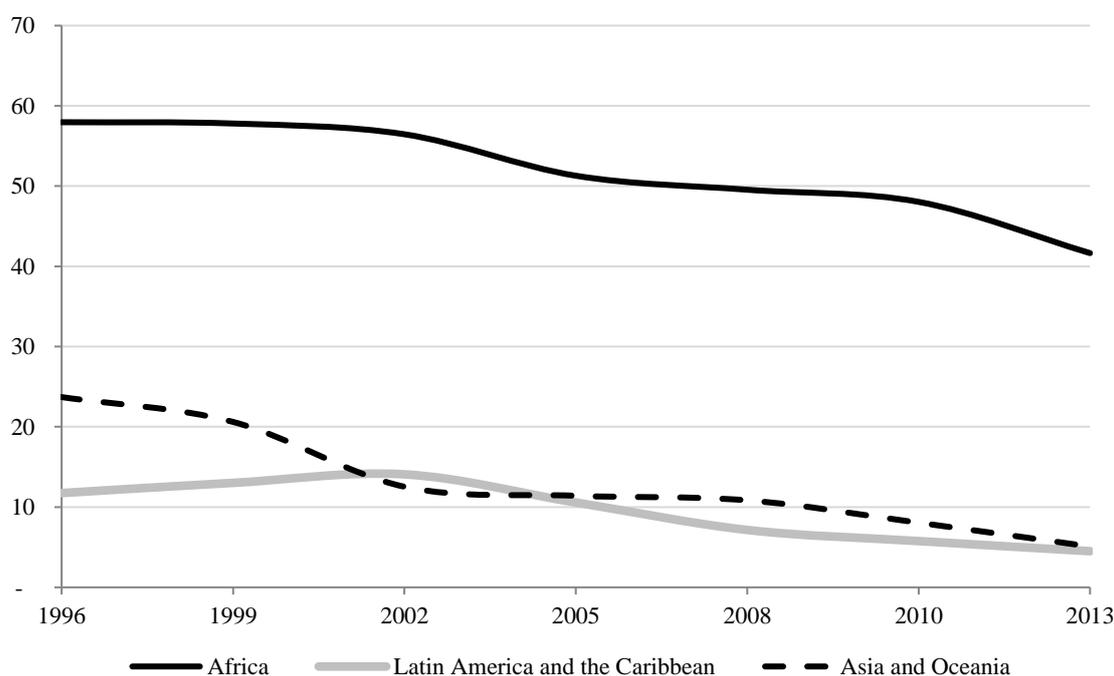
¹³ UNCTAD, 2002, *The Least Developed Countries Report 2002: Escaping the Poverty Trap* (United Nations publication, Sales No. E.02.II.D.13, New York and Geneva).

¹⁴ A country is considered to be dependent on commodity exports when at least 60 per cent of its merchandise exports are from the commodity group. A country is dependent on commodity imports when its share of the value of food and fuel imports in total merchandise imports is 0.3 or higher. This threshold was the average of developing countries in 1995–2014.

¹⁵ UNCTAD, 2017, *Commodity and Development Report*. forthcoming.

16. The distribution of the population within and outside of commodity-dependent developing countries mirrors that of poverty. Poverty is more prevalent in commodity-dependent developing countries where the average rate of poverty, measured as the proportion of the population living below US\$1.90 a day in purchasing power parity (in 2011), is 28 per cent, double that of developing countries as a group. Poverty is particularly high in Africa's commodity-dependent developing countries, where 42 per cent of the population lives under the poverty line (figure 2). By contrast, poverty is low among American and Asian commodity-dependent developing countries, but it is not clear whether this is a reflection of better management of natural resources in these regions. As a result, a total of nearly 400 million people will need to be lifted out of poverty by 2030 if the Sustainable Development Goals are to be achieved in commodity-dependent developing countries.

Figure 2

Poverty headcount in commodity-dependent developing countries, by region^a*(Percentage)*

Source: UNCTADStat database (trade data); World Bank Povcalnet (poverty headcount).

Note: Rates of decline, 1998–2013: Africa, -28 per cent; Latin America and the Caribbean, -62 per cent; and Asia and Oceania, -79 per cent.

^a Most Western Asian countries are not included in this calculation as data on poverty are not available for them. Bahrain, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, the Syrian Arab Republic, the United Arab Emirates and Yemen are commodity-dependent developing countries but none have long-term data on poverty. Furthermore, other countries were not included due to the lack of data: Eritrea and Somalia (Eastern Africa), Equatorial Guinea (Middle Africa), Algeria and Libya (Northern Africa), Cuba (Caribbean), Afghanistan (Southern Asia), Brunei Darussalam and Myanmar (South-Eastern Asia) and Nauru and Palau (Oceania).

