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Eradication of poverty and other development issues

Industrial development cooperation

Note by the Secretary-General

The Secretary-General hereby transmits the report of the Director General of the United Nations Industrial Development Organization, submitted in accordance with General Assembly resolution [77/180](#).

* [A/79/150](#).



Report of the Director General of the United Nations Industrial Development Organization

I. Industrial development in review

A. Introduction

1. Multiple global crises – a polycrisis – confront the global community today, two years since the issuance of the previous report on industrial development cooperation (A/77/138) and one year past the midway point to 2030. According to the review of the Sustainable Development Goals conducted in 2023, achievement of many of the Goals is moderately to severely off track, and the promise of the 2030 Agenda for Sustainable Development is in peril (A/78/80-E/2023/64). Several of the Goals that are focused on economic issues remain severely underfunded, including Goal 9 (Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation).¹

2. Progress towards the Goals is lagging globally, but developing countries and the poorest, most vulnerable populations suffer the most from the collective shortfall. Furthermore, geopolitical conflicts are impeding the fragile recovery of the global economy following the coronavirus disease (COVID-19) pandemic.

3. Under current trends, 575 million people will still be living in extreme poverty in 2030, and only one third of countries will have halved their national poverty levels. Hunger levels are currently at the highest levels seen since 2005, and food prices exceed those reported during the period 2015–2019.² Inequalities are deepening, and time is running out to keep the global temperature increase below 1.5 degrees Celsius to avoid the most severe consequences of the climate crisis and to achieve climate justice for those most affected. Carbon dioxide levels are rising to levels not seen for millions of years. If progress continues at the current pace, renewable energy will still account for only a small share of the energy supply by 2030, and about 660 million people will be without access to electricity.³

4. The current crises serve as a reminder that the proper functioning of global economic and industrial production systems is essential to all countries and societies. Current research and the two previous reports on industrial development cooperation (A/75/158 and A/77/138) provide clear evidence of the positive multiplier impact that industrial development and related international cooperation can have on eradicating poverty, creating employment, fostering inclusiveness and addressing the triple planetary crisis of climate change, pollution and biodiversity loss.

5. Appreciation of the role of economic growth in development is experiencing a renaissance. Inclusive and sustainable industrialization is a key pillar of Goal 9 and therefore is firmly enshrined in the 2030 Agenda. In its resolution 77/180, the General Assembly recognizes the unique mandate and important contribution of the United Nations Industrial Development Organization (UNIDO) in promoting inclusive and sustainable industrial development.

6. Section I of the present report is focused on recent trends in industrial development. Section II contains a description of the role of industrial development

¹ Dalberg, “Updated study of capacities and functions of the UN development system to accelerate progress on the SDGs”, May 2024.

² *The Sustainable Development Goals Report 2023: Special Edition* (United Nations publication, 2023).

³ Ibid.

cooperation in implementing the 2030 Agenda. The present report concludes with an outlook.

B. Recent trends in industrial development

Trends in industrial production and manufacturing

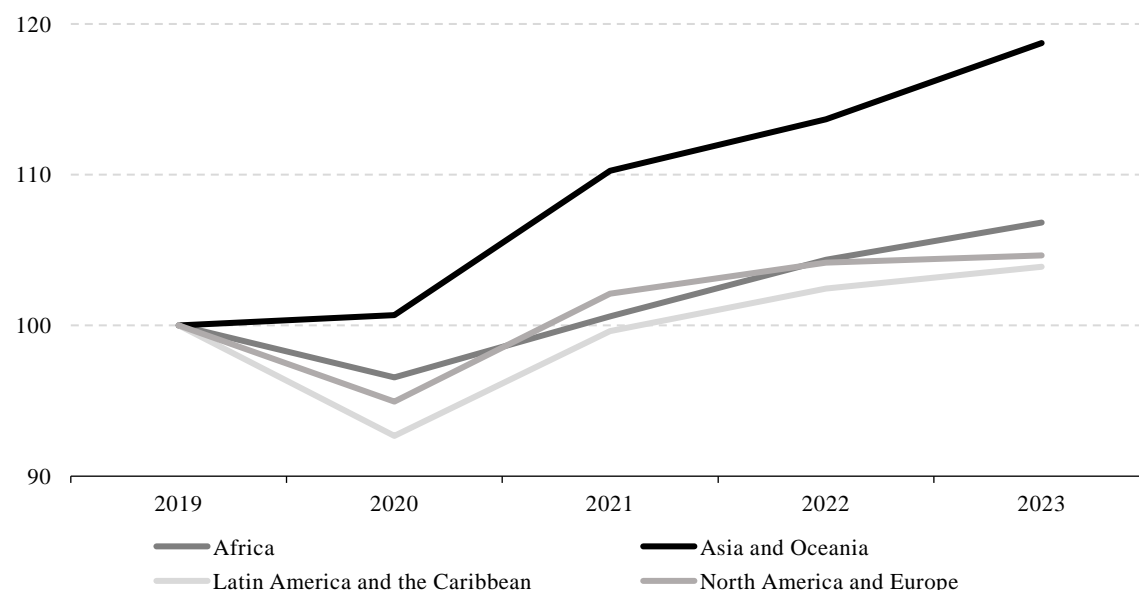
7. Industrial development and growth in industrial production remain major strategies for sustained poverty reduction through employment creation, income generation and productivity increases. Therefore, the decline of industrial activity and trade in manufactured goods in 2020, at the height of the COVID-19 pandemic, was a worrying development. Global manufacturing growth quickly recovered in 2021, however, posting a growth rate of 8.5 per cent that year, the highest rate since 2010. It has remained stable since then, with annual increases of 2.7 per cent in 2022 and an estimated 2.8 per cent in 2023. Global manufacturing value added is estimated to have reached \$15.5 trillion (at constant 2015 prices) in 2023, an all-time high.⁴

8. Nevertheless, the post-pandemic recovery of manufacturing remains uneven around the world. For example, while manufacturing value added in Asia and Oceania in 2023 was 18.7 per cent above the pre-pandemic level reported in 2019, it was only 6.8 per cent and 3.9 per cent above pre-pandemic levels in Africa and in Latin America and the Caribbean, respectively (see figure I).

Figure I

Manufacturing value added in constant prices compared with its 2019 level, selected regions, 2019–2023

(Index, 2019 = 100)



Source: UNIDO National Accounts Database.

Note: Values for 2023 are estimates prepared by UNIDO.

⁴ Unless otherwise indicated, figures in the present section refer to global manufacturing value added in constant 2015 dollars. Estimates were prepared by UNIDO using data from the UNIDO National Accounts Database, available at <https://stat.unido.org>.

