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Report of the Intergovernmental Group of Experts on E-commerce and the Digital Economy on its eighth session

Held at the Palais des Nations, Geneva, from 12 to 14 May 2025

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Contents

Introduction

The eighth session of the Intergovernmental Group of Experts on E-commerce and the Digital Economy was held at the Palais des Nations, Geneva, from 12 to 14 May 2025.

I. Action by the Intergovernmental Group of Experts on E-commerce and the Digital Economy

A. Making digitalization work for inclusive and sustainable development (Agenda item 3)

Agreed policy recommendations

The Intergovernmental Group of Experts on E-commerce and the Digital Economy,

Recalling paragraph 100 (r) of the Nairobi Maafikiano (TD/519/Add.2), which called for the establishment of an intergovernmental group of experts on electronic commerce (e-commerce) and the digital economy,

Recalling the Bridgetown Covenant (TD/541/Add.2), in which member States instructed UNCTAD to strengthen the work on assisting developing countries to systematically assess their state-of-play and readiness to engage and integrate into the digital economy, thus contributing to the closing of the digital divide; and to conduct work across its three pillars on the development dimension of the use of data and frontier technologies,

Recalling in particular paragraph 11 (e) of the Global Digital Compact (A/RES/79/1) on promoting sustainability across the life cycle of digital technologies in the context of sustainable development and efforts to eradicate poverty,

Recognizing the role of e-commerce and the digital economy in contributing to the 2030 Agenda for Sustainable Development and the timeliness of the deliberations at this session of the Intergovernmental Group of Experts in the light of related processes in the United Nations, such as the World Summit on the Information Society 20-year review and the implementation of the Global Digital Compact,

Acknowledging the environmental footprint of the digitalization process and the need for a circular economy, as examined in *Digital Economy Report 2024: Shaping an Environmentally Sustainable and Inclusive Digital Future*,

Noting with concern the persistent digital divides and that countries face growing exposure to environmental impacts associated with the life cycle of digitalization, while recognizing that many developing countries have limited access to digital technologies to mitigate negative environmental effects,

1. *Calls for* global action by all stakeholders to bridge digital divides between and within countries and to expand equitable and affordable access to digital technologies, to unlock the potential of the digital economy;

2. *Invites* Governments and the international community to promote international cooperation, including through financial resource mobilizations, capacity-building and technology innovation, and to develop and implement policies that can help countries better face the challenges posed by digital transformation and environmental sustainability, while balancing them with benefits;

3. *Calls on* all stakeholders to work towards enhancing the understanding of the environmental footprint of digitalization; and welcomes relevant initiatives in this regard;

4. *Encourages* Governments, in consultation with other stakeholders, to consider environmental objectives in digitalization policies, and digital dimensions in environmental policies;

5. *Stresses* the importance of development-oriented policies and international cooperation, to enhance value addition in natural resource-rich countries and promote the integration of developing countries into higher-value production processes and environmental, social and governance-related standards in supply chains;

6. *Encourages* Governments and relevant stakeholders to explore policies and environmental, social and governance-related standards for the development of data centres to become more energy and water efficient, as well as environmentally sustainable, especially in view of the growing use of compute-intensive technologies, such as artificial intelligence, and other related frontier technologies;

7. *Encourages* Governments and relevant stakeholders to promote responsible and sustainable production and consumption and strengthen circularity in the digital economy;

8. *Encourages* the adoption of policies for the responsible management of digitalization-related waste, including by strengthening the enforcement of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal;

9. *Calls on* the international community, development partners and relevant organizations to support developing countries, particularly the least developed countries and small island developing States, in strengthening their readiness to harness digital opportunities in an environmentally sustainable manner, including through targeted efforts to address the needs of developing countries;

10. *Calls on* UNCTAD to continue supporting countries in strengthening their readiness for digital transformation by integrating the sustainable development dimension of digitalization across its three pillars of work.

Closing plenary meeting
14 May 2025

B. Other action taken by the Intergovernmental Group of Experts on E-commerce and the Digital Economy

1. Making digitalization work for inclusive and sustainable development
(Agenda item 3)

1. At its closing plenary meeting, on 14 May 2025, the Intergovernmental Group of Experts on E-commerce and the Digital Economy adopted a set of agreed policy recommendations (chapter I, section A).