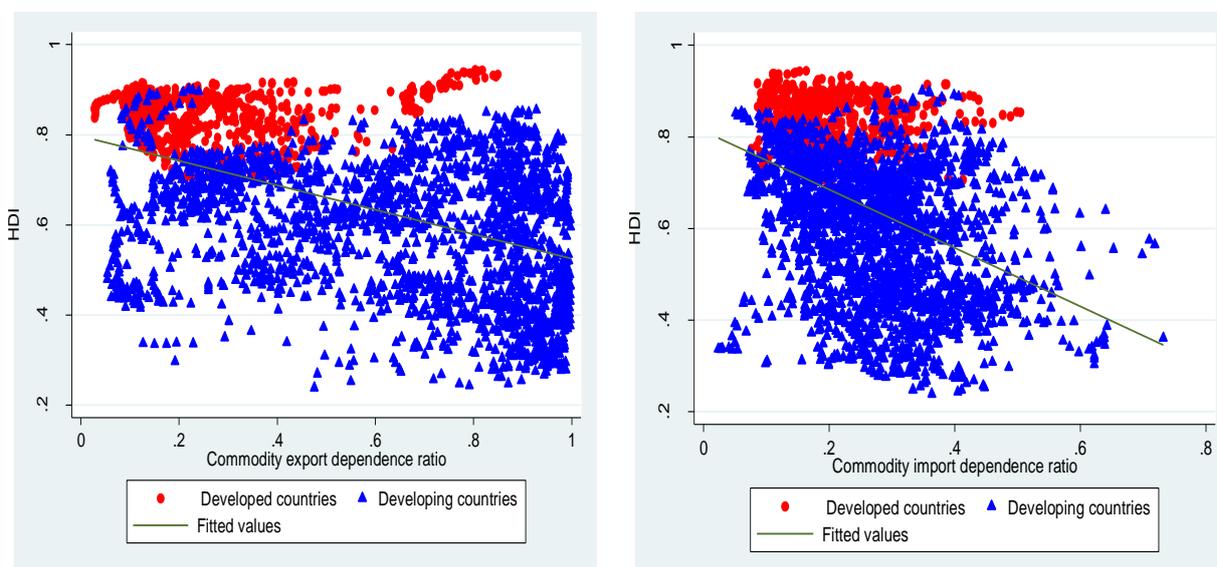
17. The negative relationship between commodity dependence and human development appears to be stronger for dependence on import commodities than for dependence on export commodities, in particular for food and fuel import dependence, as illustrated in figure 3.¹⁶ Further probing using a quantile regression analysis shows that the negative effect of commodity dependence on human development declines as the human development index increases. This indicates that commodity dependence affects countries differently according to their levels of human development. Notably, for some

¹⁶ JD Nkurunziza, K Tsowou and S Cazzaniga, 2017, Commodity dependence and human development, *African Development Review*, 29(S1):27–41.

developed countries such as Australia, Canada and the United States of America, the importance of the commodity sector seems to be positively associated with human development. This suggests that commodity dependence should not be considered fatalistically; commodities can fuel economic development and the “resource curse” can be turned into a blessing.

Figure 3

Human development index and commodity export and import dependence ratios



Source: Based on UNCTADstat (trade data) and United Nations Development Programme (human development index data).

18. At least four key challenges need to be addressed by commodity-dependent countries stuck in poverty:

Challenge 1: macroeconomic effects of exposure to price fluctuations

19. Commodity price fluctuations cause important microeconomic and macroeconomic disturbances in commodity-dependent developing countries. Volatile foreign exchange earnings severely erode the capacity of commodity-dependent developing countries to manage their economies by restricting their policy space. Declining export earnings also stunt capital formation, hampering efforts to diversify into more productive activities.

20. As commodity price volatility has become an intrinsic feature of commodity markets, amplified during the 2003–2011 commodity boom due partly to the financialization of commodity markets, it is particularly difficult for commodity-dependent developing country economies to make the long-term investment plans required to support education, health and other development priorities. To cope with commodity price fluctuations, some commodity-dependent developing countries have developed instruments such as sovereign wealth funds, whereby they save during high price phases and draw on those savings when prices decline. In most countries that use such instruments, the reality is their effectiveness has been hampered by the fact that commodity price slumps are generally much longer than commodity price booms. As a result, many sovereign wealth funds have collapsed. Commodity-dependent developing countries effectively bear a disproportionate share of the global adjustment costs of commodity market volatility. This situation, in turn, hinders these countries’ efforts to reduce their vulnerability to external shocks through economic structural transformation and to implement long-term development strategies that could help them to avoid commodity dependence. Hence, in the period 2014–2015, 91 countries were classified by UNCTAD as commodity-dependent developing countries, an 11 per cent increase relative to the 82 countries in this category in the period 2009–2010.