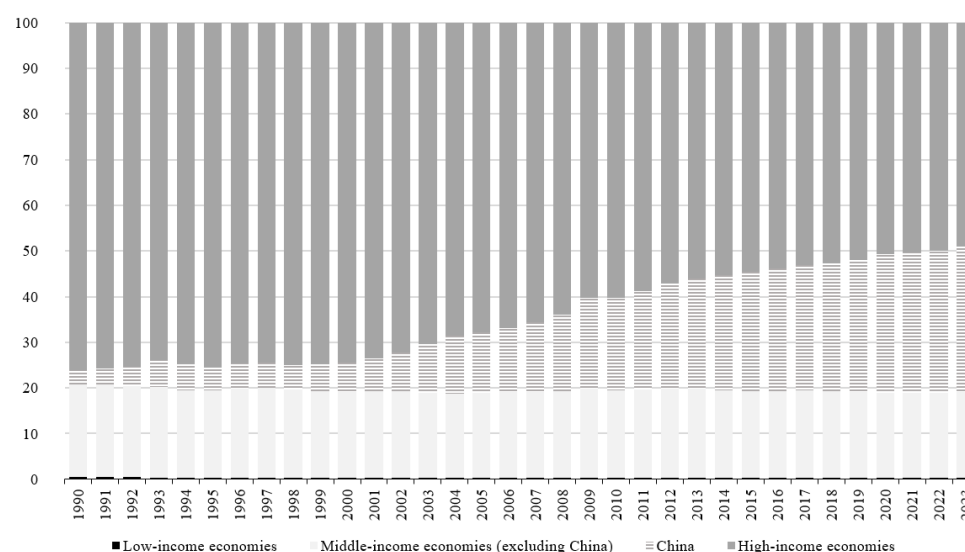
9. While manufacturing value added in industrial economies grew at an estimated pace of 2.6 per cent in 2023, in industrializing economies it increased by an estimated 4.7 per cent in the same year, which indicates that a convergence process might be under way. This is also the case for the least developed countries, where manufacturing value added grew 5.6 per cent in 2023, twice the world average.

10. The swift growth of industrial production in middle-income economies has contributed to a significant redistribution of global economic activity. While middle-income economies accounted for 23.2 per cent of global manufacturing value added in 1990, their share increased to 50.7 per cent in 2023. This development is chiefly driven by the rise of China, a middle-income economy, as the largest manufacturer in the world. In 2023, 31.8 per cent of global manufacturing value added originated in that economy alone. At the same time, however, the relative share of high-income economies in global manufacturing value added has been shrinking, falling from 76.2 per cent in 1990 to 49.0 per cent in 2023. Low-income economies produced 0.6 per cent of manufacturing value added worldwide in 1990; by 2023, their share had shrunk even further, to just 0.3 per cent (see figure II).

11. Target 2 of Goal 9 is aimed at raising the share of manufacturing in gross domestic product (GDP) and employment and doubling it in the least developed countries. Despite the positive development of higher growth of manufacturing value added in industrializing economies, progress in the least developed countries since 2015 remains insufficient to reach the target. Their share of manufacturing value added in GDP increased from 12.0 per cent in 2015 to 14.5 per cent in 2023, although the share of manufacturing employment in total employment decreased slightly, from 7.8 per cent in 2015 to 7.7 per cent in 2022. At the current pace, the goal of doubling the share of manufacturing in the economies and labour markets of the least developed countries might not be achieved by 2030.

Figure II
Distribution of global manufacturing value added, by country income group, 1990–2023

(Percentage)



Source: UNIDO National Accounts Database.

Note: Values for 2023 are estimates prepared by UNIDO.

Employment and environmental sustainability

12. Industry, including small-scale industrial enterprises, is a major source of employment in developing and emerging economies and is therefore fundamental to sustaining livelihoods and to poverty eradication efforts.

13. The number of manufacturing jobs worldwide increased from 374 million in 2000 to 480 million in 2022, an average yearly increase of 1.1 per cent.⁵ Despite this growth in absolute terms, manufacturing employment has not kept pace with other sectors. In fact, manufacturing activity has been disproportionately affected by recent crises and technological progress. While the global share of manufacturing value added in GDP climbed from 14.7 per cent in 2000 to 16.7 per cent in 2022, that growth did not translate into an equivalent increase in jobs: the share of manufacturing employment in total employment declined slightly over the same period, from 14.5 per cent to 14.1 per cent. These figures indicate a possible decoupling of manufacturing production from job creation, as higher levels of global manufacturing output have not translated into a parallel increase in employment. Women have been particularly affected: the employment of women in manufacturing has followed a downward trend, which accelerated further after the COVID-19 pandemic.⁶ While women accounted for 42.8 per cent of manufacturing employment in 2000, that share had fallen to 41.9 per cent in 2022.

14. The falling share of manufacturing employment in total employment can be partially attributed to a deindustrialization process under way in high-income economies, where it declined from 17.9 per cent in 2000 to 12.9 per cent in 2022. However, progress in middle- and low-income economies has not been sufficient to offset that decline. The share of manufacturing employment in total employment increased from 14.2 per cent in 2000 to 15.4 per cent in 2022 in middle-income economies but remained relatively stagnant in low-income economies, where it increased from 5.3 per cent to only 5.5 per cent over the same period.

15. A thorough appreciation of the job-creating potential of the manufacturing sector also needs to consider that many manufacturing-related services that used to be performed by manufacturing companies themselves are now outsourced to service providers. This implies that the share of manufacturing employment in national employment accounts is frequently understated because manufacturing-related services are counted as service sector employment.⁷ Some estimates indicate that each job in manufacturing creates two to three jobs in other economic sectors.⁸

16. On the positive side, there is evidence of a decoupling of manufacturing activity from carbon dioxide emissions, as emissions have remained relatively flat while production continues to rise. Despite a relatively consistent increase in manufacturing value added globally, carbon dioxide emissions from manufacturing have remained stable and have even experienced a gradual decline in recent years. While global manufacturing value added in constant dollars increased by 42.9 per cent between 2010 and 2021, carbon dioxide emissions from manufacturing increased by only 2.8 per cent over the same period. Mitigation strategies have played a pivotal role in achieving a global reduction in energy and carbon intensity, effectively lowering carbon dioxide and other greenhouse gas emissions. Low-emission technologies have

⁵ Employment figures in the present section are calculations prepared by UNIDO using data from “Employment by sex and economic activity: International Labour Organization (ILO) modelled estimates, November 2023”, ILOSTAT database, available at <https://ilostat.ilo.org/data>.

⁶ UNIDO, *Industrial Development Report 2024: Turning Challenges into Sustainable Solutions – The New Era of Industrial Policy* (Vienna, 2024).

