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TESS Forum on Trade, Environment, & the SDGs

Growing the Bioeconomy Through Trade and International Cooperation

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TESS Forum on Trade, Environment, & the SDGs

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Contents

Abbreviations

CBD	Convention on Biological Diversity
FAO	Food and Agriculture Organization of the United Nations
IEA	International Energy Agency
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
ITC	International Trade Centre
OECD	Organization for Economic Co-operation and Development
UNCTAD	UN Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
VSS	Voluntary Sustainability Standards
WTO	World Trade Organization

1. Introduction

Over the past five decades, the extraction of natural resources has tripled. By 2060, global primary materials use is projected to almost double to 167Gt from 89Gt in 2017 (OECD, 2019). These trajectories threaten our ability to achieve global climate, biodiversity, and pollution targets, and jeopardize future economic prosperity. Confronted with this challenge, governments are increasingly recognizing the urgent need to align the current international economic and financial architecture with a more equitable and nature positive trajectory.

This briefing note aims to inform ongoing discussions under the G20 Initiative on Bioeconomy by exploring the role of trade and trade policy cooperation in growing the bioeconomy. In September 2024, under Brazil's Presidency, G20 participants established "ten voluntary and non-binding High-Level Principles on Bioeconomy" (G20 Brasil, 2024). These agreed principles touch upon areas such as promoting sustainable consumption and production patterns, the efficient and circular use of biological resources, and trade for bioeconomy products and services. They also refer to market conditions, sustainable business models, and decent jobs. In 2025, the operationalization and implementation of these principles has been emphasized as one of the priorities of the South African G20 Presidency.

On the trade aspects, this includes creating mechanisms to implement:

- High-Level Principle 7: "Benefit from robust and coherent policy frameworks that foster trade for bioeconomy products and services, market conditions, sustainable business models, decent jobs, local value creation and private sector and civil society participation."
- High-Level Principle 9: "Be fostered by international collaboration and cooperation that addresses global challenges, leverages complementary strengths, innovation and entrepreneurship and promotes financing, capacity building and sharing of best practices."

As a contribution to this discussion, this briefing note examines the trade and bioeconomy interface, including how trade and trade-related policy can promote a sustainable and nature positive bioeconomy, and suggests possible cooperative approaches to be pursued internationally.

2. Trade and the Bioeconomy

Biodiversity is the source of a wide range of products and services used by our societies and forms the natural capital base for a sustainable economy. According to the World Economic Forum (2020), $44 trillion of economic value generation—over half the world's total GDP—is moderately or highly dependent on nature and its services and, as a result, exposed to risks from biodiversity loss and ecosystem degradation. Biodiversity and ecosystems also provide livelihoods for 4.3 billion people, particularly the most vulnerable and economically disadvantaged (UNCTAD, 2021), and play a critical role in fostering climate-resilient development given their roles in climate change adaptation and mitigation (IPCC, 2022).

In recent years, the manner in which "nature" is understood by key economic and financial actors has rapidly evolved. Alongside long-standing calls for "the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources," as reflected

in the 1992 Convention on Biological Diversity, there is a growing emphasis on restoration and regeneration of nature, on "nature-based solutions," and more systemically on the concept of "nature economies," where nature is increasingly valued and traded. Earlier approaches focused on promoting biotrade are now giving way to broader, more holistic conceptions of a sustainable global bioeconomy that provides new sources of economic growth and employment, while accelerating the net zero transition and protecting and renewing natural capital. With an estimated current value of $4–5 trillion, and growth potential to $30 trillion by 2050, the global bioeconomy is increasingly seen as a cornerstone in the transition to a more equitable, low-carbon, and climate-resilient nature-positive economy (World Bioeconomy Conference & NatureFinance, 2024).