Challenge 2: commodity-dependent developing countries suffer from the “Dutch disease”

21. During episodes of high commodity prices, commodity-dependent developing countries experience an influx of foreign currency, which increases demand for the domestic currency and contributes to its overvaluation. This weakens the competitiveness of commodity-dependent developing countries in export markets while encouraging imports of consumer goods. Moreover, in countries with fixed exchange rates, large external foreign currency inflows boost local demand, generating additional inflationary pressure which leads to macroeconomic instability. These two effects have a negative effect on investment and hence economic growth in the medium and long term. It should also be noted that in countries dependent on extractive industries, which are relatively capital-intensive businesses, investment is concentrated in those sectors that generate a limited number of domestic jobs. This is what occurred with the discovery and exploitation of large gas reserves in the Netherlands in 1959. Exports increased remarkably but at the same time the domestic economy weakened. Unemployment rose from 1.1 per cent to 5.1 per cent between 1970 and 1977, and corporate investment declined.

22. What was then coined as the “Dutch disease” illustrates the challenge faced by most commodity-dependent developing countries over the last four decades. Not only have they been struggling against the effects of their export revenue instability due to commodity price volatility, they also have had to face the consequences of their eroding international competitiveness during periods of high commodity prices.

Challenge 3: concentration of global value away from commodity-dependent developing countries

23. Against the backdrop of greater concentration of international commodity production in global value chains, commodity-dependent developing countries tend to be locked into buyer driven chains, which are controlled by global retailers and category buyers. Globally, the growing concentration of trade and vertical integration of large firms is detrimental to local producers. The ability of international trade to act as an engine for poverty reduction is being compromised by how global value chains are organized. For instance, four transnational corporations control more than 60 per cent of the global coffee market; this reduces the participation of coffee producers in processes of price determination, hampering sustainable production and economic diversification in coffee-exporting countries.¹⁷ A similar pattern is also observed for cocoa where the three biggest cocoa trading and processing companies traded roughly 50 to 60 per cent of the world’s cocoa production in 2013. Four transnational corporations control more than 60 per cent of the global processing of cocoa grindings.¹⁸

Challenge 4: poor governance

24. Commodity-dependent developing countries are facing specific challenges related to their trade specialization. Producing and exporting commodities, especially fuels and minerals, is often an obstacle to State-building processes and tends to be associated with weak governance. This results from the opacity of most commodity industries and the associated concentration of wealth generated. This might generate distributional conflicts, both domestic and international. As a consequence, the capacity of commodity-dependent developing countries to implement and pursue policies in favour of sustainable development is drastically hampered, creating an additional obstacle for most commodity-dependent developing countries in their efforts towards achieving the Sustainable Development Goals.

¹⁷ UNCTAD, 2013, *Commodities and Development Report. Perennial Problems, New Challenges and Evolving Perspectives*, UNCTAD/SUC/2011/9, New York and Geneva.

¹⁸ UNCTAD, 2016, *Cocoa Industry: Integrating Small Farmers into the Global Value Chain*, UNCTAD/SUC/2015/4, New York and Geneva.

III. Commodity-dependent developing countries and the Sustainable Development Goals

25. Three of the Sustainable Development Goals of the 2030 Agenda for Sustainable Development appear to be more specifically associated with commodity-dependent developing countries challenges: achieving food and energy security, adding value to commodities and improving the management of natural resources by increasing resource efficiency and renewable energy use.¹⁹

A. Recurring food and energy insecurity issues

26. Reducing and eliminating hunger and malnutrition by 2030 is at the heart of the framework underlying the Sustainable Development Goals.²⁰ Given the natural constraints facing food production systems in many countries, reaching these Goals will involve drastic efforts to better share available food and reduce global food waste at the global level. Many commodity-dependent developing countries have high levels of undernourishment. According to the World Food Programme,²¹ the 10 countries with the highest number of people reported to be facing crisis food insecurity or worse²² are all commodity-dependent developing countries.

27. High food prices place a heavy burden on poor, net food-buyer households that spend the largest proportion of their incomes on food, compromising the efforts of countries with those households to eliminate hunger and poverty by 2030 (figure 4). For the poorest segment of the population, this often leads to malnourishment and undernourishment.²³ For instance, the food price crisis of 2007–2008 led to episodes of public unrest and riots in more than 30 developing countries.²⁴ The rise in food prices pushed an additional 44 million people below the poverty line of \$1.25 per day after June 2010, which was a severe blow to achieving Millennium Development Goal 1 by 2015.

¹⁹ See footnotes 1, 2 and 3.

²⁰ Food and Agriculture Organization of the United Nations, 2015, *FAO and the 17 Sustainable Development Goals*, Rome.

