



Task Force 3:  
LiFE, Resilience, and Values for  
Wellbeing



# CREATING A G20 PLASTIC WASTE RESPONSE FRAMEWORK FOR SUSTAINABLE CONSUMPTION

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# **Abstract**







**G**lobal production has been linear, following a production-consumption-disposal approach resulting in increasing demand and production of all products, especially plastics. With climate change, deteriorating air and water quality, and resource depletion concerns plaguing the planet, as well as a desire to shift towards more efficient production systems, a gradual change in manufacturing systems towards circular processes has begun. The G20 has taken steps towards this, adopting the G20 Action Plan on Marine Litter in 2017 and its Implementation Framework in 2019. While these instruments have driven the conversation around existing production patterns and the need to


create a sustainable consumption ecosystem, more needs to be done. As a group of countries that are among the largest producers, consumers, and recyclers of plastic waste, the G20 is the ideal platform to drive the commitment towards sustainable plastic consumption. This Policy Brief seeks to inform policymakers of the multifarious issues around increasing plastic waste generation and suggest policy and fiscal measures that can be adopted during India's G20 presidency. The brief will highlight the need for a coordinated global response and suggest measures across the plastic value chain, including an action plan for circular economy, data sharing and collection mechanisms, and innovative funding mechanisms.



# **The Challenge**



# **1**



**G**lobal population has increased by two billion people in the last two-and-a-half decades, crossing eight billion in November 2022.<sup>1</sup> This increase in population, along with economic progress, has exponentially increased the demand for goods which has, in turn, fuelled extractive industries like mining and oil and gas. The consumption of petroleum—the base raw material for the manufacture of plastics—increased to 100 million barrels per day (bpd) in 2022 and is likely to see an average increase of 1.6 million barrels per day in 2023 and 2024.<sup>2</sup>

There are also several global challenges across the plastic value chain. While the production and manufacture of plastics require attention, managing existing plastic waste is of immediate concern. The Organisation for Economic Co-operation and Development (OECD) estimates that only 9 percent of plastic is recycled globally,<sup>3</sup> with the rest being incinerated (19 percent), mismanaged or uncollected (22 percent), and landfilled (~50 percent).<sup>4</sup> Of this, 22 million tonnes of plastic waste leaked into the environment in 2019, and this is expected to increase to 44 million tonnes by 2060.<sup>5</sup> Airborne and water-borne


microplastics have also been found in places as far as the Arctic Circle and Antarctica,<sup>6</sup> making the need to resolve the challenges posed by plastics one of the most urgent requirements towards a circular economy. The challenges to a circular plastics economy can be divided into three umbrellas:

- Ecosystem challenges
- Policy challenges
- Viability and scalability challenges

## Ecosystem Challenges

**a. Lack of international coordination and mechanisms to trace and track plastics:** While plastic production, consumption, and disposal continue to increase, there is no established mechanism to track such waste or trace its origins, especially across nations, primarily owing to the lack of domestic infrastructure to conduct such activities.

**b. Illegal transboundary movement of restricted waste products:** The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes (Basel Convention) is responsible for the regulation and oversight of hazardous waste products.<sup>7</sup> This includes a restriction on the cross-border movement of certain



types of plastics, with specific types of wastes deemed as legally exportable.<sup>8</sup> 190 countries are parties to this convention.<sup>9</sup> Several studies, including one conducted by the G20 Resource Efficiency Dialogue, have concluded that the movement of waste from higher-income countries with better recycling technologies to lower-income countries is a significant issue which needs to be addressed.<sup>10</sup> Other organisations have also highlighted that there is significant underestimation of this transboundary movement, with almost 1.8 million tonnes of cross-border unaccounted plastic.<sup>11</sup> The International Criminal Police Organisation (INTERPOL) has also identified rampant violations of the Basel Convention, with increased instances of cross-border trafficking in plastic waste.<sup>12</sup>

**c. Differing levels of circular economy for plastics across jurisdictions:** The G20 members are some of the largest economies of the world; however, their capabilities to safely manage plastic waste and integrate it into the circular economy are still at different stages of maturity. This creates differing requirements and sometimes competing needs, resulting in a disconnect among G20 partners, creating challenges to a coordinated global response.