International trade and trade policies have a vital role to play in this transition. As observed by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES, 2019), achieving global biodiversity objectives and sustainable development necessitates urgent transformative, systems-level changes across various domains; improving not only the sustainability of economic sectors but also how they function globally through trade. In the absence of effective regulations, policies, and frameworks, international trade spurred by global demand and rapidly evolving consumption patterns can contribute to exacerbating biodiversity loss, the degradation of ecosystems, and acceleration of the climate crisis. Yet trade and trade-related policies can play a key role in promoting biodiversity conservation, sustainable use, and restoration, while supporting the emergence of an equitable and sustainable global bioeconomy that fosters economic growth, creates jobs, and enhances livelihoods.

According to UN Trade and Development (UNCTAD) (n.d.) biotrade statistics, in 2023, biodiversity-based trade represented 17.2% of total trade, amounting to $3,68 trillion and 7% of global GDP. Beyond traditional areas of biotrade, exports have expanded to include a widening range of new bio-based products such as maritime and aviation biofuels and a growing market for biochemicals, bioplastics, bio-based textiles, or bio-based construction materials[1]. In 2023, the top three exporters of biodiversity-based products were the United States ($318bn), China ($304 bn), and Germany ($288 bn). For a wide range of countries, biodiversity-based trade represented a major share of their toral exports, ranging from 29.4% in Indonesia to 54.4% in Argentina, 65.1% in Kenya, 78.5% in New Zealand, and 94.5% in Ethiopia. Trade in biodiversity-based products accounted for 18.4% of GDP in Thailand, 30.7% in the Netherlands, and 54.7% in Cambodia.

3. How Can Trade and Trade-Related Policy Measures Promote a Sustainable Bioeconomy

Confronted with the imperative to transition from fossil fuels, reduce material extraction, and combat biodiversity loss, a growing number of governments have developed bioeconomy strategies as illustrated, for example, by the East African Regional Bioeconomy Strategy, Japan's Bioeconomy Strategy, and South Africa's Bio-economy Strategy. Several countries are also exploring options to harness trade and trade-related policies to limit nature loss and benefit from the opportunities offered by the bioeconomy. These include: establishing sustainability requirements for products entering the market; introducing mandatory due diligence requirements for imports; providing preferential market access for sustainably produced goods; banning products directly linked to illegal deforestation; removing environmentally harmful subsidies; providing payments for ecosystem services; and trade-related capacity building that supports sustainable production patterns.

1. It should be noted, however, that no all bio-based goods are necessarily produced and/or traded in a sustainable or nature positive way.

Governments attempting to promote a sustainable bioeconomy have a range of trade and trade-related policy instruments at their disposal. Broadly, these can be organized under two categories: (i) measures encouraging production and trade aligned with a sustainable bioeconomy and (ii) measures designed to discourage production and trade preventing the transition to a sustainable bioeconomy. Under the first approach, trade and trade-related policy tools are harnessed to provide positive incentives to shift production towards more sustainable pattern. The second approach focuses on removing perverse incentives that encourage unsustainable practices or applying market-correcting measures to internalize some of the negative environmental and social externalities associated with the production and trade of goods. The measures themselves can take several forms, including: (i) price and market-based measures, (ii) support measures and other economic incentives, and (iii) regulatory measures of a voluntary or mandatory nature.

Using this typology, originally developed by the World Trade Organization's (WTO) Environment Database, the following sections provide a short description of these different measures. Table 1 provides illustrative examples of trade and trade-related policy tools under each category.

Price and Market Based Measures

Price and market-based measures include border measures such as import or export quotas and tariffs, trade remedies such as safeguard measures or anti-dumping duties, and also internal taxes applicable to both imported and domestically produced goods. Measures such as border carbon adjustments designed to prevent carbon leakage also fall under this category.

Overall, the use of tariff barriers applied exclusively to imported products to internalize environmental or social costs remains highly controversial under multilateral trade rule-setting if equivalent taxes are not applied to domestic producers. In this respect, a less discriminatory approach consists in imposing an internal tax on both imported and domestic goods that do not comply with certain environmental requirements. As illustrated by recent initiatives to apply border carbon adjustments, price and market-based instruments can also charge imports based on their embedded carbon emissions equivalent to that paid by domestic producers under national or regional emissions trading schemes. Border measures can also be used to restrict trade in products with negative environmental or health effects in the consuming country such as certain chemicals or pesticides for example. To the extent that import restrictions are implemented in conjunction with restrictions on domestic production or consumption, such measures would generally not violate international trade laws.