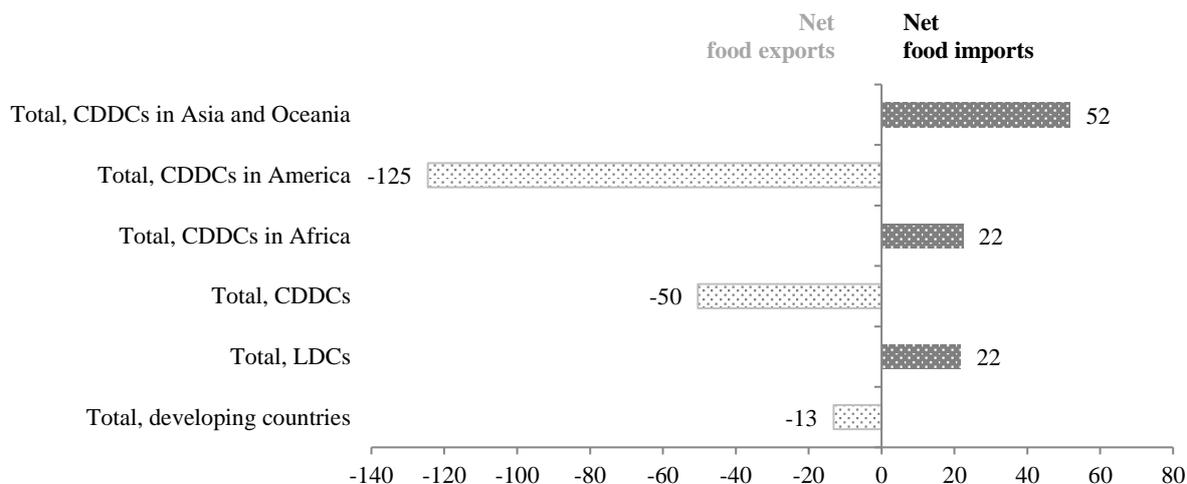
²¹ World Food Programme, 2017, *Global Report on Food Crises 2017*, Rome.

²² The 10 countries are Afghanistan, the Democratic Republic of the Congo, Ethiopia, Malawi, Nigeria, South Sudan, the Sudan, the Syrian Arab Republic, Yemen and Zimbabwe. These countries are classified at phase 3 and above, meaning that they are in a crisis situation (phase 3), an emergency (phase 4) or a famine (phase 4), according to the Integrated Food Security Phase Classification.

²³ Nonetheless, domestic price movements do not necessarily follow international price movements, notably in developing countries, due to food subsidy policies and discrepancies in transport and storage costs.

²⁴ UNCTAD, 2013, *Commodities and Development Report. Perennial Problems, New Challenges and Evolving Perspectives*, UNCTAD/SUC/2011/9, New York and Geneva.

Figure 4
Total net food trade, 2014/15
 (Millions of United States dollars)



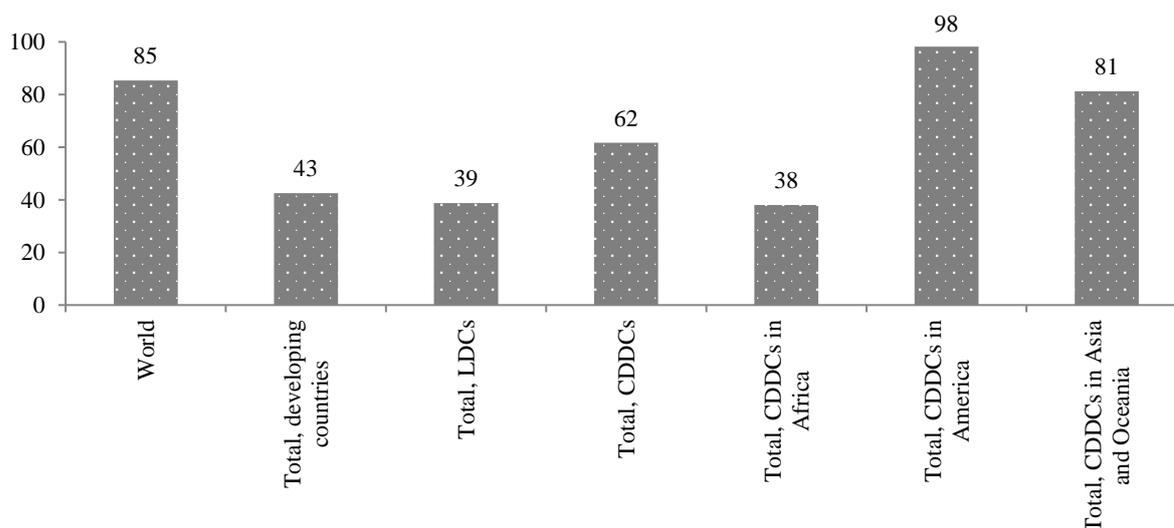
Source: UNCTADStat database.

Abbreviations: LDCs, least developed countries; CDDCs, commodity-dependent developing countries.

Note: Net food-importing countries have a positive balance.

28. Similarly, energy access is limited and needs to be allocated in a more fair manner, to ensure universal energy access. The situation of commodity-dependent developing countries is indeed preoccupying, particularly in Africa. African commodity-dependent developing countries have the lowest rate of access to electricity (figure 5), at only 38 per cent, compared to an access rate of 62 per cent for all commodity-dependent developing countries and an 85 per cent world average.

Figure 5
Access to electricity in 2014
 (Percentage)



Source: World Bank, World Development Indicators database.

Abbreviations: LDCs, least developed countries; CDDCs, commodity-dependent developing countries.