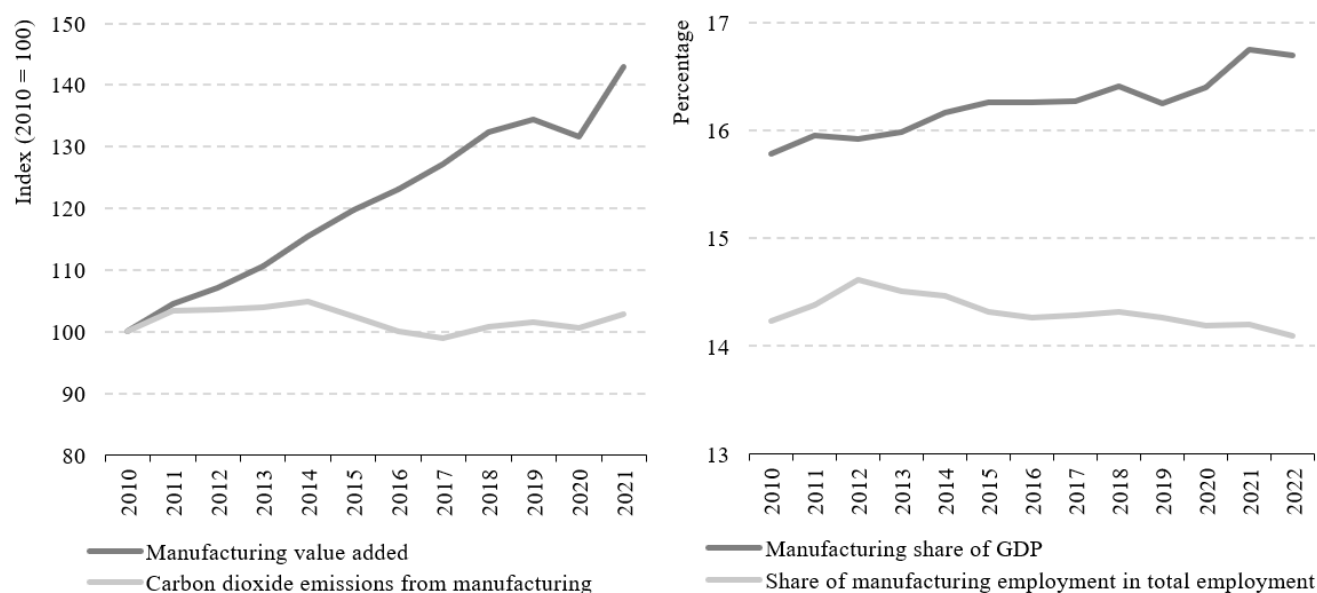
⁷ Jostein Hauge, *The Future of the Factory: How Megatrends Are Changing Industrialization* (Oxford, Oxford University Press, 2023).

⁸ UNIDO, *Industrial Development Report 2024*.

become increasingly affordable, and many low- or zero-emission alternatives are on offer across various sectors, including manufacturing. The increasing importance of higher-technology industries worldwide, which tend to be less carbon-intensive, has also played a role in this trend. This double decoupling is shown in figure III.

Figure III

Decoupling between (a) manufacturing activity and carbon dioxide emissions, 2010–2022; and (b) share of manufacturing in GDP and employment, 2010–2022



Sources: UNIDO National Accounts Database and UNIDO Sustainable Development Goals Database, available at <https://stat.unido.org>.

High-technology manufacturing and trade

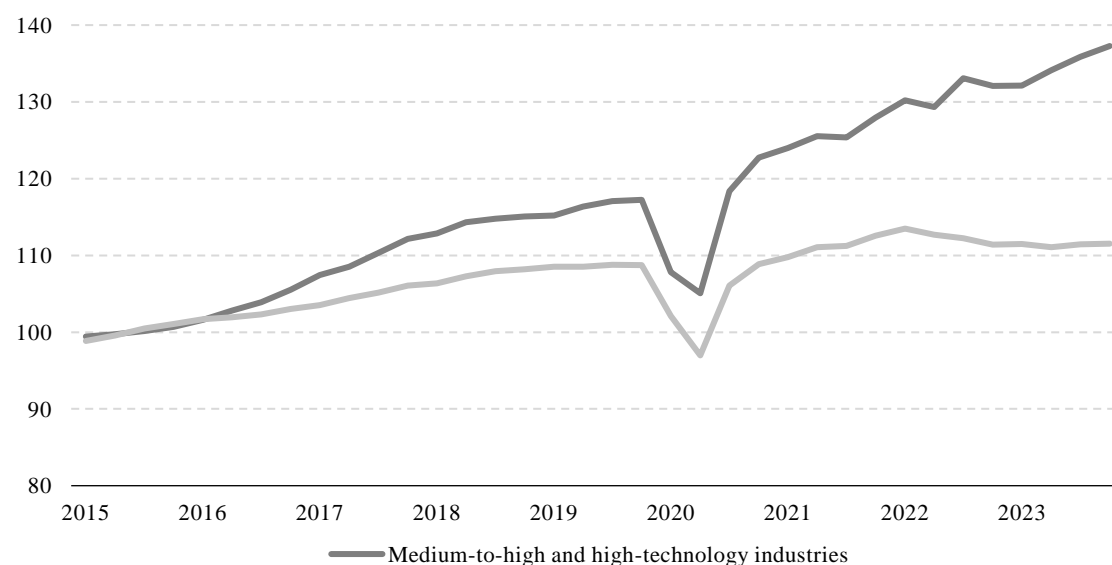
17. In 2021, the medium-high and high-technology manufacturing sectors accounted for 46.2 per cent of total manufacturing. There were, however, important disparities worldwide: these sectors accounted for 49.8 per cent of total manufacturing in high-income industrial economies, compared with only 7.4 per cent in low-income economies.⁹

18. The increasing divergence between higher-technology industries and other industries is a worrying trend. Figure IV shows that the gap between the performance of higher-technology industries and that of other industries has been expanding, especially since the COVID-19 pandemic. Since then, growth has been most robust in higher-technology industries, such as pharmaceuticals, computers and electronics, and electrical equipment. Medium-to-high and high-technology industries have grown faster and shown greater resilience than their lower-technology counterparts. As a result, the gap between manufacturing performance in low-income and high-income economies has continued to increase.

⁹ Figures prepared by UNIDO using data from the UNIDO Sustainable Development Goal 9 Database, available at <https://stat.unido.org>.

Figure IV
Global quarterly index of industrial production, by technology group, 2015–2023

(Index, 2015 = 100)



Source: UNIDO Quarterly Index of Industrial Production Database, available at <https://stat.unido.org>.

19. In 2022, the value of world merchandise exports increased by 6.7 per cent over the previous year, reaching \$17.8 trillion. This increase followed an increase of 25.3 per cent in 2021, a large jump, as trade recovered from pandemic-related disruptions. Trade in manufactured goods accounted for 76.5 per cent of world merchandise exports in 2022, with the rest consisting mainly of primary agricultural, energy and mineral commodities. Among manufacturing exports, 59.2 per cent are classified as medium- and high-technology products.¹⁰

20. High-income economies were responsible for 64.1 per cent of manufacturing exports and 67.9 per cent of medium- and high-technology exports in 2022. Although the respective figures for middle-income economies were 35.8 per cent and 32.1 per cent, their share of the world manufacturing trade has been steadily increasing, more than doubling since 2000. In 2022, low-income economies exported just 0.1 per cent of global manufactured goods and 0.04 per cent of medium- and high-technology manufactured goods.

C. Global stability and industrial development

21. As 2024 drew nearer, global growth slowed significantly owing to restrictive financial conditions and weak global trade and investment, among other factors. Although growth has begun to stabilize, the projected global growth rate of around 2.7 per cent annually until 2026, which is well below the pre-pandemic rate of 3.1 per cent, is insufficient for the achievement of the Goals.¹¹ Armed conflicts and the increasing frequency of climate-related disasters also threaten the global growth outlook.