2. Working Group on Measuring E-commerce and the Digital Economy
(Agenda item 4)

2. At a meeting on 14 May 2025, the Intergovernmental Group of Experts agreed on the following topics for the sixth meeting of the Working Group on Measuring E-commerce and the Digital Economy:

(a) Progress in measuring e-commerce and the digital economy by relevant international organizations.

(b) Measuring the value of e-commerce.

(c) Updating the core indicators on information and communications technology use by businesses and on the information and communications technology sector.

(d) Developing capacities in measuring e-commerce and the digital economy.

3. Provisional agenda of the ninth session of the Intergovernmental Group of Experts on E-commerce and the Digital Economy
(Agenda item 5)

3. At its closing plenary meeting, on 14 May 2025, the Intergovernmental Group of Experts decided that, as time constraints had not allowed for finalization and selection of the topic and guiding questions for its next session, the final topic would be submitted to the Trade and Development Board for approval, together with the provisional agenda of the ninth session that would reflect the topic selected. Regional coordinators and member States were encouraged to conduct consultations on proposals, with a view to reaching an agreement on the topic and guiding questions.

II. Chair's summary

A. Opening plenary meeting

4. The Secretary-General of UNCTAD delivered a statement, followed by statements made by the following speakers: the representative of Peru, speaking on behalf of the Group of 77 and China; the representative of the Egypt, on behalf of the African Group; the representative of Guatemala, on behalf of the Group of Latin American and Caribbean Countries; the representative of Australia, on behalf of the JUSSCANNZ group; the representative of Malaysia, on behalf of the Asia–Pacific Group; the representative of the Dominican Republic, on behalf of small island developing States; the representative of the Pacific Islands Forum; the representative of Nepal, on behalf of the least developed countries; the representative of The Bahamas, on behalf of countries of the Caribbean Community; the representative of the Universal Postal Union; the representative of the Islamic Republic of Iran; the representative of Japan; the representative of Kenya; the representative of Tunisia; the representative of Saudi Arabia; the representative of Cameroon; the representative of Bangladesh; the representative of the Russian Federation; the representative of China; the representative of Indonesia; the representative of Libya; and the representative of Mauritania.

5. In her opening remarks, the Secretary-General of UNCTAD emphasized the urgent need to align digitalization with inclusive and sustainable development. Digital technologies offered significant opportunities, yet also risked increasing inequality, particularly in the least developed countries. As detailed in *Digital Economy Report 2024*, the environmental footprint of digitalization was growing, with increasing electronic waste (e-waste), resource extraction, greenhouse gas emissions and water consumption. The Secretary-General stressed the need for digital strategies that embedded sustainability by design, guided by frameworks such as the Global Digital Compact. She noted that the Intergovernmental Group of Experts on E-commerce and the Digital Economy served as a platform through which countries could exchange good practices and develop effective policies and that UNCTAD supported such efforts through relevant workstreams, including technical assistance and research initiatives focused on critical minerals, data governance and e-commerce and the environment.

6. The Head, E-Commerce and Digital Economy Branch, Division on Technology and Logistics, UNCTAD, introduced the background document titled "Making digitalization work for inclusive and sustainable development" (TD/B/EDE/8/2), underscoring the need to address the full life cycle impacts of digitalization, particularly the significant and growing material and energy- and water-related footprint, and noting that developing countries had limited means to benefit from digitalization yet bore disproportionate burdens. He drew attention to the increasing demand for critical minerals, often sourced from a few countries, and the environmental and geopolitical risks. Compute-intensive technologies, such as artificial intelligence, had further intensified environmental pressures, leading to the significant growth of data centre energy and water use. Against this background, he stressed the need for stronger national and international action, based on the principle of common but differentiated responsibilities, and for digitally developed countries to lead the shift to sustainable digitalization and support less digitally advanced

countries in better harnessing digitalization for development. Finally, the Head presented the three guiding questions to be considered, as follows:

(a) What are the main environmental impacts of digitalization over its life cycle and how can they be addressed, and what are the implications from the trade and development perspective, particularly for developing countries?