Alternatively, governments can provide more favourable market access concessions on products complying with specific sustainability requirements by reducing import tariffs or granting tariff preferences to products that have a sustainability certification. For example, the Swiss-Indonesian Comprehensive Economic Partnership Agreement, which entered into force in 2021, provides for reduced tariffs on sustainably produced Indonesian palm oil by 40% within a fixed quota.

Support Measures and Other Economic Incentives

Another approach consists in removing perverse economic incentives such as environmentally harmful subsidies. For example, after hitting record levels of more than $1 trillion in 2022, governments continue to heavily subsidize the use of fossil fuels, spending $620 billion in 2023—an amount significantly above the $70 billion spent on support for consumer-facing clean energy investments (IEA, n.d.). Such support contributes to lowering prices, increasing consumption, and making fossil fuels artificially more competitive compared to alternatives such as renewables. According to the Intergovernmental Panel on Climate Change (IPCC) 6th Assessment Report, removing fossil fuel subsidies could

reduce greenhouse emissions by up to 10% by 2030 while improving public revenues and macroeconomic performance. To address adverse distributional impacts on the most economically vulnerable groups or sectors, such reform may need to consider redistributing revenue saved or better targeting subsidies towards vulnerable populations and parts of the economy (IPCC, 2023).

Similarly, of the almost $540 billion spent annually on net support to individual agricultural producers in 88 countries between 2013 and 2018, the FAO, UNDP, and UNEP (2021) estimate that two-thirds can be considered price distorting and potentially harmful to the environment. Such support measures remain highly concentrated among a handful of large countries and mostly benefit temperate products. In this context, there has been growing calls for reforming or repurposing these subsidies towards more sustainable practices. This may include payments for ecosystem services or direct payments to maintain a diversified set of crops, conserve permanent grassland, or devote a share of arable land to ecological practices. For example, Costa Rica's Forestry Law, introduced in 1996, includes a Payments for Environmental Services Program to promote forest and biodiversity conservation (Sarmiento et al., 2024). According to the World Bank and the International Food Policy Research Institute (IFPRI), repurposing a portion of government spending on agriculture each year from subsidies to investment in developing and disseminating green innovations or technologies for crops and livestock that are both productivity-enhancing and emissions-efficient could reduce overall emissions from agriculture by more than 40%. Meanwhile, millions of hectares of land could be restored to natural habitats. Redirecting about $70 billion a year—equivalent to 1% of global agricultural output—would also yield a net benefit of over $2 trillion in 20 years (Gautam et al., 2022).

Other types of economic incentives can be provided through government procurement rules encouraging public purchases of sustainably produced products or limiting purchases of goods with high environmental footprints. For example, Argentina, Brazil, China, Ecuador, the European Union, Finland, Japan, Korea, Thailand, and the United States have already established sustainable public procurement programmes, sometimes combined with the use of ecolabelling schemes, which have contributed to fostering sustainable consumption and production (One Planet Network, 2024).

Government can also encourage innovation or the diffusion of environmentally sound technologies through intellectual property rights, for example by fast tracking the granting of patents on environmentally sound technologies or encouraging technology transfer through favourable licensing arrangements with third countries. This is the case of the "Green Channel" scheme of the United Kingdom Intellectual Property Office, which allows the examination of patent applications relating to environmentally friendly inventions to be accelerated (Williams Powell, 2025).

Finally, governments can use export credit agencies as a tool to foster a sustainable and nature positive bioeconomy. Such agencies play a significant role in global energy financing, providing guarantees and loans that help de-risk large infrastructure projects, including both fossil fuel and renewable energy developments. There is a growing movement to phase out public finance for fossil fuel projects and shift resources towards renewable energy. For example, Export Finance for Future (E3F)—an initiative launched by seven countries at ministerial level in April 2021—aims to align public export finance with climate goals by increasing support for sustainable and climate-friendly projects and accelerate the progressive phasing out of fossil fuel related projects (Credendo, 2022).