**d. Limited technical capacity for transition to circular economies:**

There are several concerns in emerging economies regarding building domestic capacities for a transition to a circular economy. The foremost concern is building physical infrastructure that conforms to the standards of operation, including managing greenhouse gas emissions and efficiency.<sup>13</sup> A study by Chatham House also identifies building technical capabilities and institutional strengths as a crucial roadblock to complete management of plastic in developing economies.<sup>14</sup>

**e. Limited human and financial capabilities:**

Jurisdictions around the world have limited human and financial capabilities to manage plastic waste. Wealthier countries have technology to manage plastic, but not enough labour. On the other hand, where labour is available, finances or a skilled workforce may be lacking.

**f. Difficulty in changing consumer behaviour:**

Individual consumption patterns are important drivers of the production of goods. Changing consumer mindsets to use recycled material and discard social taboos around cleanliness remains a challenge. However, concerted efforts to change

consumer patterns can help reduce the demand for plastics and show significant long-term benefits.

#### **g. Social and Environmental Challenges**


- i. Climate change:** Plastic production and consumption were responsible for over 650 million tonnes of greenhouse gas emissions in 2019 and could reach 2.8 gigatonnes per year by 2050 at current emissions rates.<sup>15</sup>
- ii. Water pollution:** Approximately 14 million tonnes of plastic end up in water bodies and make up almost 80 percent of the debris found in marine ecosystems.<sup>16</sup>
- iii. Biodiversity loss:** More than 800 marine and coastal species have been impacted by plastic debris, including ingestion and entanglement.<sup>17</sup>
- iv. Soil contamination:** Studies show that terrestrial microplastic pollution is between four and 23 times higher than marine microplastic pollution,<sup>18</sup> resulting in significant soil contamination and leaching of

toxic chemicals into the ground, impacting ground and fresh water, as well as the food chain.

- v. Health impact:** Plastic production impacts public and individual health, causing air pollution, resulting in respiratory diseases, and soil and water contamination, which cause other serious ailments such as cancer.
- vi. Lack of protection for workers in the sector:** The waste and circular economy space is dominated by informal workers, especially in developing countries.<sup>19</sup> This creates concerns such as poor wages, social stigma, exposure to unsafe and unsanitary working conditions, and health problems.

#### **Policy Challenges**

- a. Dated international conventions:** The Basel,<sup>20</sup> Rotterdam,<sup>21</sup> and Stockholm Conventions<sup>22</sup> are the primary international instruments that address the issues of waste and other environmental pollutants. These conventions have played an important role in managing environmental pollution and have been amended regularly, but there is a need to take another look at



them, with a focus on the increasing challenges posed by plastic waste.

**b. Lack of an international convention for plastics:** There is ongoing discussion around creating an international instrument to address the problem of plastic waste and pollution. However, it was only at the UN Environment Assembly in 2022 that states committed to a timeline to develop such a document. Such a convention is likely to be agreed upon in 2024. In the meantime, gaps to address the plastic waste problem remain in the international ecosystem.

## Viability and Scalability Challenges

**a. Commercially viable transition to circular economy:** Costs are an immediate challenge for enterprises to transition to a circular economy. An overall transition to net zero will require global spending to the tune of US\$275 trillion,<sup>23</sup> and a switch to a circular economy forms a considerable component of making this transition possible. Achieving a fully circular economy requires significant financial outlay from all stakeholders, making the

initial transition financially coercive and costly for businesses. This initial capital investment can serve as a roadblock to a complete transition if leadership is not aligned and does not support the transition to circularity.

**b. Lack of contextualised scalable and replicable business models:** A large part of the global expertise in the transition to a circular economy lies within the rules, regulations, and technology developed for a specific context. As nations also begin their transition, the lack of context-specific business models which can be replicated will pose challenges to kickstarting and creating an efficient circular economy.

These challenges create significant barriers to our goal of achieving Sustainable Development Goals by 2030: Responsible Consumption and Production (SDG 12), Climate Action (SDG 13), Life on Water (SDG 14), Life on Land (SDG 15), Clean Water and Sanitation (SDG 6), Good Health and Well-Being (SDG 3), Gender Equality (SDG 5), and Sustainable Cities and Communities (SDG 11).