(b) How can sustainable development gains from digitalization be ensured over its life cycle, looking particularly, among others, at critical minerals linked to the digital transformation process and waste management?

(c) How can national, regional and international policymaking and cooperation contribute to digitalization that is sustainable and inclusive and addresses environmental impacts, in particular for those furthest behind?

7. The representatives of several regional groups and a few delegates broadly agreed that *Digital Economy Report 2024* provided a timely and valuable analysis of the interlinkages between digitalization, environmental sustainability and inclusive development. The representatives of some regional groups and some delegates noted that digitalization presented opportunities, yet also imposed significant environmental burdens, particularly on many developing countries, due to increased resource extraction, energy and water consumption and e-waste generation. The representative of one regional group and a few delegates noted the role of large digital companies, in particular the lack of oversight and technology sector accountability. The representatives of some regional groups and several delegates underscored the need for equitable, cooperative global efforts, to ensure that digitalization supported inclusive and sustainable development and helped bridge the digital divide. In addition, the representatives of some regional groups and several delegates highlighted the importance of technology transfer, technical assistance and financing in enabling developing countries to harness the digital transformation for sustainable development. Further, the representative of one regional group and one delegate stressed the need for stronger global rules, equitable digital value chains and the application of the principle of common but differentiated responsibilities.

8. The representatives of some regional groups and several delegates affirmed the role of UNCTAD in helping developing countries navigate digitalization sustainably and emphasized the need for strengthened support and mandates at the upcoming sixteenth session of the United Nations Conference on Trade Development. In addition, the representatives of an intergovernmental group and an international organization and some delegates shared experiences in enhancing digital connectivity, advancing sustainable e-commerce, improving regulatory and policy frameworks and delivering targeted technical assistance to women- and youth-led microenterprises and small and medium-sized enterprises. Finally, one delegate detailed national initiatives linking the digital economy and green practices, such as promoting eco-friendly delivery methods, solar-powered logistics and recyclable packaging and expressed willingness to offer training programmes, to assist other developing countries and microenterprises and small and medium-sized enterprises in building capacity in the digital economy.

9. The first keynote speaker, Senior Expert, Digital Change and Sustainability Transformation, German Environment Agency, highlighted three key shifts needed in aligning digital transformation with sustainability. First, building strong foundations through digital literacy, institutional capacity and updated governance frameworks, noting that the current global discourse was dominated by large technology companies with minimal input from civil society. Second, making digital infrastructure sustainable by design through green technologies, life cycle assessments and inclusive governance. Third, scaling digital innovations that supported environmental and social goals, while avoiding harmful digital practices and the concentration of power. Finally, he noted the need for systemic thinking, equity and proactive engagement in steering digital change towards benefiting both people and the planet, highlighting the importance of global efforts such as the Global Digital Compact, along with the thirtieth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change.

10. The second keynote speaker, an independent researcher and the author of *Tecnologías para un planeta en llamas*, explored the intersection of technology and social

justice. She underscored that digital development could not be inclusive unless it was also environmentally sustainable and that different interpretations of sustainability among Governments, communities and technology companies led to social and political tensions. The speaker stressed the need for a shift toward techno-diversity, promoting alternative, community-driven digital systems over extractive, centralized models. Citing *Digital Economy Report 2024*, she emphasized that the environmental costs of digitalization were disproportionately borne by developing countries. Finally, to foster a more sustainable digital economy, the speaker identified the following four priorities: enhance cooperation; produce transparent and verifiable data; promote inclusive decision-making by affected communities; and embed biodiversity and local needs into digital strategies.

11. In response to a query from one participant on the inclusion of researchers from developing countries, the first speaker stressed that greater cooperation was required in this regard. In response to a query from one delegate on issues of finance, the speakers highlighted the impacts of e-commerce and other types of digital applications, including the environmental impacts, and the need to verify sustainability data reported by large technology companies.

B. Making digitalization work for inclusive and sustainable development
(Agenda item 3)

12. Under the agenda item, the Intergovernmental Group of Experts on E-commerce and the Digital Economy held four round-table discussions, which addressed the three guiding questions.