29. High and unpredictable energy prices are particularly harmful to commodity-dependent developing countries. The direct impacts of high energy prices on these economies vary widely according to the composition of the exports and imports of individual countries. commodity-dependent developing countries that are net fuel exporters

see their terms of trade improve, as in the six years leading to 2008, but other commodity-dependent developing countries suffer from deteriorating terms of trade when energy prices go up, as they are net fuel importers. This was the case for instance in 2008 with countries that mostly export tropical agricultural products, for which the price increase could not compensate for the increase in the import cost of fuel.

30. Furthermore, the negative impact of higher commodity prices on consumer goods often outweighs any positive income effects that accrue to producers in commodity-dependent developing countries.²⁵ This is in part due to the fact that a number of commodity-dependent developing countries are net food buyers (figure 4). The poor do not generally benefit from the income surplus linked to higher export revenues, while they see the domestic cost of food and energy rise. As a result, the total welfare effect of higher commodity prices might be negative even in commodity-dependent developing countries.

B. Adding value to commodities

31. Dependence on commodity exports makes it difficult for commodity-dependent developing countries to achieve long-term growth, as discussed above, in particular through an industrial growth strategy. Moreover, the organization of value chains between developed and developing countries has deepened the marginalization of commodity-dependent developing countries in international trade and accentuated the difficulties they face in diversifying their economies.

32. While early economic development models indicated that developing countries could use their relatively abundant land and labour endowments to develop their industries, this has proved to be unrealistic for most commodity-dependent developing countries CDDCs. The linkages between commodity industries with the rest of the economy are often weak or inexistent; thus, there are no spillovers between the commodity sector and the industrial sector. Moreover, the instability of revenues from the commodity sector as well as rampant macroeconomic instability have not allowed most commodity-dependent developing countries to reach substantial industrialization levels. This is particularly acute in Africa where commodity-dependent developing countries are less industrialized than even the group of least developed countries (see table).

Agricultural and industrial value added as a percentage of GDP, 2015

	<i>Value added, 2015 (Billions US\$)</i>		<i>Value added, 2015 (Percentage of GDP)</i>	
	<i>Agriculture</i>	<i>Industry</i>	<i>Agriculture</i>	<i>Industry</i>
Total, developing countries	288,092	1195,277	9	38
Total, LDCs	195	273	22	31
Total, CDDCs	593	2,389	8	34
Total, CDDCs in Africa	288	403	20	29
Total, CDDCs in America	198	953	6	29
Total, CDDCs in Asia and Oceania	108	1,033	5	46

Source: World Bank, World Development Indicators database.

Abbreviations: LDCs, least developed countries; CDDCs, commodity-dependent developing countries.

²⁵ UNCTAD, 2013, *Commodities and Development Report. Perennial Problems, New Challenges and Evolving Perspectives*, UNCTAD/SUC/2011/9, New York and Geneva.

C. Resource inefficiencies and implications for development

Unsustainable environmental burden of commodity mismanagement

33. Commodity production and consumption is changing ecosystems rapidly and extensively, notably in response to increasing demands for food, timber, minerals and fuel.²⁶ In commodity-dependent developing countries, these changes have destroyed many ecosystems and increased the risk of natural disasters, while disrupting the climate. These effects could in turn severely affect the achievement of the Sustainable Development Goals, notably Goals 12, 14 and 15.²⁷

34. The production of food and timber leads to intensive land use, which degrades agricultural productive capacity, as well as environmental quality.²⁸ According to FAO, around 25 per cent of all land is already highly degraded or fast degrading. Forty-four per cent is moderately degraded, while only 10 per cent of land has been improving.²⁹

35. Mining activities have also been contributing to pollution. The extraction of metals and minerals has a wide range of environmental effects, such as the release of toxic or acidic compounds into water, soils and the air.³⁰ For instance, the extraction of fertilizer such as phosphates often induces the release of heavy metals and radionuclides. Their further utilization results in considerable nutrient pollution, including eutrophication, fine particulate matter, and acidification of surface waters. This translates into biodiversity loss and higher greenhouse gas emissions due to the production of nitrous oxide.³¹

36. The extraction and combustion of fossil fuels is another major source of pollution, as the largest contributor to anthropogenic climate change. In addition to carbon dioxide emissions, fossil fuel consumption causes emissions of acid pollutants as well as the release of small particulates and other toxic pollutants, which are harmful to human health. Improvement in the management of fuel commodities is therefore a key priority among the urgent actions needed to combat climate change (Sustainable Development Goals 13).

The challenge of resource inefficiencies in commodity-dependent developing countries

37. For commodity-dependent developing countries, the situation is all the more challenging as they also need to anticipate the impact of their own resource consumption. The level of commodity consumption has been increasing consistently in recent decades, with a dramatic impact on the footprint of human activities. UNEP estimates that the amount of materials extracted globally increased eightfold between 1900 and 2005 as a result of economic and demographic growth.³² Data on material productivity suggest that the relative decoupling of material extraction from GDP growth has been observed globally, but it has been insufficient to prevent a persistently increasing trend in commodity consumption.

