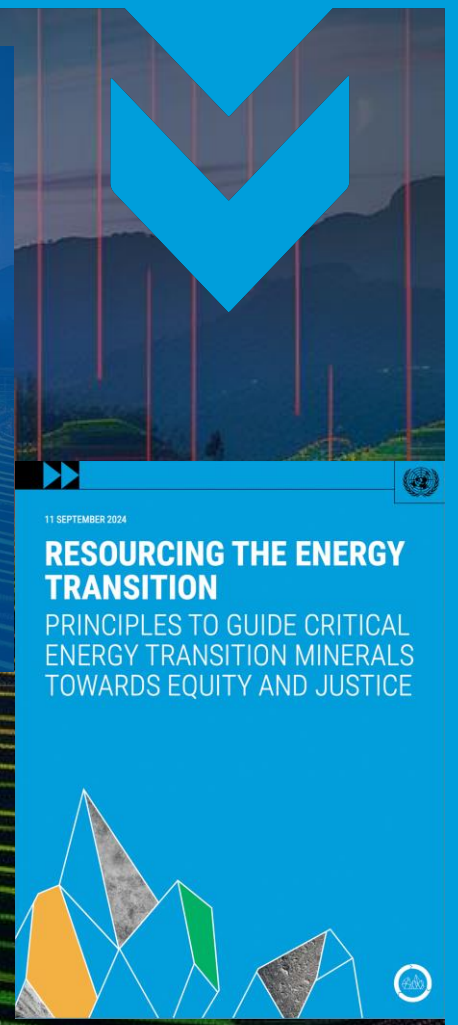
UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

Aligning digitalization with environmentally sustainable and inclusive development objectives



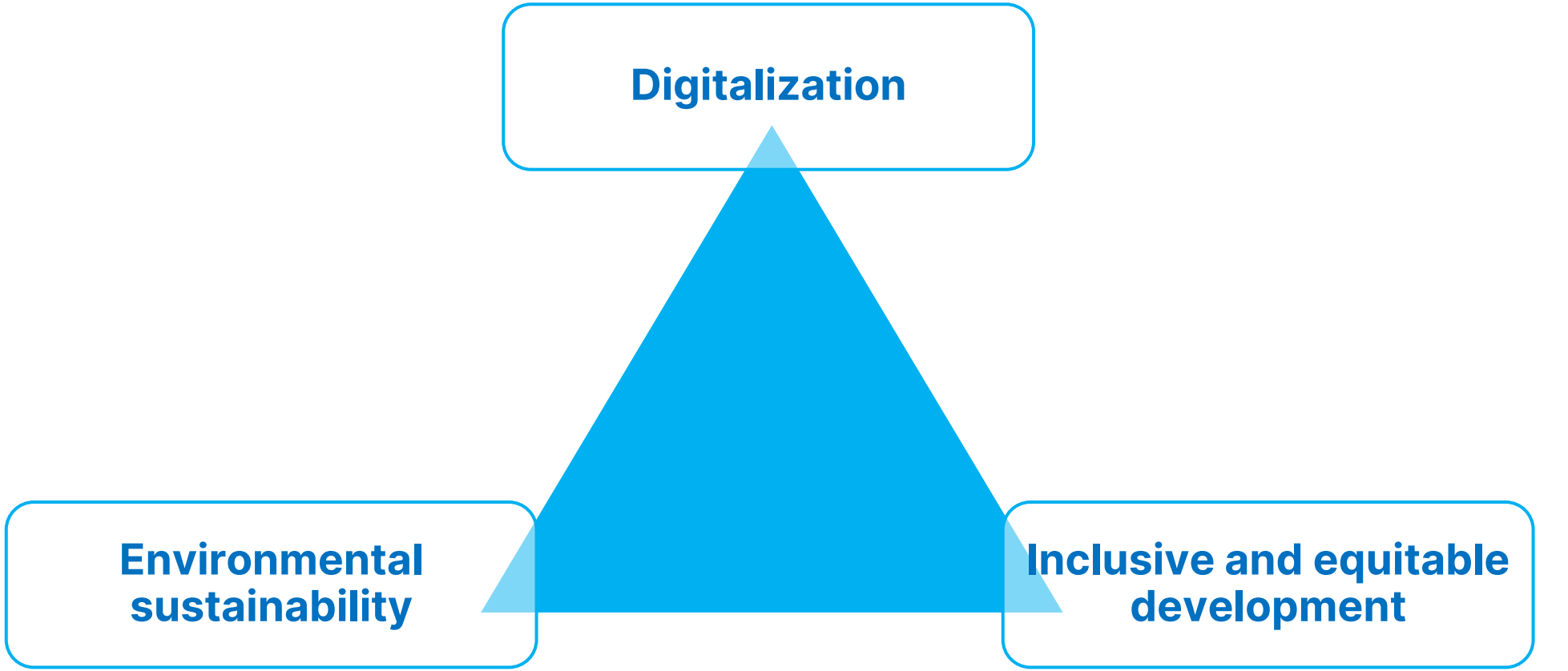
IGE on E-commerce and the Digital Economy
8th session