Regulatory measures

A third type of instrument relates to regulatory measures in the form of technical regulations, standards, or conformity assessment procedures imposing specific environmental requirements on producers. Examples include both product-related requirements such as food safety standards (e.g. maximum pesticides residue limits)

and production-related requirements, for example on the use of nutrients or airborne pollutants, wildlife and habitat protection, or animal welfare prescriptions.

An example of such regulatory measures is South Korea's Act on the Sustainable Use of Timbers. The regulation, which applies to both domestic and imported timber and timber products, aims to promote the trade of legally harvested timber. Other examples include mandatory due diligence requirements such as the European Union Deforestation Regulation, changes to the United Kingdom's Environment Act, and proposed regulations for the use of forest risk commodities in commercial activities in the United Kingdom. It should be noted, however, that some of these measures, while providing opportunities for the private sector, have also become a source of tension with low- and middle-income countries which worry that these approaches unfairly place the burden of transition to a post-carbon and a nature positive economy on poor nature-rich commodity exporting countries that lack affordable access to relevant technologies and finance, or do not have the fiscal space and resources to support large-scale economic transformation.

Other than mandatory requirements, regulatory measures encouraging sustainable production and trade can also involve the use of voluntary sustainability initiatives promoting different social and environmental goals. These usually include a range of sustainability requirements pursued through standards or codes of conduct and also mechanisms to ensure compliance, capacity building, and support services to producers such as training or impact monitoring (Sarmiento et al., 2025).

The International Trade Centre's (ITC) Standards Map identifies more than 350 voluntary sustainability standards (VSS) (IRC, n.d.). While some are developed by governments or international organizations, the majority have emerged from the private sector and civil society. In the context of highly fragmented international supply chains, VSS help firms meet their social and environmental goals, including to avoid reputational damage or gain market advantages. They also increasingly fill a regulatory vacuum left by the inability of governmental initiatives to regulate on sustainability issues. Although voluntary in nature, these schemes can sometimes become de facto conditions to access certain market segments. They are also increasingly integrated into various policy instruments, including due diligence regulations, free trade agreements, public procurement policies, or export promotion strategies, as way to demonstrate compliance with government requirements (Sarmiento et al., 2025). For example, Mexico and Ecuador recognize VSS in their national public procurement strategies to verify the sustainability of forest products (One Planet Network, 2024).

While VSS can enable producers to receive higher prices, administrative costs associated with certification, compliance, or conformity assessment procedures can be prohibitive and exclude producers in developing countries, especially small and medium-sized enterprises and smallholders. There is also a shortage of accredited auditors or conformity assessment facilities in most developing countries, which increases the costs of audits and certification (Bermúdez & Sarmiento, 2023).

Finally, it is often difficult for producers to distinguish reliable, credible, or effective VSS from ineffective ones (Bermúdez & Sarmiento, 2023). Some initiatives are underway to help reduce private standards fragmentation and ensure that they are based on sound science, non-discriminatory, and interoperable. These include, for example, the "Code of Good Practice for the Preparation, Adoption and Application of Standards" within the WTO's Agreement on Technical Barriers to Trade. The International Organization for Standardization (ISO) has also developed "meta-standards" in areas such as transparency and accountability. The non-governmental International Social and Environmental Accreditation and Labelling (ISEAL) Alliance also codifies best practice for the design and implementation of social and environmental standards initiatives and provides a globally recognized framework, defining practices for effective and credible sustainability systems (ISEAL, n.d.).