¹⁰ Trade figures in the present section are UNIDO calculations based on the UNIDO Manufacturing Trade Database, available at <https://stat.unido.org>.

¹¹ United Nations, “World economic situation and prospects 2024: mid-year update”, 4 January 2024, and World Bank, *Global Economic Prospects, June 2024* (Washington, D.C., 2024).

22. Enhanced global cooperation is necessary to facilitate structural transformation and address climate change and other major challenges, such as poverty, food insecurity and persistent inequalities, including those related to gender and the digital divide. There is overwhelming evidence that the industrial sector plays a pivotal role in advancing sustainable development, particularly with the sector's strong impact on social, environmental and climate goals. A robust industrial sector can foster job creation, technological innovation, trade integration and participation in global supply chains.

Food security

23. Despite some recovery following the COVID-19 pandemic, food systems continue to face threats. Violent conflicts, economic downturns, including domestic food price inflation, and severe climate events have disrupted global food systems and supply chains, which has increased hunger and threatened livelihoods, resulting in the worst food crisis in human history.¹²

24. In 2021, between 691 million and 783 million people faced hunger, an increase of 122 million since the COVID-19 outbreak. By 2022, around 2.4 billion people were moderately or severely food-insecure, and over 3.1 billion could not afford a healthy diet. Projections indicate that nearly 600 million people will still face hunger in 2030, the same proportion as in 2015. By 2050, food production will need to increase by 60 per cent to feed a population of 9.3 billion.¹³

25. Research shows a significant gender gap in food security: 31.9 per cent of women are food-insecure, compared with 27.6 per cent of men.¹⁴ In addition to rising food insecurity, food waste is a major issue, with 1 billion tons wasted annually – the equivalent of over 30 per cent of global food production. Post-harvest losses have compounded the food security challenge, and over 40 per cent of such losses occur in supply chains, in particular in developing economies, where smallholder farmers lose up to 40 per cent of their harvest annually.¹⁵

26. Agricultural production and food processing are vital for global and national socioeconomic systems and for efforts to increase food self-sufficiency. The agricultural sector employs around one third of the labour force in many regions of the world. It also plays a key role in industrialization and economic performance, and there are opportunities to transform global food systems through the development of agribusiness and food industries to improve the incomes of farmers and smallholders.

27. To transform food systems, priority must be given to circularity, transparency and climate-responsive agriculture and agribusiness. An effective transformation also requires addressing governance and policy issues, economic and production bottlenecks, sociodemographic issues of gender and inclusivity, and climate and environmental threats.

¹² UNIDO, "UNIDO and food security," August 2023.

¹³ Food and Agriculture Organization of the United Nations (FAO), International Fund for Agricultural Development, United Nations Children's Fund (UNICEF), World Food Programme and WHO, *The State of Food Security and Nutrition in the World 2023: Urbanization, Agrifood Systems Transformation and Healthy Diets across the Rural/Urban Continuum* (Rome, 2023).

¹⁴ FAO and others, *The State of Food Security and Nutrition in the World 2022: Repurposing Food and Agricultural Policies to Make Healthy Diets More Affordable* (Rome, 2022).

¹⁵ UNIDO, "UNIDO and food security".

Sustainable supply chains

28. Globalization has resulted in more complex global supply chains; around 80 per cent of world trade now relies on these networks, which support the livelihoods of over 450 million people.¹⁶

29. Despite the value chain disruptions due to the current polycrisis and increasing calls for protectionism, the global geography of industrial production, which is characterized by spatially dispersed stages, is unlikely to change in the future. While there are some trends towards reshoring, the scale of such efforts is not as large as expected.¹⁷ Moreover, while some reshoring may continue to occur, the growth prospects of many developing and emerging industrial economies – notably including, but not limited to, economies in East Asia – are likely to act as a counterweight, with multinational enterprises shifting from efficiency to market-seeking modes of engagement with developing and emerging industrial economies. For the time being, diversification of suppliers might therefore prove to be a more resilient and cost-efficient choice for lead firms, relative to the domestication of entire supply chains.¹⁸

30. The implication for developing countries is that, for the foreseeable future, industrialization will continue to mean integration into regional and global value chains, rather than building up entire domestic industries.

31. Several global pressures affect the sustainability of supply chains. As at 15 July 2024, 44 per cent of the world's population worked in low-skilled occupations, constituting a large global workforce employed in sectors with low value addition, particularly in developing countries.¹⁹ Support is needed to help developing countries to integrate into the higher value added segments and production stages of global supply chains.

32. Another pressure on supply chain sustainability is the poor environmental and labour conditions under which many products and raw materials are still being produced, often involving the most vulnerable groups, such as women, young people and children. Estimates indicate that 160 million children are engaged in child labour, with 79 million engaged in hazardous work, in particular in the textile industry.²⁰ Because of exposure to international competition, real wages of workers in the global South employed in global supply chains have also continued to fall.²¹

33. To address these challenges, Governments have introduced due diligence legislation on human rights and environmental matters, requiring multinational enterprises to identify, prevent and mitigate negative impacts in their operations and supply chains. For example, the forthcoming European Union directive on corporate sustainability due diligence is expected to impose such obligations on large companies and those active in high-risk sectors, such as textiles. While such regulation is aimed at improving working and living conditions and promoting sustainable production, it also creates significant challenges for small and medium-sized enterprises, which are

¹⁶ World Trade Organization, *Global Value Chain Development Report 2021: Beyond Production* (Geneva, 2021).

¹⁷ Hauge, *The Future of the Factory*.

¹⁸ *Industrial Development Report 2022: The Future of Industrialization in a Post-Pandemic World* (United Nations publication, 2022).

¹⁹ Statista, "Share of global workforce working in low skilled occupations in 2020 and 2030, by economy". Available at <https://www.statista.com/statistics/1171289/global-workforce-low-skilled-occupations> (accessed on 15 July 2024).

²⁰ ILO and UNICEF, *Child Labour: Global Estimates 2020, Trends and the Road Forward* (New York, 2021).

²¹ ILO, *Global Wage Report 2020–2021: Wages and Minimum Wages in the Time of COVID-19* (Geneva, 2020).

key to developing economies. Affected small and medium-sized enterprises are likely to struggle to comply with the new requirements, which could lead to their exclusion from global supply chains. Furthermore, such regulations tend to create new trade barriers, which have a particular impact on developing countries that rely on export revenues and trade with the European Union.

34. In addition, large companies have been introducing voluntary private standards to mitigate reputational risk, and their suppliers, often small and medium-sized enterprises from developing countries, are expected to meet those standards. When such enterprises are suppliers for various large companies, they are frequently faced with the need to comply with a host of different private standards. Increased interoperability of such standards is urgently needed.

35. The transformation to sustainable production and supply chains should be a shared responsibility among regulators, industry, consumers, and industrialized and industrializing nations alike. Development interventions in this area need to be aimed at promoting best practices to ensure an inclusive process in which consideration is given to the voices of all actors in global supply chains. In such interventions, there is also a need for efforts aimed at ensuring that developing countries reap the benefits from integration into regional and global value chains.