Pilar Fajarnés
E-commerce and Digital Economy Branch, UNCTAD

14 May 2025
Palais des Nations

UN trade & development
UNCTAD

Three interconnected global challenges



Actions and policies to shape digitalization

***OBJECTIVE*: Digitalization that works for people and the planet**

Reduce environmental footprint of digitalization

Reverse unequal ecological exchange trends: Minerals and digitalization-related waste trade

Reduce digital divides and market power imbalances

From linear production to circular digital economy

> ***Maximize inclusive and sustainable development opportunities of digitalization*, while *minimizing negative socioeconomic and environmental impacts***

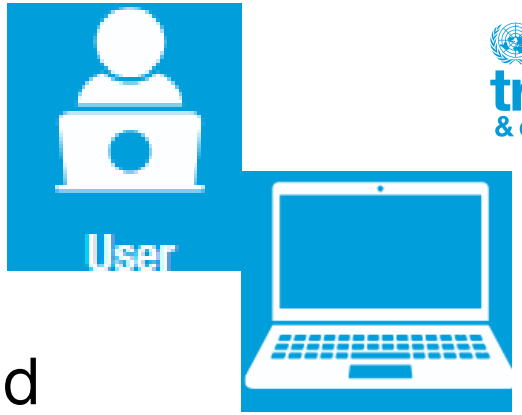
The policy approach for rethinking consumption and production patterns:

Comprehensive and collaborative

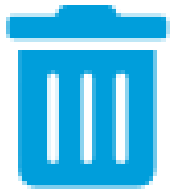
1. MULTISTAKEHOLDER

- Consumers/users
- Private sector
- Policymakers
- Civil society

What consumers/users can do:



- More sustainable digital lifestyles and habits
- Increase interest and awareness on environmental and socioeconomic impacts of digitalization
- Embrace sufficiency and sobriety practices
- Reduce overconsumption
- Reuse
- Repair
- Recycle