1. Production phase of the digitalization life cycle: Transition minerals, trade and development

13. Panellists for the first discussion comprised the following: Senior Researcher, Climate Justice Team, Centre for Research on Multinational Corporations; Senior Africa Economic Analyst, Natural Resource Governance Institute; and Community Development, Corporate Social Responsibility and Artisanal Small-Scale Gold Mining Specialist, Levin Sources.

14. The first panellist addressed the interconnection between the digital transition and the transition to low-carbon energy, driving the increasing demand for critical minerals and metals. He noted the geographic concentration in extraction and refining and market concentration, with only a few multinational and State-owned enterprises. Developing countries were in the lead in terms of reserves and production, yet asset ownership and the control of value chains often rested with companies based in high-income countries. The panellist underscored how developing countries bore disproportionate social and environmental costs with regard to mining, including water depletion, pollution, biodiversity loss, conflicts and human rights violations, particularly on Indigenous lands, while high-income countries captured most of the value addition. In addition, he highlighted that current trade and investment regimes often constrained the efforts of producer countries to promote domestic value addition and noted the need for reforms that respected national policy space, promoted local value addition and established binding environmental and human rights safeguards. Finally, the panellist stressed the need for a global shift towards material sufficiency, circularity and equitable benefit-sharing, as articulated by the Panel on Critical Energy Transition Minerals of the United Nations Secretary-General.

15. The second panellist shared insights on how resource-rich countries in Africa could leverage resources for sustainable and equitable development in the digital and energy transitions. He noted that significant reserves of key transition minerals could supply a significant share of the minerals needed for the transitions globally and generate up to $300 billion in government revenue by 2050, if effectively managed. He stressed the importance of mining delivering value for citizens, environmental integrity and a just transition, noting past injustices with regard to extractive industries, including environmental degradation, low value addition and tax avoidance, and underlining that

Governments needed to address such injustices, such as through stronger regional coordination and the implementation of the Green Minerals Strategy of the African Union. The panellist noted recent geopolitical shifts that could offer both opportunities and risks for resource-rich developing countries, emphasizing the need to uphold strong governance standards while asserting national priorities, and outlined the following six levers for equitable value addition: clear evidence-based strategies; efforts to minimize socioenvironmental harm; tailored policy tools; anti-corruption safeguards; financial and technical support; and greater transparency and multi-stakeholder participation. Finally, the panellist stated that countries in Africa, rather than preferential treatment, could seek equitable engagement and fair opportunities, to contribute to and benefit from the global transition economy, since successful practices already existed and needed to be applied consistently.

16. The third panellist provided an overview of nickel mining in Indonesia, emphasizing the ambition of Indonesia to become a key player in the global battery and electric vehicle sectors, with some of the world's largest nickel reserves. The sector had recently contributed significantly to the national economy, through tax revenues, royalties and foreign direct investment, mainly from China, and nickel mining had also generated employment and local economic activity, supported by local content requirements and community development plans. The panellist outlined persistent challenges, including with regard to governance issues, dependence on foreign investment, limited downstream industry development and adverse social and environmental impacts, such as deforestation, water contamination, reliance on fossil fuels, livelihood disruption, human rights violations and conflicts over land rights. She highlighted policy recommendations with regard to decentralizing oversight, adopting cleaner energy, enhancing circularity, strengthening local content and community programmes, ensuring law enforcement and respecting the rights of Indigenous Peoples. Finally, with regard to mining companies, the panellist stressed the need to comply with environmental and social laws and standards and the need for development cooperation, to support the energy transition in Indonesia and strengthen governance and community capacities and resilience.

17. During the ensuing discussion, a few delegates addressed how resource-rich developing countries could maximize benefits from minerals while avoiding the pitfalls of extractive models. One delegate addressed existing policies to improve technology transfer in critical mineral value chains, while stressing the importance of interregional cooperation, particularly between Africa and Latin America. A few delegates addressed good practices in accessing concessional finance and how countries could strengthen local value addition. One delegate shared the experience of Indonesia in leveraging critical minerals for value addition and noted upcoming initiatives in this regard. Another delegate noted the difficulties of monitoring mining operations and addressed good practices in monitoring the implementation of recommendations. With regard to a query from the secretariat on ensuring that the current global surge in mineral demand delivered genuine development gains, the panellists stressed the need for long-term national strategies, stronger regional coordination, financing to de-risk investment, mandatory environmental and human rights due diligence, greater transparency and value addition, as well as standards for technology transfer in trade agreements.