Energy and climate change

36. Industry accounts for approximately 37 per cent of global carbon dioxide emissions.²² Progress towards the global energy transition has been slow. Renewables accounted for 18.7 per cent of total final energy consumption worldwide in 2021, barely higher than the 16.7 per cent reported in 2015. The world is not on course to double energy efficiency by 2030, having improved by only 0.8 per cent in 2021. While 74 per cent of the world's population had access to clean cooking technologies in 2022, 2.1 billion people still relied on polluting fuels; only modest progress is expected to be made by 2030.

37. Advancing the transition to renewables and green hydrogen is a strategic choice to bring affordable energy, jobs, economic growth and a cleaner environment to people and communities. It is therefore important that the prices of green energy technologies become more competitive with those of fossil fuels.²³

38. Opportunities to accelerate the energy transition are further expanded as innovative technologies and approaches emerge, climate change adaptation and mitigation become even more critical, and production and consumption patterns change.

39. It is also necessary to empower women and increase their access to and use of sustainable energy products and services with a view to yielding climate solutions through renewable energy, as well as energy-efficient and low-carbon technologies to boost sustainable and inclusive economic growth and industrialization. The energy sector, as the dominant contributor to global emissions, can and should play a pivotal role in ensuring a just transition to a green economy and a sustainable energy future. That role extends to ensuring equal access to energy as a resource. Some 91 per cent of the global population had access to electricity in 2022, leaving 685 million people without access, 10 million more than in 2021.²⁴

²² UNIDO, *Industrial Development Report 2024*.

²³ Frank Hartwich and Elias Farnleitner, "Promoting global sustainability by investing in the energy transition of developing countries", UNIDO Industrial Analytics Platform, May 2024.

²⁴ International Energy Agency and others, *Tracking SDG 7: The Energy Progress Report 2024* (Washington, D.C., 2024).

Digitalization and artificial intelligence

40. Fast-changing technological developments in the digital sphere are transforming workplaces, human relations and trade networks. The fourth industrial revolution is creating new business opportunities while making some roles and activities obsolete. The COVID-19 pandemic contributed to accelerating the trend in digitalization.

41. Artificial intelligence has emerged as one of the critical technologies of the fourth industrial revolution. Both large corporations and small and medium-sized enterprises in developing countries could benefit considerably from using artificial intelligence to improve levels of productivity. Artificial intelligence can lead to cost reductions for firms, simplified processes, streamlined supply chains and resource savings. Moreover, it can be used to enhance predictive machine maintenance, minimize scrap, increase zero-defect yields, forecast demand for components and estimate inventories. Artificial intelligence is also revolutionizing customer service through the use of chatbots to provide 24-hour customer support and predict individual customers' needs.

42. As artificial intelligence is developed further, an understanding of both the risks and opportunities that it creates and how it can improve firm productivity is crucial. Small and medium-sized enterprises in developing countries need to be able to seize the opportunities presented by digital tools.²⁵ Failure to do so could intensify the digital divide between industrialized and developing countries, where weak ecosystems and a lack of effective innovation policies make it difficult to absorb advancements based on research and science.

43. Efforts to ensure that digital technologies, including artificial intelligence, empower women, with a view to enabling them to lead, participate in and benefit from technological advancements, are also needed. Appropriate policies will need to be put in place to avoid reinforcing gender stereotypes and deepening economic and social exclusion. Closing gender gaps has significant economic and social benefits, such as expanding markets, unlocking talent, addressing skill shortages, improving financial performance, increasing innovation and preventing social disparities.²⁶

44. There is an ongoing debate on the impact of digital automation and artificial intelligence on labour markets. Most existing studies are focused on developed countries. Some estimates indicate that the immediate impact on countries of the global South could be more limited because of additional barriers, such as lack of access to capital, unreliable energy infrastructure and lack of skills to adopt these technologies. There are also some fears that digital automation could lead to a large-scale reshoring of jobs from developing countries to countries of the global North that is not offset by offshoring in other industries.²⁷

D. Main challenges and opportunities

45. As a result of the continuing polycrisis, including the lingering effects of the COVID-19 pandemic, climate change, value chain disruptions, conflicts, and economic and political uncertainties, progress towards the 2030 Agenda has stagnated and has even been reversed.²⁸ The global economic recession has further heightened income inequality, especially among low-income countries and marginalized groups,

²⁵ UNIDO, *Empowering SMEs through 4IR Technologies: Artificial Intelligence* (Vienna, 2021).

²⁶ UNIDO, *Gender, Digital Transformation and Artificial Intelligence* (Vienna, 2022).

²⁷ Hauge, *The Future of the Factory*.

²⁸ *The Sustainable Development Goals Report 2023*.

which poses challenges for inclusive growth and development. Low-income countries also face a persistent and growing debt burden.

46. Consequently, investments in industry, innovation, research and development have decreased significantly.²⁹ This short-term reprioritization in response to times of crisis is likely to leave a long-term mark not only on industrial and infrastructure development in general but also on the transformative and catalytic effect that industrial development can have on inclusive and sustainable development.

47. At the same time, the polycrisis has generated opportunities that can be harnessed for accelerated progress towards the Goals. Such progress could be achieved by renewing the focus on digital and green technologies, expanding opportunities and employment in manufacturing in developing countries, and further decoupling manufacturing activities from emissions.

48. Although challenges persist for progress towards the Goals in developing countries, effective international cooperation and multi-stakeholder dialogue can expand the range of solutions to catalyse broader structural change. Such solutions include food systems transformation, participation in global supply chains, green-powered transformation and the energy transition, and advanced Industry 4.0 technologies, such as artificial intelligence. By building on the multiplier effect of industrial development, those opportunities can be harnessed to reduce income inequalities between countries and empower marginalized groups of society, including women and young people.

II. The future of industrial development cooperation and the 2030 Agenda

A. Introduction

49. As outlined in section I, owing to the impact of the polycrisis, the world has been confronted with widespread inflation and increased poverty, hunger and unemployment. Food systems transformation, sustainable supply chains and decent jobs, a focus on green and digital technologies, and a renewed emphasis on sound industrial policies must be key elements of the recovery, in order to support sustainable growth and development and significantly accelerate implementation of the 2030 Agenda.

50. The aforementioned global challenges also call for increased international cooperation, with the United Nations system at the lead. As the specialized agency mandated to promote inclusive and sustainable industrial development, UNIDO plays a critical role in this regard. In its latest biennial resolution on industrial development cooperation (resolution [77/180](#)), the General Assembly encouraged UNIDO to continue to assist developing countries, including African countries, the least developed countries, landlocked developing countries, small island developing States and countries in conflict and post-conflict situations, as well as middle-income countries facing specific challenges, in participating in productive activities.

51. The adoption of the Doha Programme of Action for the Least Developed Countries for the period 2022–2031 and of the Antigua and Barbuda Agenda for Small Island Developing States for the period 2024–2033, as well as the forthcoming adoption of the outcome document of the third United Nations Conference on Landlocked Developing Countries, adds momentum to calls to support developing

²⁹ Organisation for Economic Co-operation and Development (OECD), *OECD Science, Technology and Innovation Outlook 2021: Times of Crisis and Opportunity* (Paris, 2021).

countries in advancing economic resilience and diversification, structural transformation and sustainable industrial development.