38. These factors should continue weighing on commodity demand in the coming years, as the world's population and economy continue to expand.³³ The world population is projected by the United Nations to reach nearly 10 billion in 2050, which will be

²⁶ Millennium Ecosystem Assessment, 2005, *Ecosystems and Human Well-Being: Synthesis*, Island Press, Washington D.C.

²⁷ See footnote 3.

²⁸ United Nations Environment Programme (UNEP), 1997, *World Atlas of Desertification*, 2nd ed., Arnold, London.

²⁹ FAO, 2011, *The State of the World's Land and Water Resources for Food and Agriculture – Managing Systems at Risk*. FAO and Earthscan, Rome and London.

³⁰ UNEP, 2013, *Metal recycling: Opportunities, Limits, Infrastructure. A Report of the Working Group on the Global Metal Flows to the International Resource Panel*, Paris.

³¹ UNEP, 2014, *Assessing Global Land Use: Balancing Consumption with Sustainable Supply. A Report of the Working Group on Land and Soils of the International Resource Panel*, Paris.

³² UNEP, 2011, *Decoupling Natural Resource Use and Environmental Impacts from Economic Growth. A Report of the Working Group on Decoupling to the International Resource Panel*, Paris.

³³ F Krausmann, S Gingrich, N Eisenmenger, KH Erb, H Haberl and M Fischer-Kowalski, 2009, Growth in global materials use, GDP and population during the 20th century. *Ecological Economics*, 68(10):2696–2705.

33 per cent more than in 2015. As a result, annual global material extraction is expected to reach 183 billion tonnes by 2050, more than double the amount in 2015.³⁴

39. Mobilization of quantities of materials on that scale will be increasingly challenging for commodity-dependent developing countries. Commodity shortages could become a recurring issue, negatively affecting the economic and social development of commodity-dependent developing countries needed to eliminate poverty and hunger. For instance, developing countries would need to deal with a potential shortage of fertilizer, which is crucial for agricultural productivity to increase in these countries, notwithstanding their potential negative effects on ecosystems when they are not properly applied.³⁵

40. In the same vein, ores and minerals are finite and mostly concentrated in only a few countries.³⁶ However, as most of them can be recycled, the risk of a shortage by 2030 is unlikely. Nevertheless, a potential rise in prices could affect industrial development, if supply fails to adjust to demand. This could affect the deployment of large-scale infrastructure in commodity-dependent developing countries as it requires important inputs from this group of commodities.

41. The supply of metals such as indium, platinum, rhodium and neodymium, though mobilized in smaller quantities, also remains uncertain. This could affect their prices and curb economic growth in the medium term by delaying the expansion of the low-carbon economy, as these elements are used in low-carbon technologies such as solar photovoltaic cells, batteries and wind turbines.³⁷ Increasing the cost of renewable energy would penalize the countries less advanced in greening their economies, particularly commodity-dependent developing countries.

IV. Policy recommendations: Commodity-dependent developing countries and achieving the Sustainable Development Goals by 2030

A. Eliminating hunger through sustainable food production by smallholder farmers

42. Ending poverty and hunger is possible, but involves rethinking the way food is produced and managed. According to FAO,³⁸ many more investments are needed to specifically target the food security and nutrition of the extreme poor, who are largely rural people. FAO calculates that US\$265 billion in additional investments are required per year between 2016 and 2030 to eliminate hunger; this is equivalent to 0.31 per cent of global GDP.

43. These investments should focus on social protection and pro-poor development sectors. Policies should help farmers and other poor rural households to overcome financial constraints and better handle risks, with direct impacts on food production and investments. They should specifically support smallholders to be more productive as they are major players with regard to food security.³⁹ Good practices in commodity-dependent

³⁴ H Schandl, S Hatfield-Dodds, T Wiedmann, A Geschke, Y Cai, J West, D Newth, T Baynes, M Lenzen and A Owen, 2016, Decoupling global environmental pressure and economic growth: Scenarios for energy use, materials use and carbon emissions. *Journal of Cleaner Production*, 132:45–56.

³⁵ K Senthilkumar, A Mollier, M Delmas, S Pellerin, and T Nesme, 2014, Phosphorus recovery and recycling from waste: An appraisal based on a French case study. *Resources, Conservation and Recycling*, 87:97–108.

³⁶ UNEP, 2015, *International Trade in Resources: A Biophysical Assessment, Report of the International Resource Panel*, Paris.

³⁷ UNEP, 2013, *Environmental Risks and Challenges of Anthropogenic Metals Flows and Cycles. A Report of the Working Group on Global Metal Flows to the International Resource Panel*, Paris.

³⁸ FAO, 2015, FAO and the 17 Sustainable Development Goals, Rome.