2. Use phase: Data centres and artificial intelligence

18. Panellists for the second discussion comprised the following: Associate Professor, Electrical and Computer Engineering, University of California, Riverside, United States of America; Assistant Professor in Ethics, Artificial Intelligence and Society, King's College London; Coordinator, Science, Technology and Innovation Unit, Abdus Salam International Centre for Theoretical Physics; and Executive Director, Algorithm Watch Switzerland and Executive Board Member, Algorithm Watch, Berlin.

19. The first panellist highlighted the uneven distribution of the public health and environmental costs with regard to artificial intelligence, noting several concerning trends, such as the rapidly increasing energy consumption of artificial intelligence-driven data centres and their substantial carbon footprint and intensive use of water resources. The panellist detailed the contribution of artificial intelligence to air pollutants and the

associated negative impacts on public health; in the United States, the public health cost of data centres rivalled that of on-road emissions in the largest states, and this burden was disproportionately borne by certain regions, particularly those supplying power to artificial intelligence facilities. Finally, to mitigate such impacts, the panellist emphasized the importance of the strategic siting of hyperscale data centres, as their locational flexibility provided an opportunity to rebalance environmental and health costs globally.

20. The second panellist discussed environmental activism in response to artificial intelligence data centres, detailing global trends and an example from Chile, in which, in 2019, a private-sector data centre project in a drought-affected area had led to the formation of an environmental movement by local activists who had lobbied for the inclusion of a question on the data centre in a local referendum. The referendum result was non-binding, but the results had served to strengthen the position of the community in negotiations with the private company, and a court in Chile had required the company to reassess the environmental impact of the project, particularly with regard to water use; these outcomes had inspired protests in Uruguay against a similar initiative. Finally, the panellist highlighted the notable power disparities in this type of activism, with influential companies set against local communities that often lacked technical and legal expertise, and proposed policy measures involving the funding of community support through technology companies, the promotion of experience-sharing between communities and the encouragement of civil society engagement.

21. The third panellist detailed a potential alternative to large machine-learning models through the technique of tiny machine learning, which enabled machine learning on small devices capable of successfully running narrow artificial intelligence models. Tiny machine learning was the fastest growing field of machine learning, operating through on-device sensor analytics, with low power consumption levels and the potential to be fully sustainable in the long term. The underlying technology, microcontrollers, was relatively slow, with limited memory, but consumed less power and offered a low-cost solution with a high level of accuracy. The panellist noted that the technology was already used in health devices and other practical appliances, benefiting from autonomous connectivity, low-cost equipment, power resilience and appropriate user interfaces. Finally, the panellist presented several examples of the use of tiny machine learning for development in developing countries, including projects in Benin, Brazil, Malaysia, Malawi and Zimbabwe, and underlined the value of supporting education and skills development in this technology, as part of broader digital capacity-building efforts.

22. The fourth panellist highlighted the need for the governance of artificial intelligence data centres. She described the multidimensional nature of artificial intelligence sustainability, including environmental, social and economic aspects. The panellist noted that technology companies pursued ever more powerful artificial intelligence systems at a rapid pace, which could lead to increased reliance on energy sources such as nuclear energy or fossil fuels. The use of artificial intelligence itself might support sustainability goals, yet the potential was offset by increased fossil fuel demand and the broader footprint of such use across the value chain. With regard to governance, the panellist stressed the need to reduce the footprint of artificial intelligence infrastructure, including data centres, and to ensure responsibility among providers across the supply chain. Finally, the panellist emphasized the importance of artificial intelligence sustainability and the need for evidence-based, transparent and accountable governance frameworks.