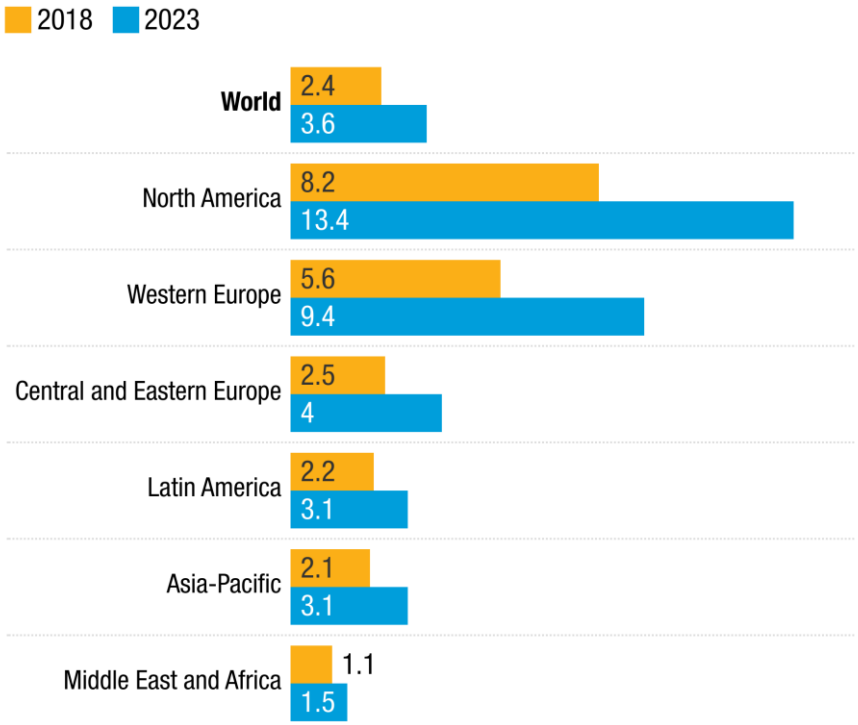


Minimize disposal

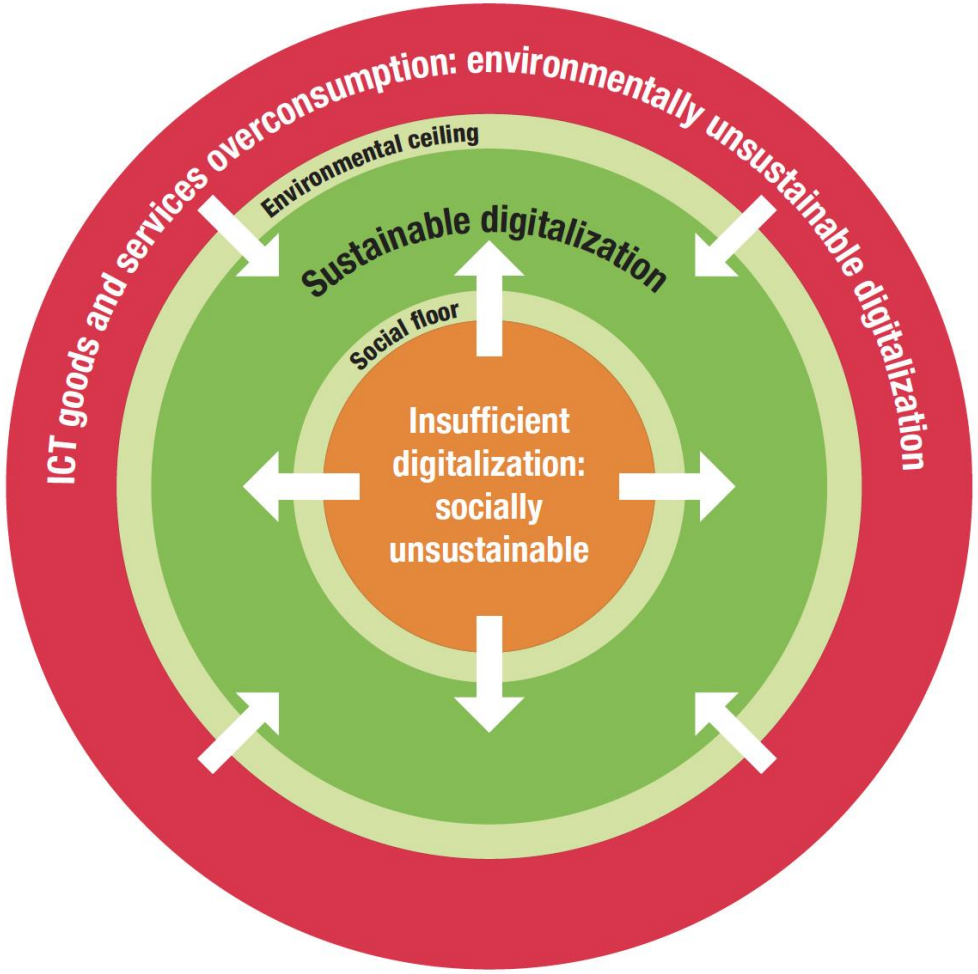
Inequality: it is not about less digitalization but better digitalization

Significant increase in devices per capita in developed countries

Average number of devices and connections per capita, by region, 2018 and 2023



Source: UN Trade and Development (UNCTAD) calculations based on Cisco.
Note: Country groups are those of the source.