# **The G20's Role**

# **2**





**A** February 2023 study estimated that the G20 countries generated over 261 million tonnes of plastic waste in 2019 and are likely to almost double their plastic waste generation, to 416 million tonnes, by 2050 if no measures are taken.<sup>24</sup> Even though the G20 countries are large producers and consumers of plastic and emitters of greenhouse gas emissions, they can take the lead and pave the way in creating a holistic plastic waste management ecosystem.

### Steps Taken by the G20

- a. G20 Action Plan on Marine Litter, 2017:** Germany's G20 Presidency in 2017 saw the adoption of the G20 Action Plan on Marine Litter.<sup>25</sup> A first-of-its-kind initiative in the sector for G20, the document identifies the scope of G20's concerns and lists areas of priority for action by the member countries.
- b. Establishing the G20 Resource Efficiency Dialogue:** The G20 Resource Efficiency Dialogue was established at the Hamburg Summit

in 2017 to ensure that future G20 meetings and summits integrate natural resource protection, resource efficiency, and circular economy solutions into their deliberations.<sup>26</sup>

- c. G20 Implementation Framework for Marine Litter, 2019:** Japan's G20 presidency in 2019 followed the Action Plan on Marine Litter by adopting an implementation framework, which facilitates the implementation of the action plan and seeks to improve international cooperation. The progress on its adoption by the G20 countries is presented in Figure 1, where 16 of the 20 members have adopted the National Marine Litter Action Plans.
- d. Recent developments and proposals:** The deliberations at the G20 this year have focused on global cooperation for an integrated circular economy. The 2<sup>nd</sup> Environment and Climate Sustainability Working Group Meeting in Gandhinagar deliberated on creating a circular economy

**Figure 1: Adoption of Marine Plastic Litter Action Plans by G20 Nations**



Source: *G20 Report on Actions Against Marine Plastic Litter, 2022*<sup>27</sup>

for the steel sector, Extended Producer Responsibility (EPR) norms, and a proposal to establish


a G20 Resource Efficiency and Circular Economy Industry Coalition (RECEIC).<sup>28</sup>



# **Recommendations to the G20**

# **3**





**T**he circular economy space presents a US\$4.5-billion opportunity globally.<sup>29</sup> As countries which represent almost 75 percent of the world's population and 85 percent of global GDP,<sup>30</sup> the G20 should lead the development of a framework for a circular economy for plastics by fostering a policy ecosystem for its members which can be replicated and scaled globally. To ensure its global applicability, the framework shall engage with innovations like the 9Rs<sup>31</sup> and consist of the following components:

### **Systems to Foster International Collaboration**

While several informal and regional platforms, such as the Platform to Accelerate a Circular Economy (PACE), already exist, the G20 can explore the possibility of establishing a formal mechanism dedicated to answering the challenges posed by plastics.

#### **Recommendation 1: Establish a Circular Economy Engagement Group within the G20**

Currently, most of the discussions that take place regarding plastics and the circular economy at the G20 are under the Environment and Climate Sustainability Working Group under

the Sherpa Track. This results in the exclusion of several stakeholders from discussions, provide a restricted space for policy formulation, and results in limited exchange of innovative ideas. While India's G20 presidency explores the idea of a coalition for industry players in resource efficiency and circular economy, an expanded engagement group dealing with plastics and the circular economy, Circular Economy 20 (CE20), can facilitate an implementable framework. This will allow the G20 to address several policy and ecosystem challenges, with a focus on emerging social and environmental issues. Such an initiative is likely to create a favourable ecosystem to develop global collaboration outside of the halls of government and catalyse policymaking.

#### **Recommendation 2: Develop a G20 Action Plan for a Circular Economy for Plastics**

The G20 should develop an action plan for a circular economy for plastics to inform the larger framework. This action plan shall identify the overarching goals of the G20 in its mission to create a globally relevant and inclusive ecosystem for plastics which go beyond existing mechanisms. The action plan can inform existing negotiations at the UNEP around an international



legal instrument to curb plastic waste pollution. It can also include minimum manufacturing standards, develop international collaboration and consensus around eco-design, and explore ways to streamline eco-labelling. Alongside the success of the marine plastic litter implementation framework, such an action plan can also drive countries to formulate broader national circular economy strategies. These strategies can contribute to further catalyse the push towards global circular economy and drive investment in the space, thereby creating replicable business models.