23. During the ensuing discussion, some delegates shared reflections on the artificial intelligence divide experienced among developing countries, seeking suggestions on how to leverage artificial intelligence for sustainable development while ensuring environmental sustainability. Some participants considered how international cooperation could address artificial intelligence-related and sustainability gaps. A few delegates and one expert shared ideas related to reducing the environmental impact of data centres, including with regard to optimizing technology, balanced decision-making and the role of Africa in view of the potential for renewable energy and carbon sequestration. A few participants emphasized the importance of engaging communities, seeking further information on mechanisms used in Chile. A few other participants considered the possible limitations of environmental impact assessments, as well as the feasibility of a comprehensive cost-benefit assessment of

artificial intelligence. One delegate noted the achievements of the Artificial Intelligence Action Summit in February 2025, emphasizing the recent establishment of a Coalition for Sustainable Artificial Intelligence, involving 96 partners.

3. End-of-life phase: Digitalization-related waste and the circular digital economy

24. Panellists for the third discussion comprised the following: Associate Programme Officer, Sustainable Cycles Programme, United Nations Institute for Training and Research; Director, Digital Research, Digital Cooperation Organization; Professor, Applied Economics, University of Santiago de Compostela, Spain; and Global Sustainability Director, Lenovo.

25. The first panellist provided an overview of global e-waste challenges and opportunities, highlighting that, in 2022, 62 billion kg (7.8 kg per capita) of e-waste had been generated and only 22 per cent had been formally recycled. She stated that e-waste generation outpaced formal collection at a nearly fivefold rate and emphasized regional disparities, with Europe leading in formal collection (43 per cent) and Africa lagging (1 per cent); Asia generated 50 per cent of global e-waste. In addition, of 5.1 billion kg of e-waste shipped across borders, 0.8 billion kg was exported in an uncontrolled manner from high- to lower-income countries and, while 81 countries had adopted e-waste legislation, fewer than half included targets for collection or recycling. To address such concerns, the panellist recommended strengthening legislation and enforcement, improving control over cross-border shipments, integrating the informal sector into formal systems and prioritizing prevention, reuse and recycling over disposal. Finally, the panellist emphasized that achieving a global recycling rate of 60 per cent by 2030 would require action on all of these fronts.

26. The second panellist discussed a newly launched e-waste management framework developed to help countries manage e-waste sustainably and equitably. Noting that global e-waste levels could reach 80 billion kg by 2030, he stated that e-waste generated significant environmental and health risks, including mercury and carbon dioxide exposure for over 11 million informal workers. In addition, global e-waste generated approximately $5.1 billion in economic benefits, yet incurred $88 billion in social, environmental and e-waste treatment-related costs. The panellist stated that achieving a 60 per cent recycling rate by 2030 could unlock $38 billion in global benefits; however, there were several common challenges to be addressed at the national and international levels, including the lack of dedicated e-waste management policies; limited infrastructure for adequate e-waste collection, treatment and recycling; a low level of public awareness of safe e-waste disposal methods; and the frequent importation of e-waste under the label of “used electronics”. The framework, developed through benchmarking and with member State consultations, outlined four pillars for effective e-waste policy, namely, regulation, investment, human capital and infrastructure, and spanned the full value chain, included an implementation guide and promoted cross-border cooperation. Finally, the panellist stressed the importance of early engagement, aligned definitions, cross-border extended producer responsibility and the inclusion of the informal sector.

27. The third panellist shared findings from a project on the circular economy of electrical and electronic equipment in Latin America. He highlighted limited regional production capacity, the low level of formal e-waste collection and low recycling rates (3–4%), with the informal sector playing a significant yet hazardous role. The panellist stated that countries faced challenges, including weak infrastructure, low levels of regulatory enforcement and a reliance on imported goods, with little control over repairability and, in this regard, recommended industrial and technological policies, to boost domestic production; regulation and incentives, to promote repair and reuse; investment in waste-related infrastructure; and the professionalization of the informal sector. Finally, the panellist noted the need for stronger enforcement of the Basel Convention and global action, to curb the planned obsolescence of products.