Principle of common but differentiated responsibilites

What businesses can do:

New business models for sustainability and circularity

- Design for sustainability and circularity
- Responsible and sustainable mining and electronics manufacturing practices
- Durability of products
- Product as a service
- Modularity
- Repairability
- Transparency and accountability
- Use of renewable energy and recycled materials

Potencial for development: *Opportunities for value creation from recovered resources, increased economic activity and employment generation*

The role of policymakers

PRECONDITIONS:

- Enhaced understanding of the environmental and socioeconomic impacts of digitalization: measurement, research, information transparency
- Increased awareness on impacts

POLICY OPTIONS:

- Standards and regulations for measuring, impact reporting, waste management (including extended producer responsibility), circularity, sustainability and responsibility of production
- Improve traceability
- Diversification and value addition strategies
- Fair distribution of mineral proceeds (contract negotiations and taxation)
- Technology, industrial and infrastructure policies
- Lead by example: sustainability in public procurement of electronic equipment
- Regulation against programmed obsolescence and for right to repair
- Counter/ban greenwashing and regulate advertising
- Prevent international flows of digitalization-related waste

Monitoring

Enforcement

Role of civil society:

Calling attention to issues of concern, raising awareness and demanding policy changes

- Environmental and human rights impacts of mining activities
- Working conditions
- Impacts of data centres
- Right to repair

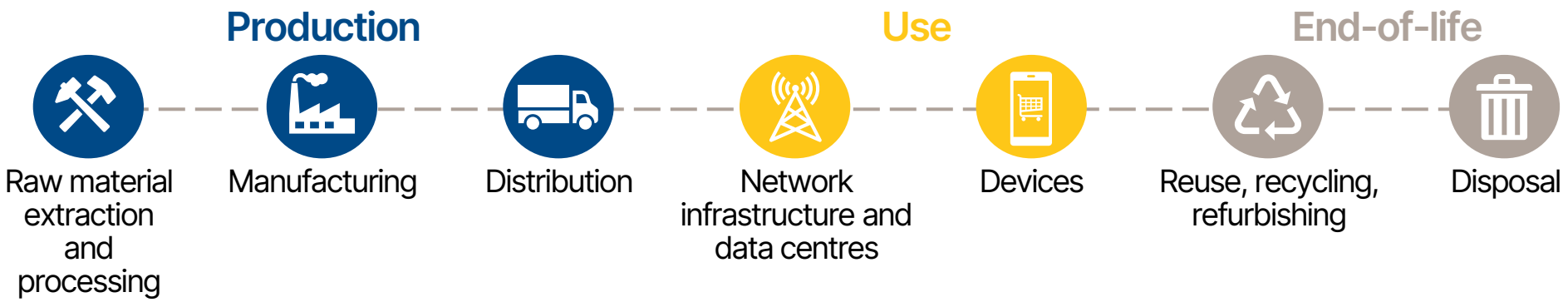
POLICY APPROACH (continued)

2. INTEGRATED

- Socioeconomic development, environmental and digitalization divides are interrelated, and require to be addressed in an integrated, systemic way
- Strengthen integration of environmental sustainability and digital development in national development strategies

3. HOLISTIC

- Looking at all impacts over the whole life cycle and value chain of digitalization



POLICY APPROACH (continued)

4. MULTIDISCIPLINARY

Cross-sectional issues: Capacities needed in diverse, connected disciplines, including aspects related to:

- Technology
- Socioeconomic development
- Environment and climate change
- Human rights
- Ethics

POLICY APPROACH (continued)

5. MULTILATERAL

- Global interconnected challenges need to be addressed globally
- Importance of international, and regional, cooperation
    - Agreements on standards
    - Supportive international trade and investment regimes
    - Compliance with Basel convention on waste flows
    - Transfer of EPR across borders
    - Data governance
    - Taxation and competition policies
- International support for capacity building in developing countries

Photo credit: Ministry of Foreign Affairs of Denmark

Panel on critical energy transition minerals

We cannot repeat the mistakes of the past with a systematic exploitation of developing countries reduced to the production of basic raw materials. The race to net zero cannot trample over the poor.