³⁹ UNCTAD, 2015, *Commodity and Development Report. Smallholder Farmers and Sustainable Commodity Development*, New York and Geneva.

developing countries show that smallholder-centred policies can reduce hunger, malnutrition and poverty. Among key good practices,⁴⁰ some need to be considered as priorities with regard to the Sustainable Development Goals. For example, it is essential to create an enabling environment at the national level through sound and predictable economic policies, a stable macroeconomic framework, secure land tenure systems and adequate infrastructure. Addressing the major infrastructural deficit in rural areas, for instance through effective and well-designed public–private partnerships, has proved useful for agriculture development in many developing countries.

44. Strong political leadership dedicated to the cause of smallholder farming is essential if smallholders are to become the cornerstone of agriculture development in commodity-dependent developing countries. This is well illustrated through the example of mainstreaming of the smallholder-focused Zero Hunger Programme into the government strategy of Brazil. This type of policy focus requires, among other elements, a substantial increase in budgetary commitments to agriculture and smallholder farming. Furthermore, fostering stronger and more professional farmers’ organizations can enable individual smallholders to aggregate their demands for inputs as well as their production in order to strengthen their negotiating power. This would also help smallholders to better integrate into increasingly complex international markets.

45. Tailoring science, technology and information and communications technologies to the needs of smallholders can also make a real difference as they influence smallholders’ progress towards higher productivity and environmental sustainability. Most particularly, access to mobile technologies is essential, as they are used to provide market and price information, help connect smallholders with market players and facilitate access to agriculture services. Scaling up connectivity in rural areas should thus be a priority.

46. With regard to access to finance, the situation of smallholders appears to be particularly unfavourable, calling for the deployment of innovative financing tools customized to their needs. Moreover, there is an urgent need to fill in the large investment gap, as smallholders rely on highly volatile external finance (including aid). This requires strengthening domestic mobilization of financial resources allocated to agricultural development. It also involves developing innovative financing mechanisms, such as warehouse receipt financing and factoring, as well as risk management instruments, such as index-based weather insurance and contract farming.

47. At the regional level, cooperation needs to be scaled up, with the following key priorities in order to help smallholders:

(a) Regional infrastructure and storage facilities, including supranational grain reserves for emergency purposes;

(b) Building up regional specialization in agricultural value chains within regional blocs based on each member country’s comparative advantage and a common trade policy;

(c) Establishing regional public–private partnerships to deploy existing best practices for smallholders.

48. At the international level, more is needed to improve smallholders’ participation in sustainable commodity production and trade. Initiatives could include addressing distortions in agricultural markets of importance for countries relying heavily on subsistence agriculture, for example the cotton market. Safeguarding smallholders’ interests in international investment treaties should also be required whenever states and investors negotiate investment contracts. In the same vein, smallholders’ interests should be taken into account more when crafting regulations relating to commodity markets. Among others, this would imply increasing market transparency and providing better and timely data on every node of the commodity value chain.

49. In addition, given the centrality of agriculture in the process of reaching food security and eradicating malnutrition, a greater share of official development assistance

⁴⁰ Ibid.

needs to be allocated to agricultural and rural development. This effort should encompass increasing the supply of climate finance to smallholders for funding environmentally friendly agriculture. With this perspective, greater accountability and monitoring of progress made on key commitments and financing pledges related to smallholders are needed. Statistical systems should be strengthened at the national, regional and global levels, and appropriate statistical tools should be introduced in order to measure the extent to which commitments are met and how they benefit smallholders and agricultural development in general.

B. Strengthening the resilience of commodity-dependent developing countries

50. Given the specific issues they are dealing with (see chapter II B) and their constraints in terms of poverty and hunger reduction, commodity-dependent developing countries should be the focus of the international community in its efforts towards achieving the Sustainable Development Goals. Three areas of importance for commodity-dependent developing countries are hence priorities for Governments and their international partners.

Coping with low commodity prices and high price volatility

51. Minerals, fuels, and food and agricultural commodity prices, have been experiencing a downward trend for several years now. These developments are detrimental to producers particularly in commodity-dependent developing countries. To mitigate the negative effects of low prices on commodity-dependent developing countries development, several measures could be implemented:

- (a) Move away from historical dependence on agriculture and mining products to processing of commodities (see below).
- (b) Reduce agricultural costs of production and increase productivity in order to ensure that commodity-dependent developing countries are competitive in international commodity markets. In particular, commodity-dependent developing countries need access to low-cost productive assets and affordable credit. Furthermore, assistance should be extended to ensure that commodity-dependent developing countries have the skills and capacities required to access commodity markets.
- (c) Address redistributive problems in order to ensure that the majority of the populations benefits from the wealth generated by the commodity sector.
- (d) Improve the allocation of resources, privileging investment in productive sectors rather than consumption, would help commodity-dependent developing countries to diversify their economies and reduce their dependency on commodity exports.
- (e) Adopt a long-term strategy that helps commodity-dependent developing countries to cope with commodity price swings. This is also critical; saving in good times is required to be able to ride out the bad times when the prices decline.