52. Its mandate to promote inclusive and sustainable industrial development places UNIDO at the centre of efforts within the United Nations system to lead the implementation of the provisions on industrial development cooperation contained in those 10-year frameworks for action. UNIDO also continues to lead the implementation of other important frameworks, in particular the Third Industrial Development Decade for Africa (2016–2025), proclaimed by the General Assembly in its resolution [70/293](#).

53. UNIDO was also requested by Member States to support, within its mandate, the periodic review of Goal 9 during the high-level political forum on sustainable development convened under the auspices of the Economic and Social Council and the General Assembly (also known as the Sustainable Development Goals Summit), most recently in 2023.

54. In line with those mandates, the megatrends outlined above and the strong drive for results enshrined in the UNIDO medium-term programme framework for the period 2022–2025, UNIDO concentrates its efforts on three thematic priorities: advancing sustainable supply chains, ending hunger and accelerating climate action. Efforts by UNIDO are also guided by cross-cutting priorities related to digitalization, gender equality and the empowerment of women.

55. Beyond enhanced partnerships with United Nations entities, UNIDO also places emphasis on partnerships with the private sector and international financial institutions and strives for enhanced development impact.

B. Poverty eradication and food systems transformation

56. In the *Industrial Development Report 2024*, UNIDO confirms that increases in poverty and food deprivation have particularly affected the least developed countries. The rise in food prices has had severe consequences for the least developed countries owing to their relatively higher dependence on food production and trade. Given that the majority of the world's poor continue to live in rural areas with limited job and income opportunities, these developments have also exacerbated inequalities.

57. UNIDO takes a holistic approach that integrates technical cooperation and policy advice, in order to remove barriers linked to agrifood systems faced by rural populations, including women, young people, displaced persons and disadvantaged groups. Through a focus on food systems, including rural infrastructure, local value addition, agribusiness services and post-harvest management, UNIDO helps populations to transition away from low-income agricultural production to higher-skilled and better-paying jobs through vocational training and skills development, technological innovation, business development for small and medium-scale enterprises, measures to improve access to finance, implementation of quality assurance, promotion of research and development, and facilitation of access to new markets.

58. To scale up the impact of its activities, UNIDO collaborates with several development partners from the United Nations system, including the International Atomic Energy Agency, the Food and Agriculture Organization of the United Nations (FAO), the World Food Programme and the World Health Organization, as well as with other organizations. For example, UNIDO signed an agreement with the Alliance for a Green Revolution in Africa in December 2023 to collaborate on activities related to the agrifood system.

59. One key area of action has been the development of agro-food parks, where common infrastructure and economies of scale are used to facilitate investment in the agribusiness sector in developing countries. To drive agribusiness and food systems development in Africa, UNIDO is engaged in several partnerships, such as the Common Africa Agro-Parks Programme, led by the African Union, and the Alliance for Special Agro-Industrial Processing Zones, in collaboration with international financial institutions such as the African Development Bank and the African Export-Import Bank.

60. The technical assistance provided by UNIDO is also aimed at accelerating the implementation of the sustainable food packaging agenda, given the role of sustainable packaging in reducing food loss and waste, achieving food security and limiting the impact on climate and the environment. Action is taken across three pillars: (a) establishing and supporting packaging centres of excellence; (b) fostering innovation; and (c) partnering with relevant organizations, such as the World Packaging Organization, and contributing to global outreach, such as at the United Nations Climate Change Conferences.

61. In the light of the importance of upscaling investments in the food sector, UNIDO and FAO have established the Agrifood Systems Transformation Accelerator, a joint global programme designed to assist countries in transforming their agrifood systems by facilitating innovative partnerships and Sustainable Development Goal-compliant investments in selected value chains. Under the programme, upgrade strategies, action plans and investment plans that allow countries to achieve their vision of sustainable agrifood systems are developed, the “One United Nations” approach is put into practice, and the development of system-based solutions (self-sustaining, adaptive and resilient solutions developed from within the agrifood system itself) is facilitated.

62. Through its technical cooperation projects, UNIDO also promotes agro-innovation and bioeconomy development, including the use of the latest agro-machinery and post-harvest technologies, thereby helping smallholders from developing countries to comply with environmental and social standards for agro-industrial production and advancing biodiversity protection. Sustainable value addition to forest products not only prevents the degradation of protected land but benefits local populations. Similarly, value chain development in blue economy sectors nurtures small and medium-sized enterprises and demonstrates sustainable production of biobased materials and products.

63. Across all these endeavours, UNIDO recognizes the need to implement market-based and investment-attracting solutions, to tailor innovations to their respective local contexts and to promote comprehensive approaches that address all dimensions of sustainable development.

C. Sustainable supply chains and jobs

64. To sustain poverty reduction, create jobs, generate sustainable incomes and achieve a lasting decrease in inequality between and within countries, it is critical to ensure that developing countries benefit from local production, value creation and regional and global trade integration across diverse economic sectors. While supply chains have become a crucial element of globalization, there is a need to address their potentially adverse effects, such as social downgrading and environmental degradation. Accordingly, sustainability has emerged as a critical topic in discussions on supply chains and global integration.

65. In 2023, the General Conference of UNIDO adopted resolution GC.20/Res.2, entitled “Strengthening member States’ capacities in developing productive, resilient

and sustainable supply chains". The resolution calls for enhanced support for the efforts of countries to achieve inclusive and sustainable development by developing productive, resilient and sustainable supply chains. The UNIDO global programme on sustainable supply chains is aimed at implementing the provisions of the resolution, including through the development of a rapid scan toolbox to help member States, particularly developing countries, to navigate the complex and newly emerging landscape of legislation on global supply chains.

66. The overall programmatic approach of UNIDO to sustainable supply chains builds on its firm- and sector-specific experience, as well as on current trends in due diligence compliance set by several countries and regions. Key elements of the approach include: (a) scaling up collective action through multi-stakeholder dialogue; (b) delivering systemic, multidimensional, country-driven and tailored support; (c) establishing a robust monitoring mechanism designed to document and disclose the impact of mandatory due diligence legislation; and (d) supporting businesses in transforming their strategies.

67. Micro-, small and medium-sized enterprises account for about 90 per cent of the private sector and 50 per cent of employment in developing countries. Those figures are likely to be even higher across the African continent, which means that those enterprises are key to stimulating sustainable growth, decent jobs and fair trade. In its technical cooperation activities, UNIDO places particular emphasis on building capacity and facilitating greater competitiveness and internationalization of micro-, small and medium-sized enterprises, as well as on creating a conducive business and regulatory environment. Areas of expertise include enterprise upskilling programmes, business development services, productivity and quality improvements, and compliance with the standards and due diligence procedures required to gain access to regional and global value chains and markets.