**Create a data collection and reporting framework as well as shared resources to ensure efficiency**

The UN uses the ComTrade database to track trade in plastic waste,<sup>32</sup> and even though some countries have mechanisms to track the plastic waste they produce, the information is used in a limited manner towards further collaboration. Using existing tools, the framework should aim to harness the power of data to further increase international collaboration through information standardisation and sharing.

**Recommendation 3: Establish a data-reporting and sharing mechanism to track and trace cross-border movement of plastics**

The challenges posed by plastic pollution are not limited by borders. Marine plastic pollution and soil contamination impact several geographies. To counter these issues and foster collaboration, the G20 can develop a data-sharing mechanism where member states can report the amount of plastic waste they generate. Countries which have a tracing mechanism can assist others in developing similar systems to create an efficient track-and-trace ecosystem.

**Identify related areas which will be affected by the circular economy transition**

International collaboration on plastic waste requires an approach which transforms the global system; therefore, the framework shall identify other areas where interventions will be needed, such as trade reforms and export and import controls. This will require a relook at international conventions, and organisations like the World Trade Organisation, which can act as effective levers to create a functioning global circular consumption system.

#### **Recommendation 4: Reforming multilateralism to aid a circular economy**

There is a need to re-examine several international instruments, bodies, and agencies which are stakeholders in the ecosystem to ensure that plastics are safely managed and included in the circular economy. Trade levers, restrictions, and controls are some of the several moving parts which need to be recalibrated. Furthermore, existing conventions, treaties, and regional agreements also require revision. Within the larger umbrella of a global push to reform the multilateral sphere, those components which impact plastics, the environment, and the circular economy must also be relooked at through this framework.

#### **Ensure adequate funding for a circular economy transition**

As countries transition their production and consumption practices, there is a need for additional funding mechanisms to support this transition. Given its economic strength, the G20 can play a larger role by mobilising adequate

funding for countries in need of support. This can be done in various ways, including contributions by member states or by developing innovative financing mechanisms. Not only will this support the required outlay for transition but also help potentially help unlock over six million jobs.<sup>33</sup>

#### **Recommendation 5: Establish a G20 fund for a circular economy, in line with the concept of common but differentiated responsibilities**

Adequate funding is an essential requirement to ensure an inclusive revision of linear consumption models to circular models. Several countries will need assistance as they establish mechanisms to create a functional and efficient circular economy for plastics. Establishment of physical infrastructure, training of stakeholders, exposure visits, and knowledge transfer shall all require significant financial commitments. These can be funded by a G20 supported fund, either through contributions, or through innovative financing mechanisms such as performance linked pay-outs, and value-capturing financing.




# Conclusion

# 4







**A**s a grouping with significant economic, demographic, and geographical diversity, a G20 Plastic Waste Framework is likely to catalyse global action towards sustainable consumption, create replicable business models which can be contextualised, and further foster global collaboration in the space. The suggested framework recognises the differences in progress towards a circular economy in various parts of the world, identifying the need to create funding mechanisms to overcome wealth inequalities between countries and provide access to capital, data, and resources to mitigate differences in infrastructure and technological progress and create an engagement group to foster a dedicated space for discussions around a circular economy.


A framework composed of the above recommendations is likely to foster an international ecosystem for collaboration on circular economy systems and create common ground for negotiations and further deliberation. In the short term, a G20 Plastic Waste Framework for Sustainable Consumption shall create an impetus for discussions around plastic pollution. A holistic framework shall also allow the G20 to engage with other countries, groups, and organisations and create a dedicated pool of funds for countries which require support. Finally, this effort also ties in to the larger net zero goal and the global commitments to nationally determined contributions (NDCs).


Attribution: Abhinav Akhilesh et al., “Creating a G20 Plastic Waste Response Framework for Sustainable Consumption,” *T20 Policy Brief*, May 2023.

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