Economic diversification

52. Diversification is a key dimension of the resilience of commodity-dependent developing countries to price shocks, as it allows them to derive their revenues from various sources and develop more inclusive growth approaches. Among the three diversification strategies (horizontal, vertical and non-commodities diversification), horizontal diversification may not assist commodity-dependent developing countries in minimizing the effects of price fluctuations, while vertical and non-commodity driven diversification could help to reduce the exposure of commodity-dependent developing countries to global market instability. These types of diversification require several conditions to be met, notably an enabling environment that fosters investment, trade and industrial development; macroeconomic and political stability; and a system of governance that is friendly to development.

Market-based risk management strategies

53. Market-based strategies, including financial risk management mechanisms, allow countries and their economic agents to protect themselves from uncertainty in commodity prices. These strategies have not yet been broadly used in commodity-dependent developing countries due to, among other issues, lack of familiarity with these instruments and poor institutional and legal frameworks. The lack of relevant data and historical records have also been a major impediment to the scaling-up of these tools in commodity-dependent developing countries.

54. Acquiring expertise in the use of market-based risk management instruments involves significant investments from commodity-dependent developing countries and their development partners in building human and financial capacities. The experiences of countries such as Chile and Mexico that have achieved some success in using these instruments could be worth considering.

Improving the management of natural resources

55. Improving transparency and accountability in the commodity value chain could boost development of the commodity sector. It is critical to pursue efforts towards disclosing information along value chains from the point of production to how the revenue makes its way through Government, and to how it benefits the population at large. Following initiatives developed through the Extractive Industries Transparency Initiative, more efforts are needed to ensure that licences and contracts are granted and registered in a transparent manner. This would allow the public to have access to information regarding the entities that should benefit from those operations and the corresponding fiscal and legal arrangements, as well as the contribution of the natural resource sector to the economy, including direct and indirect job creation.

C. Increasing natural resource efficiency as a driver of economic and social transformation

56. Commodity-dependent developing countries should be put at the forefront of the global process of socio-environmental transformation needed to achieve the Sustainable Development Goals.

Removing obstacles to resource efficiency gains

57. In order to foster sustainable commodity management in commodity-dependent developing countries, key obstacles to resource efficiency gains need to be gradually removed. This will reduce the pressure on commodity markets, while stimulating innovation. Among the key issues related to resource efficiency gains, some need to be prioritized, such as public interventions needed to ensure that commodities are priced properly, as illustrated in the case of fossil fuels. Without proper carbon prices, there is no adequate incentive to improve fuel efficiency and develop renewables. Economies of scale can also act as a barrier to the adoption of new technologies, which are useful for the reducing the amount of commodities used and their negative externalities. New technologies may not be able to compete with existing ones unless they are supported by Governments, at least during their inception phase. As a result, public support might be essential to foster the emergence of these new technologies while reducing the risks of technology lock-in and insufficient competition. Barriers to trade and investment, which can block the diffusion of green technologies essential for sustainable commodity management, are other areas that should be addressed as a priority.

Fostering sustainable consumption and production policies

58. Sustainable commodity management relies on the effective deployment of systematic approaches targeting sustainable consumption and production. The 10-Year Framework of Programmes on Sustainable Consumption and Production, adopted at the Rio+20 Conference in 2012, is a key mechanism for achieving the shift in social and economic transformation required for sustainable commodity management. It forms a

common framework for existing initiatives around sustainable consumption and production, as well as a platform for commodity-dependent developing countries to share their experiences and best practices on sustainable consumption and production with other developing country and developed country partners.

59. The Resource Efficient and Cleaner Production Programme is one initiatives that should be more systematically replicated in commodity-dependent developing countries. It seeks to improve industrial productivity while reducing industry's dependence on natural resources and cutting pollution. "Circular economy" initiatives are other approaches of importance for sustainable commodity management. They are promoted internationally, including by China, Japan and the European Commission. Their aim is to bring together businesses, Governments, cities and universities, so as to decrease the use and maximize the recycling and recovery of materials in production and consumption. For instance, the European Commission adopted its Circular Economy Package in 2015, to stimulate the European transition towards a circular economy, where resources are used in a more sustainable manner. The development of these approaches involves a mix of regulations and incentives to encourage greater recycling and reuse, to reduce the human footprint, while fostering economic growth and job creation.

60. A number of countries have framed their policies for resource efficiency through a "reduce, reuse and recycle" approach. This forms the building block for the Group of Seven Alliance on Resource Efficiency, established in 2015 as a platform for knowledge sharing. Each country can develop a variety of activities around the reduce, reuse and recycle approach, which gives a coherent vision of commodity management from "cradle to grave".⁴¹ Commodity-dependent developing countries should be more actively involved in the global deployment of this approach.

⁴¹ Cradle-to-grave analysis is a technique used to assess environmental impacts associated with the different stages of a product's life (from raw material extraction through processing, manufacturing and recycling or disposal).