Table 1. Trade and Trade-Related Policy Tools for a Sustainable Bioeconomy

Typology of trade policy instruments and examples		Encouraging/incentivizing production and trade aligned with a sustainable bioeconomy	Discouraging production and trade not aligned with a sustainable bioeconomy
Market-based measures	Import/export quotas	• Removing trade barriers on the import/export of nature positive and sustainable bio-based goods, services & technologies • Conditioning or providing market access concessions to comply with sustainability requirements (e.g., using tariff rate quotas or trade preferences)	• Import/export restrictions on goods, services and technologies undermining the sustainable bioeconomy or Global Biodiversity Framework • Import/export bans on harmful pesticides and hazardous chemicals
	Import/export duties & tariffs		
	Trade remedies including anti-dumping, countervailing duties, safeguards	• Prohibiting the use of trade remedies on nature positive/sustainably produced bio-based goods	
	Internal taxes		• Taxes internalising negative environmental externalities in production
	Border tax adjustments & other market instruments		• Applying measures to prevent ieakage (e.g. border adjustment measures)
Support measures & other economic incentives	Subsidies including: • Grants and direct payments • Income or price support • Loans & financing support • Tax concessions • Non-monetary support	• Environmental payments or payments for ecosystem services • Subsidies, grants and tax incentives for bio-based innovation, research and development	• Removing subsidies to the production, transformation, and/or consumption of fossil fuels • Removing subsidies encouraging the production, consumption or trade in goods, services and technologies undermining the sustainable bioeconomy
	Government procurement	• Green government procurement rules encouraging public purchase of sustainable bio-based or nature-positive products and services	• Green government procurement rules limiting public purchases of goods, services and technologies undermining the sustainable bioeconomy
	Intellectual property rights	• Fast tracking the granting of patents on technologies and innovation for sustainable bioeconomy products • Technology transfer & licensing agreements fostering the diffusion of sustainable bio-based technologies	
	Export credit/guarantees	• Facilitating the granting of export credit/guarantee and trade financing for sustainable bio-based products	• Removing export credit, guarantees and financing provided to fossil fuel or carbon-intensive trade and investment
Regulatory requirements & measures	Bans/prohibitions		• Import/export bans or licensing requirements on goods, services and technologies undermining the sustainable bioeconomy
	Import/export licensing		
	• Technical regulations • Standards • Conformity assessment procedures • Risk assessment • Labelling//transparency requirements	• Mandatory environmental requirements, compliance with which assures market access or a green premium • Voluntary sustainability standards developed by governments and/or non state actors (including labelling, transparency, traceability schemes)	• Mandatory environmental requirements/targets (e.g., airborne pollutants, wildlife and habitats protection, animal welfare, energy efficiency). • Mandatory due diligence (e.g. deforestation free supply chains, CSR), labelling or transparency requirements that aim to discourage or restrict trade in cases of non-compliance
	Investment and investment facilitation	• Facilitating investment in sustainable bioeconomy sectors/projects	• Discouraging investment that undermines sustainable bioeconomy

Note: This overview does not aim to depict the relative relevance, merits, or scale of potential impacts of the various trade policy instruments.
Source: Authors' elaboration.