68. Sector-specific approaches allow UNIDO to promote socially and environmentally responsible production and sourcing in sectors such as the mining sector. As the convener of the Global Alliance and Partnership for Responsible and Green Minerals, which was launched in cooperation with international partners in 2024, UNIDO brings together Governments, the mining industry, industry associations, relevant intergovernmental and non-governmental organizations, international financial institutions, technology providers and academia. UNIDO establishes international guidelines and benchmarks for sustainable supply chains for critical minerals and helps countries to implement standards and policies supported by a sound certification system. Alignment of policies, technology and financing approaches is at the core of the new Alliance, which promotes a fair and green sector that supports inclusive and sustainable economic development.

69. Gaps in national, regional and continental quality systems create market access barriers for micro-, small and medium-sized enterprises, hindering value addition, exports and integration into supply chains, particularly within the African Continental Free Trade Area. In pursuit of sustainable growth and fair trade, UNIDO, in cooperation with the International Trade Centre, is implementing the African Trade Competitiveness and Market Access Programme in support of broad-based engagement with the African Union, the European Union, the African Business Council and several African regional economic communities. Under the programme, which is focused on industrial upgrading and direct support, a systemic approach to strengthening quality infrastructure, standards compliance, value addition and export readiness will be implemented.

70. Another key area of intervention has been the modernization of technical and vocational education and training systems. Through its Learning and Knowledge Development Facility, UNIDO works with the private sector and development

partners to promote demand-driven skills development. Through the Facility, UNIDO brings together companies, training providers and governments to design and implement skills development programmes that meet industry needs and increase employment opportunities for young people in developing countries.

D. Clean energy and climate action

71. Industry and industry-related energy consumption are often considered the main culprits of climate change, biodiversity loss and environmental damage. This view underscores the need for industry and sustainable industrial development to feature prominently in any solution to address the triple planetary crisis. Apart from being a beneficiary of sustainable solutions, industry is an important provider of solutions for mitigating climate change. Furthermore, as industries become more exposed to the effects of climate change, there is a need to step up climate adaptation efforts and resilience-building.

72. With its technical expertise and global networks, UNIDO fosters integrated solutions to support sustainable industrialization, emission and pollution reduction, resource efficiency and adaptation to climate change. Adaptation to climate change is particularly important in the least developed countries and small island developing States, whose contribution to the triple planetary crisis has been negligible.³⁰

73. Through the Global Alliance for Circular Economy and Resource Efficiency, launched by the European Commission, the United Nations Environment Programme and UNIDO in 2021, practical guidelines and cutting-edge research on the application of circular economy principles are being made available to industry sectors worldwide and are supporting networks and communities of practice.

74. Through its Global Eco-Industrial Parks Programme, UNIDO helps countries to adopt circular economy and climate change mitigation practices that make industrial parks more competitive and sustainable. Through pilot activities in countries including Egypt, Indonesia and Peru, UNIDO provided training on cleaner production and resource-efficient methods to improve environmental performance and sustainability. Policy dialogue with partner Governments facilitates the establishment of national regulatory environments and policy frameworks conducive to the scaling up of results. As part of future efforts under the programme, UNIDO, in collaboration with the World Bank and the German Agency for International Cooperation, will develop arrangements and standards for recognition of eco-industrial parks.

75. Heavy-emitting sectors are industries that are difficult to decarbonize because of financial, technological and governance challenges. These sectors are responsible for about 20 per cent of global carbon emissions and one quarter of global energy consumption.³¹ Through the Industrial Deep Decarbonization Initiative, UNIDO helps the steel and cement industries to adopt more sustainable technologies and transform production processes. At the 2023 United Nations Climate Change Conference, some of the countries that are the world's largest buyers of the most emission-intensive materials outlined commitments under the Initiative's green public procurement pledge, with a view to leveraging their buying power to augment market demand for low- and near-zero-emission steel, cement and concrete and ultimately driving the global decarbonization of these heavy industries. To bring climate action in industry

³⁰ World Bank, "For the poorest countries, climate action is development in action", 2 December 2023.

³¹ International Renewable Energy Agency, *Decarbonising Hard-to-Abate Sectors with Renewables: Perspectives for the G7* (Abu Dhabi, 2024).

to scale, further efforts aimed at creating synergies between existing initiatives, achieving more ambitious targets and tracking verifiable progress will be needed.

76. In 2023, UNIDO launched the Accelerate-to-Demonstrate Facility, one of its largest programmes to date. Through the Facility, support will initially be provided to 10 African countries to help them to pilot innovative technologies in critical minerals, clean hydrogen, smart energy and industrial decarbonization. By accelerating the commercialization of innovative clean energy technologies in low- and middle-income countries, the Facility supports countries in increasing their capacity to mitigate the impacts of climate change.

77. Building on its extensive experience working with governments and industry on sustainable energy solutions, quality infrastructure and standards, UNIDO is implementing its Global Programme for Hydrogen in Industry with a view to accelerating the uptake of green hydrogen and promoting its usage in industry. UNIDO also launched the Global Clean Hydrogen Programme in 2024, through which it supports partner countries, including Ecuador, Malaysia and Namibia, with enabling policy frameworks, improved national capacities, technological readiness and financial mechanisms. UNIDO also hosts the secretariat of the International Hydrogen Trade Forum to help to unlock the socioeconomic and environmental value of international hydrogen trade for developing countries and to achieve a just energy transition.

E. Digitalization and artificial intelligence

78. The rapid digital transformation of industries is reshaping industrial development and creates new opportunities for growth, inclusiveness and sustainability. UNIDO plays a crucial role in this evolution, taking action to support developing countries in accelerating industrial development and structural transformation while reaping the benefits of digital technologies to help to close the digital divide.

79. Digital technologies can be used to improve energy efficiency, reduce emissions in industrial processes and enhance agricultural productivity and food security. UNIDO interventions foster innovation, enhance productivity, including for small and medium-sized enterprises, and optimize supply chains. Digital infrastructure and Industry 4.0 technologies further underscore the transformative potential of digitalization. For instance, UNIDO facilitates training in digital skills through its support for the establishment of smart factory labs, which serve as innovation hubs linking academia with the public and private sectors. These labs accelerate the adoption of smart manufacturing technologies, boosting industrial competitiveness and sustainability.

80. Access to digital technologies expands opportunities for inclusion in the digital economy. Ensuring that underserved groups, including women, young people, Indigenous populations and people in conflict-affected communities, have equal access to digital tools and training is essential for fostering an inclusive digital transformation. UNIDO programmes in Algeria, Morocco and Tunisia provide support to young women entrepreneurs in the fields of science, technology, engineering and mathematics, promoting gender equality and economic empowerment.

81. UNIDO also fosters global partnerships to enhance digital transformation efforts. The Global Alliance on Artificial Intelligence for Industry and Manufacturing and the Alliance for Industry 4.0 and Smart Manufacturing in Africa bring together stakeholders from Government, industry, academia and civil society. These alliances are aimed at maximizing the impact of artificial intelligence and Industry 4.0

technologies, promoting sustainable industrial development and ensuring fair access to the benefits of digitalization by enterprises and societies.

82. To complement its technical cooperation programmes, UNIDO has developed a range of knowledge products, including *Gender, Digital Transformation and Artificial Intelligence, Guidelines for the Establishment of a Smart Factory Lab, Digital Kaizen: Lean Manufacturing, Kaizen and New Technologies to Increase Business Productivity* and *Empowering Digital Transformation in Small Enterprises through National Policies: An International Benchmarking*. These publications are available to the public on the UNIDO website.

