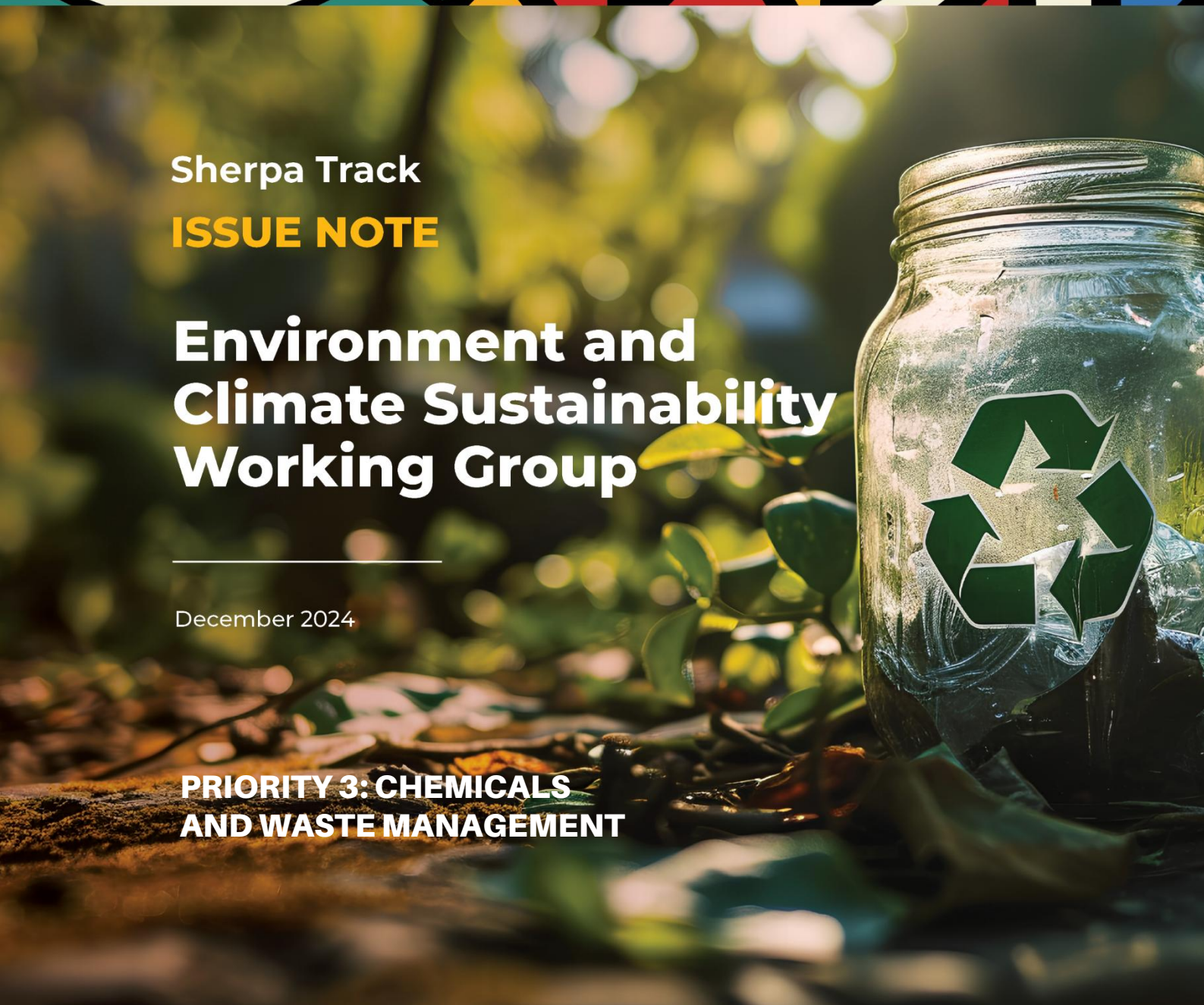
G20
SOUTH AFRICA 2025

Solidarity
Equality
Sustainability



Sherpa Track

ISSUE NOTE

Environment and Climate Sustainability Working Group

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PRIORITY 3: CHEMICALS AND WASTE MANAGEMENT

1. INTRODUCTION AND BACKGROUND

"Global problems are moving faster than the institutions designed to solve them".