4. The Need for Enhanced International Cooperation

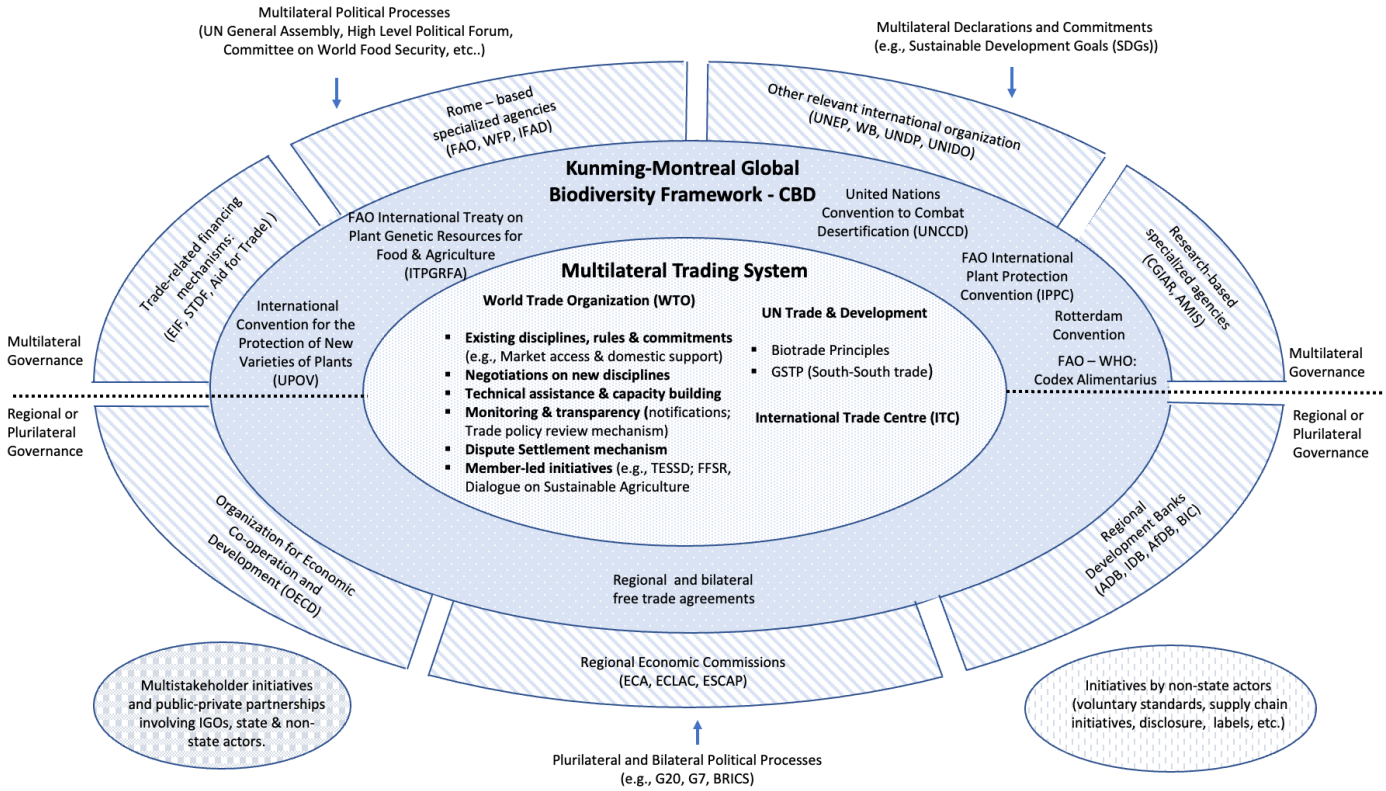
The various measures highlighted above can, for the most part, be pursued autonomously. To the extent that they are designed as good faith environmental policies and do not discriminate arbitrarily between countries where the same conditions prevail, they will most probably not violate existing WTO laws. In practice, countries tend to adopt different policy mixes and approaches for nature-positive trade. Yet, the effectiveness of these measures would significantly increase if they were applied collectively and consistently among a range of countries to reach global targets and avoid a patchwork of uncoordinated and possibly conflicting initiatives. Cooperative approaches can also avoid the free rider problem and alleviate concerns of loss of competitiveness as a result of autonomous reforms. This is particularly the case for measures aimed at removing perverse incentives such as environmentally harmful subsidies or fostering trade in biodiversity-based products. Similarly, ensuring that environmental regulations, standards, or conformity assessment procedures are applied in a way that ensures interoperability across jurisdictions (e.g. through harmonization, equivalences, or mutual recognition) and minimizes trade frictions would send a strong coherent signal to exporters.

More broadly, in a globalized world economy dominated by highly integrated supply chains, addressing transboundary environmental challenges such as climate change, biodiversity loss, or pollution increasingly requires coherent policy approaches across jurisdictions.

Such cooperation may arguably take different forms depending on what is realistically achievable in different contexts. At the broadest level it should involve enhanced transparency, dialogue, and trust building. International fora and processes can provide a unique space to facilitate exchanges of good practices and lessons learned from autonomous reform, enabling countries to align their policies more closely, while respecting diverse national contexts. Bioeconomy considerations could also be reflected in ongoing international negotiations aimed at developing new rules and enhanced disciplines, be it at the multilateral, regional or bilateral level. Other forms of cooperative approaches can also include non-binding voluntary guidance, pledges, or peer review and monitoring processes.