28. The fourth panellist highlighted a private sector perspective, detailing circular economy practices across the product life cycle at Lenovo. She noted that growing consumer and investor pressure, raw material shortages, regulatory developments and environmental concerns were accelerating the shift towards circularity. The strategy at

Lenovo focused on circular design; extending the product life through refurbishment and services; and responsible end-of-life recovery. The company used recycled materials, scored highly on repairability and offered device-as-a-service and asset recovery programmes. Finally, the panellist noted challenges, such as with regard to fragmented regulations and the lack of standardized metrics, along with the need for Governments to support circularity through policy frameworks, including standardized regulation and incentives; infrastructure investment; education and training; innovation support; public procurement; and global cooperation.

29. During the ensuing discussion, one delegate expressed concern with regard to the global governance of e-waste and the need for extended producer responsibility and take-back schemes, as well as for technical assistance in establishing centralized electrical and electronic equipment registries and e-waste inventories. One participant, expressing concern about the accuracy of the reported formal e-waste recycling rate of 22 per cent, stressed the need for more circular policy approaches. In response to a query from the secretariat on the feasibility of service-based business models and cross-border extended producer responsibility, a few panellists highlighted the shift from product-centric to service-led circular economy practices and the challenges related to device traceability, emphasizing the importance of import registries, port inspections and multi-agency coordination. In addition, a few experts addressed underreporting in e-waste data and low collection rates, including in the European Union, and noted a recent framework for supporting e-waste management and information and communications technology sustainability.

4. Towards a holistic international policy approach to making digitalization work for inclusive and sustainable development

30. Panellists for the fourth discussion comprised the following: Economic Affairs Officer, UNCTAD; Coordinator, Digital Transformation Subprogramme, United Nations Environment Programme; and Senior Researcher, Master Plural Economics, University of Siegen, Germany.

31. The first panellist discussed findings in *Digital Economy Report 2024*, which addressed the interconnected challenges of digitalization, environmental sustainability and inclusive and equitable development. Policies needed to be coordinated to reduce the environmental footprint of digitalization, reverse unequal trends in ecological exchange, reduce digital divides and market power imbalances and move from linear production to a circular digital economy. She noted that most minerals needed for the energy transition were also essential for digital technologies. Finally, the panellist highlighted the Panel on Critical Energy Transition Minerals of the United Nations Secretary-General as a multilateral initiative grounded in equity and sustainability, with actionable recommendations that offered relevant lessons for digital and environmental policy integration.

32. The second panellist shared insights from ongoing analysis by the United Nations Environment Programme of environmental sustainability concepts in national digital policy frameworks, which used agentic artificial intelligence and vibe coding to review 361 digital transformation, artificial intelligence and data-related strategies from 147 countries, assessing whether they included concepts linked to environmental impacts, sectoral applications or sustainability outcomes. Preliminary results showed that only 23 per cent of frameworks had a strong environmental content, with “environmental sustainability” as the most cited aspects and “critical minerals” and “e-waste” as the least cited aspects. The panellist stated that countries could eventually use this method to flag gaps in national digital policy frameworks, monitor environmental aspects of the implementation of the Global Digital Compact and/or assess whether environmental policies considered digital dimensions. Experts were invited to provide feedback that could help refine the methodology.

33. The third panellist stated that digitalization had been expected to drive environmental progress, yet efficiency gains had largely been offset by the environmental footprint and by rebound effects, resulting in a near zero-sum outcome. He proposed a holistic approach to policy coherence, embedding sustainability goals into digital policies

and ensuring that digital tools supported environmental objectives. The principle of digital sufficiency was central in this regard, since it advocated for limiting device proliferation and compute intensity, while promoting digitalization that enabled more sustainable modes of living and production. Finally, the panellist emphasized that digital transformation needed to be part of a broader socioecological shift, guided by regulation and structural change rather than market forces alone.

34. During the ensuing discussion, one delegate expressed concern that Africa had become a dumping ground for e-waste originating in developed regions. In response to a query from one expert on how developing countries could assign differentiated responsibility for e-waste, the panellists suggested that large technology companies accruing the most value added from digitalization could also bear the main environmental responsibility and that countries could use national competition policy to influence accountability among such companies, although international support was also required, to bolster the leverage of developing countries, and, at the regional level, instruments such as digital product passports could extend producer responsibility and the traceability of digital waste flows; environmental sustainability also needed to be considered when designing digital products. The discussion served to highlight the principle of common but differentiated responsibilities and the need to tailor obligations according to the contributions and capacities of countries and companies.