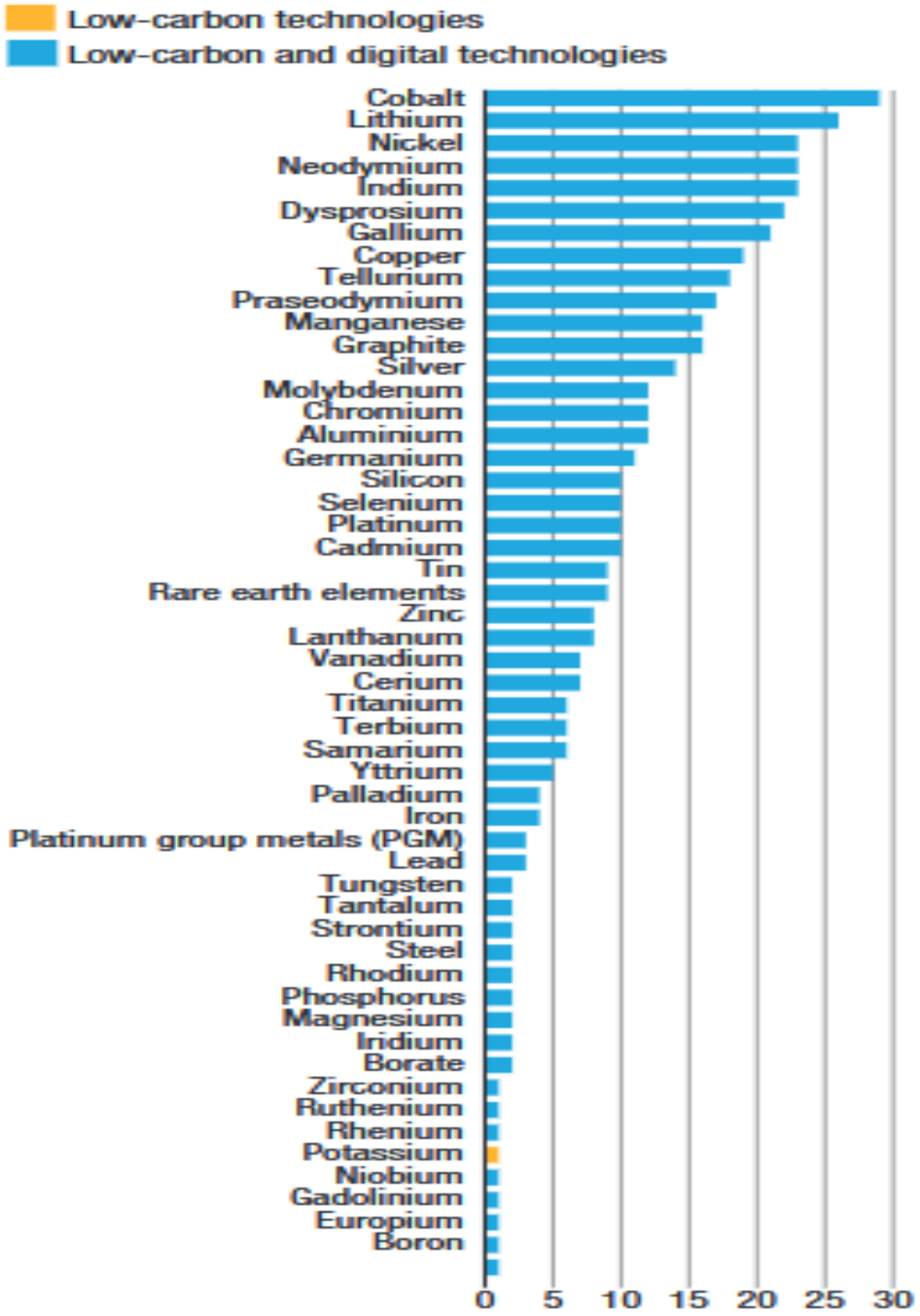
António Guterres

Secretary-General of the United Nations

11 SEPTEMBER 2024

RESOURCING THE ENERGY TRANSITION

PRINCIPLES TO GUIDE CRITICAL ENERGY TRANSITION MINERALS TOWARDS EQUITY AND JUSTICE



Minerals used in digital technologies

Number of lists compiled by countries of critical minerals/ raw materials which include a certain critical mineral/raw material, by technology

TRANSITION MINERALS

MEMBERS

Government and Intergovernmental actors

1. African Union
2. Australia
3. Botswana
4. Brazil
5. Canada
6. Chile
7. China
8. Colombia
9. Democratic Republic of the Congo
10. Egypt
11. European Union
12. India
13. Indonesia
14. Japan
15. Kazakhstan
16. Mongolia
17. Namibia
18. Nigeria
19. South Africa
20. United Arab Emirates
21. United Kingdom of Great Britain and Northern Ireland
22. United States of America
23. Viet Nam
24. Zambia
25. Zimbabwe

Non-State Actors

26. Climate Action Network International
27. Extractive Industries Transparency Initiative
28. Initiative for Responsible Mining Assurance
29. International Council on Mining and Metals
30. International Energy Agency
31. Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development
32. IndustriALL Global Union
33. International Renewable Energy Agency
34. Natural Resource Governance Institute
35. Organisation for Economic Cooperation and Development
36. Principles for Responsible Investment
37. United Nations Permanent Forum on Indigenous Issues
38. United Nations Secretary-General's Youth Advisory Group on Climate Change
39. World Bank

Guiding Principles of the UNSG's CETM Panel

Principle 1: Human rights must be at the core of all mineral value chains.

Principle 2: The integrity of the planet, its environment and biodiversity must be safeguarded.

Principle 3: Justice and equity must underpin mineral value chains.

Principle 4: Development must be fostered through benefit sharing, value addition and economic diversification.

Principle 5: Investments, finance and trade must be responsible and fair.

Principle 6: Transparency, accountability and anti-corruption measures are necessary to ensure good governance.