In practice, there is no single forum to discuss cooperation on trade and the bioeconomy. Figure 1 provides a broad overview of international processes relevant to this nexus. The WTO, UNCTAD, and ITC are at the heart of the global trading system. These institutions provide a forum for transparency, rule-making, and dispute settlement. They also provide a multilateral space to raise specific trade concerns, share experiences and good practices, and address potential trade frictions in a pre-emptive, non-litigious, and cooperative manner. Institutions such as the WTO, UNCTAD, and ITC also play a critical role in generating analysis and data as well as providing technical assistance and capacity building. At a higher political level, cooperation on trade and the sustainable bioeconomy is informed by a range of declarations and commitments, including the 2030 Sustainable Development Goals and the Kunming-Montreal Global Biodiversity Framework. Other international political processes such as the G20 also contribute to giving broad political guidance. These high-level commitments and declarations are then advanced and operationalized through a range of international or regional institutions with relevance to and influence over trade, such as regional banks, economic commissions, specialized agencies of the United Nations, bilateral and regional trade agreements, and dedicated financing mechanisms. Multi-stakeholder initiatives, including public-private partnerships or sectoral initiatives involving intergovernmental organizations, governments, and non-state actors, also provide critical venues for cooperation.

Figure 1. Mapping of International Processes Relevant to Trade and the Sustainable Bioeconomy



Note: This mapping is intended to be illustrative not comprehensive and does not aim to depict the relative relevance or influence of the various processes and institutions.

Source: Author's elaboration.

5. Next Steps

Growing the bioeconomy will require alignment of financial policies and investment frameworks as well as trade regulations and market access strategies. The wide-ranging and cross-cutting nature of the many challenges associated with this transition make the G20 a unique venue to catalyse much-needed dialogue, connect the dots between different processes, ensure cross-fertilization, and provide guidance at the highest political level. The 10 voluntary and non-binding High-Level Principles on Bioeconomy, agreed by the G20 in September 2024 in Rio de Janeiro, provide a sound basis to further develop such cooperation.

Discussions so far under the G20 Initiative on Bioeconomy have highlighted the need for trust building and dialogue to foster collective understandings and cooperative action both at the international and regional levels. Similarly, participants have emphasized that low- and middle-income countries will require intentional support, technology transfer, and financing to compete in the bioeconomy. The importance of bringing different constituencies together and building connections with the finance world has also been underscored.

As discussed, aligning trade and trade policies with a nature-positive bioeconomy will ultimately imply enhanced policy and regulatory coherence at the international or regional level. This will require a shared understanding or vision of what constitutes a sustainable and nature-positive bioeconomy and what it implies in terms of policies.

Many G20 participants have highlighted the fact that the bioeconomy is not inherently sustainable, or biodiversity friendly. They have also pointed to the context-specific impact of various production practices and the need to address possible trade-offs between different environmental or broader public policy objectives, including employment or livelihood concerns. Finally, there are challenges in measuring whether nature is in decline or restoration at different levels, calling for consensus on measurements and metrics, including trade-specific bioeconomy classifications. In this respect, some have suggested using national biodiversity strategies and action plans (NBSAPs) and nationally determined contributions (NDCs) as key reference points. Others have called for mutual recognition of sustainability criteria that take into account environmental, social, economic, and political factors rather than trying to pursue harmonization of different approaches.
Moving forward, the G20 can be decisive in several ways, including through enhanced dialogue and transparency, soft law outcomes in the form of guidelines, and pledges or voluntary commitments:

- *Fostering dialogue*: By fostering open channels of communication, the G20 can facilitate constructive exchanges of best practices and lessons learned, enabling countries to align their policies more closely with sustainability objectives while respecting diverse national contexts.

- *Transparency*: Enhanced transparency among participants regarding trade and trade-related measures designed to foster a sustainable and nature-positive bioeconomy can lay the groundwork for informed cooperation. Standardized reporting requirements and comprehensive peer review processes within the G20 could go a long way in promoting shared understandings in this area.