Poverty, unemployment, hunger, inequality, environmental degradation, and climate change are but a few of the complex issues challenging the world today. While there are several international frameworks, such as the 2030 Agenda and its Sustainable Development Goals (SDGs), the implementation thereof is not in harmony with the speed and efficiency that is required to effectively address these challenges. Environmental protection, ecosystem restoration, and climate change mitigation and adaptation, however, can serve as key solutions in addressing several of these challenges. The impacts of biodiversity loss, pollution, soil erosion, ecosystem degradation, and the interlinkages with the severe impacts of climate change have rippled across the globe, affecting fauna and flora, livelihoods, and vital ecosystem services to people.

The theme for South Africa's Presidency of the Group of Twenty (G20) is *Solidarity, Equality, Sustainability***,** which is underpinned by the need to focus on a number of key areas, such as global governance reform, environment and climate finance, trade, health, and financing for development, among others. Therefore, in line with the overall theme of South Africa's Presidency of the G20, the overarching objective of the G20 Environment and Climate Sustainability Working Group (ECSWG) is to advance the environmental dimension of the 2030 Agenda for Sustainable Development and its SDGs through a number of priorities and deliverables. This includes the enhancing of global partnerships as outlined in SDG 17 and to foster capacity building support; promotion of equitable trade; transfer of and access to science, technology and innovation; as well as mobilising financial resources.

The ECSWG will broadly focus on the following five key priorities:

1. Biodiversity and Conservation
2. Land Degradation, Desertification and Drought
3. Chemicals and Waste Management
4. Climate Change and Air Quality
5. Oceans and Coasts

PRIORITY 3: CHEMICALS AND WASTE MANAGEMENT

Sub-Priority: Sustainable Chemicals Management

Context

The global demand for pesticides and industrial chemicals continues to grow, and accessibility of relevant information on associated risks to human health and the environment remains a challenge. Inaccessibility of safe, appropriate, and affordable chemicals and non-chemical alternatives compounds these risks. The projected exponential chemical production is also increasingly shifting to the global South (UNEP's Global Chemicals Outlook II), which is particularly vulnerable as there is a lack of adequate technology and infrastructure to detect, analyse, and monitor chemicals' import, use, treatment, and disposal.

The various multilateral environmental agreements aimed at protecting the environment and human health are significantly far away from achieving such noble objectives. Sustainable chemicals management prioritises pollution prevention through intentional substitution of toxic input chemicals at the product design stage prior to chemical production and the reduction of toxic chemical releases throughout the life cycle and value chain. Furthermore, coupled with extended producer responsibility and internalising costs of pollution, such would lead to the achievement of the set objectives, including sustainable development goals.

The Global Framework on Chemicals and Waste adopted at the fifth International Conference on Chemicals Management (ICCM5) in September 2023 is also of relevance to achieving sustainable chemicals management, including the framework's targets and timelines, provides a concrete global context to advance the sound management of chemicals and waste. The upcoming Open-Ended Working Group (OEWG) in 2025 is pivotal for advancing the implementation of the Global Framework.

Expected Outcomes:

To develop an Action Plan on Sustainable Chemicals Management:

- to end double standards in hazardous chemical production, trade, and use
- to improve access to safer, affordable, and adequate chemicals and non-chemicals alternatives
- to transition the chemicals industry towards sustainable production and operations
- to improve chemicals value chain transparency and accountability

- to share best practices to detoxify and enable safe recycling and circular economy and increased environmental job creation in the chemicals and waste sector
- to share best practices to reduce environmental pollution, land degradation, biodiversity loss, and disease burden.

Sub-Priority: Circular Economy and Extended Producer Responsibility (EPR) Implementation

Context

A circular economy is a regenerative system designed to minimise resource input, waste, emissions, and energy loss by promoting activities such as design for longevity, maintenance, repair, reuse, remanufacturing, refurbishing, and recycling. It aims to reduce the risks of resource depletion by managing the earth's resource stocks and flows sustainably. In this model, products and materials are designed for reuse, remanufacturing, recycling, or recovery (the 4-R framework), minimising waste and greenhouse gas emissions.

Despite its potential, several barriers hinder the transition to a circular economy. These include mispriced environmental costs, subsidies that promote overuse of natural resources (e.g., fossil fuel subsidies), and coordination failures across value chains, which require improved collaboration among the broader range of stakeholders, including industry, governments, and consumers. A key policy challenge is creating regulations that encourage circular economy practices and incentivise business participation.