C. Working Group on Measuring E-commerce and the Digital Economy
(Agenda item 4)

35. The Chair of the fifth meeting of the Working Group on Measuring E-commerce and the Digital Economy presented the report of the meeting (TD/B/EDE/8/3). The Working Group had discussed global progress in measuring e-commerce and the digital economy, including leveraging non-survey sources of data by a variety of stakeholders in digital economy statistics and the development of guidelines to measure the value of cross-border e-commerce. The Chair noted that the working group was valued by producers of official statistics, who needed to keep up with the evolving digital economy and provide an evidence base for policymaking, and urged the Intergovernmental Group of Experts to seek a way to reinstate hybrid meetings and support in-person attendance by developing countries at meetings of the working group, to maximize knowledge exchanges. Finally, the Chair underscored the need for continued financial and policy-related support, to enable UNCTAD methodological and capacity-building work.

36. The experts agreed on the proposed topics for its sixth meeting (see chapter I).

III. Organizational matters

A. Election of officers
(Agenda item 1)

37. At its opening plenary meeting, on 12 May 2025, the Intergovernmental Group of Experts on E-commerce and the Digital Economy elected Ms. Fancy Chepkemoi Too (Kenya) as its Chair and Mr. Andrei Rusu (Romania) as its Vice-Chair-cum-Rapporteur.

B. Adoption of the agenda and organization of work
(Agenda item 2)

38. Also at its opening plenary meeting, the Intergovernmental Group of Experts adopted the provisional agenda, as contained in document TD/B/EDE/8/1. The agenda was thus as follows:

1. Election of officers.
2. Adoption of the agenda and organization of work.

3. Making digitalization work for inclusive and sustainable development.

4. Working Group on Measuring E-commerce and the Digital Economy.

5. Provisional agenda of the ninth session of the Intergovernmental Group of Experts on E-commerce and the Digital Economy.

6. Adoption of the report of the Intergovernmental Group of Experts on E-commerce and the Digital Economy.

C. Adoption of the report of the Intergovernmental Group of Experts on E-commerce and the Digital Economy

(Agenda item 6)

39. At its closing plenary meeting, on 14 May 2025, the Intergovernmental Group of Experts on E-commerce and the Digital Economy authorized the Vice-Chair-cum-Rapporteur, under the authority of the Chair, to finalize the report on its eighth session after the conclusion of the session.

Annex

Attendance*

1. Representatives of the following States members of the Conference attended the session:

Angola
Armenia
Australia
Bahamas (The)
Belgium
Bhutan
Bolivia (Plurinational State of)
Brazil
Cambodia
Cameroon
China
Colombia
Congo
Costa Rica
Côte d'Ivoire
Democratic Republic of the Congo
Dominican Republic
Egypt
Estonia
Ethiopia
France
Gabon
Gambia
Germany
Indonesia
Iraq
Jamaica
Japan
Kenya
Malaysia
Mali
Mauritania
Nepal
North Macedonia
Pakistan
Romania
Russian Federation
Samoa
Saudi Arabia
South Sudan
Spain
Sweden
Tajikistan
Thailand
Togo
Trinidad and Tobago
Tunisia
Türkiye
United Arab Emirates
United Republic of Tanzania
Uruguay
Viet Nam
Zambia
Zimbabwe

2. The following intergovernmental organizations were represented at the session:

Commonwealth Secretariat
Organization of Islamic Cooperation
Pacific Islands Forum Secretariat

3. The following United Nations organs, bodies and programmes were represented at the session:

United Nations Environment Programme
United Nations Institute for Training and Research
World Trade Organization

4. The following specialized agencies and related organizations were represented at the session:

United Nations Educational, Scientific and Cultural Organization
United Nations Industrial Development Organization
Universal Postal Union
World Intellectual Property Organization

* This attendance list contains registered participants. For the list of participants, see TD/B/EDE/8/INF.1.