Principle 7: Multilateral and international cooperation must underpin global action and promote peace and security.

Actionable recommendations

- **AR1**: High-level expert advisory group to accelerate greater benefit sharing, value addition and economic diversification (*UNCTAD*)
- **AR2**: Traceability and transparency for accountability (*UNCTAD*)
- **AR3**: Global Mining Legacy Fund
- **AR4**: Empower artisanal and small-scale miners as agents of transformation
- **AR5**: Material efficiency and circularity targets across the entire life cycle to balance consumption and reduce environmental impacts

Responding to increasing mineral demand

PRODUCTION SIDE

- Increasing primary supply-extraction
- Increasing secondary supply-recycling and resource recovery (circular economy)

Technological progress *for sustainable materials, substitutes, resource efficiency, recycling methodologies*

CONSUMPTION SIDE

- Reducing excessive demand (circular economy)

From linear production (extract-make-use-waste) to circular economy based on the principles of reducing, reusing and recycling

The role of UNCTAD, along its 3 pillars

On critical minerals

- Various think pieces on critical minerals
- Secretariat of the CETM Panel-implementation
- Technical cooperation: Rapid assessment of value addition and diversification capacity in Southern Africa

Interdivisional Working Group

On digitalization that works for inclusive and environmentally sustainable development

- Digital Economy Report 2024
- Intergovernmental Group of Experts
- Technical cooperation for e-commerce and digital economy readiness in developing countries, including environmental aspects
- Contribution to relevant international processes: *2030 Agenda-SDGs, Global Digital Compact, CSTD Working Group on Data Governance, WSIS+20, UNCTAD XVI, COP30…*

Together, we can harness the benefits of digitalization, while closing the digital divide and protecting our planet

António Guterres
Secretary-General
United Nations

UN trade & development

For more information

unctad.org/der2024