- *Voluntary commitments*: Encouraging voluntary commitments, for example to reduce environmentally harmful subsidies and repurposing existing schemes, can serve as a catalyst for change, incentivizing nations to proactively address the environmental impacts of their support schemes. Regular peer review processes in the G20 can contribute to fostering accountability and driving policy change.

References

Bermúdez, S., & Sarmiento, F. (2023). *South-South trade and voluntary sustainability standards – Challenges and opportunities*. International Institute for Sustainable Development (IISD). https://www.iisd.org/publications/report/voluntary-sustainability-standards-south-south-trade

Credendo. (2022). *Export Finance for Future* (E3F). https://credendo.com/en/knowledge-hub/export-finance-future-e3f

FAO, UNDP, and UNEP. (2021). *A multi-billion-dollar opportunity – Repurposing agricultural support to transform food systems*. Rome: FAO. https://doi.org/10.4060/cb6562en

G20 Brasil. (2024). *G20 reaches consensus and establishes High-Level principles on Bioeconomy*. https://www.gov.br/g20/en/news/g20-reaches-consensus-and-establishes-high-level-principles-on-bioeconomy

Gautam, M., Laborde, D., Mamun, A., Piñeiro, V., Martin, W., & Vos, R. (2022). *Repurposing agricultural policies and support: Options to transform agriculture and food systems to better serve the health of people, economies, and the planet*. The World Bank and IFPRI. http://hdl.handle.net/10986/36875

IEA. (n.d.). Tracking the impact of government support – Fossil fuel subsidies. https://www.iea.org/topics/fossil-fuel-subsidies

IPBES. (2019). *The global assessment report on biodiversity and ecosystem services: Summary for policymakers.* https://files.ipbes.net/ipbes-web-prod-public-files/inline/files/ipbes_global_assessment_report_summary_for_policymakers.pdf

IPCC. (2023). *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. https://www.ipcc.ch/report/sixth-assessment-report-cycle

IPCC. (2022). *Climate Change 2022: Impacts, adaptation and vulnerability*. https://www.ipcc.ch/report/ar6/wg2/

ISEAL. (n.d.). *ISEAL Alliance: Empowering sustainability systems to drive global change*. https://isealalliance.org/

ITC. (n.d.). Standards Map – Identify. https://www.standardsmap.org/en/identify

OECD. (2019). *Global Material Resources Outlook to 2060: economic drivers and environmental consequences.* Paris: OECD Publishing. https://doi.org/10.1787/9789264307452-en

One Planet Network. (2024). *Sustainable public procurement policies that use ecolabels and environmental certifications*. https://www.oneplanetnetwork.org/knowledge-centre/resources/good-practice-ecolabels-and-sustainable-public-procurement-sustainable

Sarmiento, F., Bermúdez, B., & Verma, R. (2025). *The use of voluntary sustainability standards in trade policy – An explainer*. International Institute for Sustainable Development (IISD). https://www.iisd.org/ssi/publications/vss-in-trade-policy/

Sarmiento, F., Larrea, C., Oeschger, A., & and Jose, R. (2024). *Measures to enhance forest conservation and reduce deforestation: Viewpoints and lessons from producing countries*. International Institute for Sustainable Development (IISD). https://www.iisd.org/publications/report/ssi-measures-enhance-forest-conservation-reduce-deforestation

UNCTAD. (n.d.). *UNCTADStat Date centre*. https://unctadstat.unctad.org/datacentre/

UNCTAD. (2021). *Linking trade and biodiversity*. https://doi.org/10.18356/9789216040611c003

Williams Powell. (2025). *How and whether to accelerate environmentally friendly patent applications in the UK*. https://www.williamspowell.com/news/how-and-whether-to-accelerate-environmentally-friendly-patent-applications-in-the-uk

World Bioeconomy Forum & NatureFinance. (2024). *Financing a sustainable global bioeconomy*. https://www.naturefinance.net/resources-tools/financing-sustainable-global-bioeconomy/

World Economic Forum. (2020). *Nature risk rising: Why the crisis engulfing nature matters for business and the economy*. https://www.weforum.org/publications/nature-risk-rising-why-the-crisis-engulfing-nature-matters-for-business-and-the-economy/

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