Extended Producer Responsibility (EPR) is a policy approach that places the responsibility for managing the environmental impacts of products, and it is a way for implementing a circular economy. In EPR, producers are responsible for their products throughout their entire life cycle including design, production, distribution, use and, most importantly, end-of-life management, including collection and recycling/disposal. The objectives of EPR initiatives include reducing waste generation, increasing recycling rates, conserving resources, and promoting the transition to a circular economy. EPR is about managing post-consumer waste such that it does not end in landfill sites but is instead collected for reuse, refurbishing and recycling into different other products on the same products as before.

Therefore, EPR encourages producers to design products with sustainability in mind, considering factors such as material selection, durability, reparability, and recyclability; however, "academic and policy reviews suggest that the influence of EPR on eco-design has been limited". Ultimately, EPR aims to internalise the costs of environmental externalities within fashion companies, as a means of reflecting the true environmental costs of products in their prices. Producers and fashion brands bear financial and physical responsibility for the environmental impacts of their products through a "polluter pays principle".

Expected Outcomes:

- Enhanced commitment towards the development and implementation of Circular Economy Action Plans, Regional, Sub-regional and National Plans and Roadmaps, including EPR.
- Collaboration on circular economy and EPR policies and legislative instruments development at regional and sub-regional levels.
- Capacity building and awareness raising for circular economy and EPR implementation.
- Investigating funding and other support opportunities for small enterprise support and identification of programmes for circular economy and EPR implementation.
- Enhanced collaboration and sharing of best practices on implementing circular economy and EPR in G20 countries.
- Promotion and implementation of regional and sub-regional initiatives linked to the resource efficiency, the circular economy and EPR.
- Promotion of compliance to policies and legislation and monitoring and evaluating the effects of EPR implementation.

Sub-Priority: Waste Management and Waste-to-Energy (WtE)

Context

Municipal solid waste (MSW) is growing globally, contributing to the climate crisis, pollution, and biodiversity loss. The impact of MSW depends on three factors: product design (which affects material use and recyclability), consumer behaviour (decisions about buying, using, and discarding products), and the effectiveness of local waste management systems. Without urgent action, the negative effects of MSW on climate, biodiversity, and human health will nearly double by 2050. This includes material flows in the product value chain, which

also has impacts on waste. The production process also influences waste generation and it is also affected by household behaviour and awareness (segregation, household- level waste management and recycling, such as garden composting).

Governments can legislate for waste reduction, incentivise zero-waste businesses, and apply producer responsibility fees. Support from multinational banks and donors can help scale up successful initiatives. Municipalities should adopt inclusive waste management practices, involving informal workers and focusing on gender equity, while businesses should pursue zero-waste models and avoid greenwashing.

To reduce waste, consumers can engage in practices like reuse, waste segregation, and composting while supporting businesses that reduce waste. Ultimately, systemic changes across government, industry, and society are needed to transition toward a circular economy and safeguard natural resources.

Waste-to-energy (WtE) contributes significantly to reducing waste that goes to landfills by generating energy and promoting sustainable development. WtE offers a holistic approach to resource recovery from non-recyclable and non-hazardous waste. It diverts waste from landfills, recovers metals and minerals, and produces renewable energy (from the biodegradable fraction of waste), thus becoming an indispensable link of the circular economy and creating value for society. However, it is important that the negative environmental impacts of WtE, such as the emissions of greenhouse gasses (GHGs), and the use of remaining ash need to be carefully managed and mitigated.

Improved and increased reusability, sorting, and recycling processes will play an important role in enhancing the circular economy. However, some residual waste streams, requiring safe treatment, will persist and potentially grow globally. Even with the best technologies in place, recycling will not always be possible or economically viable for certain waste. The only viable solution for treating this residual waste includes the state-of-the-art WtE plants, which close the loop of the circular economy while not resulting in harmful substance or pollution to the environment. WtE contributes to the circular economy by, among other, providing secondary raw materials from incineration residues, a process known as material recovery and the opportunities that are there on the energy recovery part of the waste hierarchy.

Expected Outcomes:

- Commitment to the development of sustainable waste management practices.
- Enhanced commitment towards the implementation of National Waste Management Plans, Regional, Sub-regional and National Plans, factoring in WtE.
- Enhanced collaboration on waste management, WtE policies and legislative instruments development.
- Capacity building and awareness raising for waste management, WtE implementation and its benefits.
- Commitment towards the implementation of WtE pilot projects that can be scaled-up.
- Commitment to sharing best practice examples on technology and other means of implementing WtE initiatives.