83. UNIDO programmes on digital transformation are aligned with the global digital compact to be adopted in September 2024 by the General Assembly as part of the Pact for the Future. They are aimed at closing the digital divide, fostering an inclusive digital economy and helping developing countries to seize the opportunities of artificial intelligence.

F. A new era of industrial policy

84. There has been a resurgence of industrial policy: in the past decade, the number of industrial policies implemented globally has grown more than twofold. Countries at all stages of development are increasingly turning to industrial policy to guide their sustainable development efforts through, for example, measures aimed at accelerating the development and deployment of low-carbon technologies and the energy and green transitions, addressing disruptions in global supply chains and local production of critical goods, and ensuring pandemic preparedness and resilience against other vulnerabilities.³²

85. Progress on financing for the Goals is essential to implementing the 2030 Agenda. Modern industrial policies can play an important role in directing financing towards tangible investments and sectors that can spur progress towards the Goals. They are also critical to ensuring that tax systems, fiscal, capital and labour market policies and demand-side instruments, such as public procurement, are aligned with the Goals.

86. The least developed countries require effective policy measures to narrow the industrialization divide. While developed and emerging economies are focusing on sustainability in their industrial policies, the least developed countries remain focused in their policies on diversifying their commodity-dependent economies to advance structural transformation. From 2018 to 2020, commodities still accounted for 63 per cent of the total merchandise exports of the least developed countries.³³ Without support in policy design and implementation, the least developed countries will lag further behind.

87. In its latest *Industrial Development Report*, UNIDO calls for a new era of industrial policies that are built around four key elements: (a) mission-oriented approaches with the Goals at their core; (b) open collaboration between the government, business and other stakeholders; (c) forward-looking perspectives that leverage ongoing transformative changes, such as the green and digital transitions; and (d) regional coordination and international harmonization, with a view to

³² *Financing for Sustainable Development Report 2023: Financing Sustainable Transformations* (United Nations publication, 2023).

³³ *Ibid.*

mitigating tensions and reaping the benefits of cooperation among neighbours and partners.³⁴

88. For modern industrial policies to be effective, a renewed level of international cooperation and solidarity will be needed to enable the transfer of expertise and technologies, provide financing and support government capabilities. Effective policies will also require investments with a long-term vision of creating real structural change.

89. Strengthening international coordination and cooperation on industrial policy is essential for building a better future. To navigate an increasingly complex and uncertain environment for industrial development and ensure a level playing field, there is a need to intensify multilateral discussions on tangible policymaking experiences, as well as a need for peer learning from those experiences. This will increase chances to mitigate adverse effects on other countries stemming from national industrial policies. The annual Multilateral Industrial Policy Forum, launched by UNIDO in 2023, seeks to achieve precisely that goal.

III. Conclusions and outlook

90. The Sustainable Development Goals Summit in 2023 resulted in a renewed global commitment to the 2030 Agenda and multilateral solutions. The Summit of the Future, to be held in September 2024 on the sidelines of the high-level week of the General Assembly, will be an opportunity for Member States to take steps towards reforming the global governance system through provisions contained in the forthcoming Pact for the Future. To achieve large-scale impact, including through a strengthened and well-aligned United Nations system, there is a need to adopt integrated policies and multidimensional technical solutions underpinned by significant investments and transformative partnerships aimed at accelerating the achievement of the Goals.

91. It has been demonstrated that sustainable industrial development solutions have wide-ranging positive effects across all dimensions of sustainable development. In fact, advances towards Goal 9 have direct and indirect effects that can accelerate the achievement of all other Goals.³⁵ Industrial development is thus a force that must be harnessed at a time when such solutions are urgently needed to rescue the Goals.

92. At present, industrial development cooperation is particularly important to advancing innovations across a broad range of sectors, notably enhancing food security and ending hunger, fostering sustainable supply chains, accelerating climate action and empowering countries to benefit from the opportunities of digital transformation.

93. To achieve food systems transformation, profound shifts in food production, storage, consumption and disposal can be harnessed to create decent employment opportunities and nutritious foods while also ensuring quality, resource-efficient, climate-smart and resilient production methods and related infrastructures, including for poor rural populations.

94. The global geography of industrial production, marked by regional and global supply chains, will continue to create opportunities for developing countries to industrialize through participation in those chains. Enhanced international cooperation can ensure that such participation provides fair prices to suppliers from developing countries, including small and medium-sized enterprises, and that

³⁴ UNIDO, *Industrial Development Report 2024*.

³⁵ Ibid.

international standards and regulatory frameworks facilitate the integration of those suppliers, rather than creating new barriers as they struggle to meet new requirements.

95. Digital technologies, including artificial intelligence, are already transforming industrial development worldwide. If managed well, such technologies can create new pathways for advancing economic structural transformation in developing countries and narrow the global digital divide. International cooperation needs to be aligned with the global digital compact, enable all developing countries to gain access to and adopt digital technologies, expand the global commons for smart manufacturing and facilitate the participation of developing countries in the digital economy.

96. Clean and renewable energy solutions, innovative green technologies and the decarbonization of heavy-emitting industries will continue to be in the spotlight of the global climate debate. A revamped global governance framework for industrial decarbonization should include several elements, including greater coherence across existing international cooperation initiatives for industrial decarbonization; more ambitious industrial sector targets in nationally determined contributions; support for tracking progress towards implementing such targets; and improved third-party verification of industrial decarbonization projects. Specific solutions, such as clean and green hydrogen or responsible mineral supply chains, can help to deliver on this ambition.

97. To leverage industrial development as a force for inclusive and sustainable development, Governments of developing countries need international support in designing and implementing a new era of modern industrial policies. Identifying the sectors and activities with the greatest potential to accelerate progress towards sustained economic development and the Goals is particularly important, in order to support investment promotion, facilitate technology transfer for the green and digital transitions in industry and further skills development to prepare the workforce of the future. Future-oriented industrial policies are essential to ensuring that investment flows, partnerships and international cooperation create a level global playing field, achieve sustainable impact and improve resilience.

98. Building on the most recent General Assembly resolution on industrial development cooperation (resolution [77/180](#)), UNIDO will continue to assist developing countries, including African countries, the least developed countries, landlocked developing countries, small island developing States and countries in conflict and post-conflict situations, as well as middle-income countries facing specific challenges, in developing their industrial sectors and integrating into the global economy in an inclusive, sustainable and resilient manner.

99. The adoption of the Doha Programme of Action for the Least Developed Countries for the period 2022–2031 and of the Antigua and Barbuda Agenda for Small Island Developing States for the period 2024–2033, as well as the forthcoming adoption of the outcome document of the third United Nations Conference on Landlocked Developing Countries, adds momentum to calls to support developing countries in advancing economic resilience and diversification, structural transformation and sustainable industrial development.

100. Its mandate continues to place UNIDO at the centre of efforts within the United Nations system to lead industrial development cooperation efforts to implement those and other frameworks for action, most importantly the forthcoming Pact for the Future and global digital compact.