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On the Edge of Extinctions or New Life in Environmental-Economic Governance? The Integration of Biodiversity Targets with Economic Policies

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Biodiversity is currently declining at an unprecedented rate. To bend the curve, increased conservation and restoration efforts, as well as more sustainable production and consumption systems, are needed. The Research Centre on the Environment, Economy, and Energy of the Brussels School of Governance and the Open University of the Netherlands organized a series of public policy forums to discuss how to better integrate biodiversity targets with economic policy making after the adoption of the Global Biodiversity Framework. This policy brief summarises key insights from the four policy forums, which focused on biodiversity targets in valuation, finance, trade, and circular economy. Finding the right balance between value integration and trade-offs, coherence and complexity, ambition and implementation, polycentricity and cooperation will be key across the four issue areas.¹

¹ The recordings of the four individual sessions are publicly available on <https://brussels-school.be/output/events/policy-forum-series-biodiversity-economic-policies> (accessed 21 Feb 2024)

Biodiversity² is currently declining at an unprecedented rate. In 2019, the IPBES warned of a serious risk of a sixth mass extinction of species with significant consequences for ecosystems, climate and human well-being.ⁱ Increased conservation and restoration efforts and more sustainable production and consumption systems are needed.ⁱⁱ Several policies have recently been adopted on the European and international level to address the biodiversity crisis, such as the Montreal-Kunming Global Biodiversity Framework, the EU Biodiversity Strategy for 2030, and the WTO agreement on fisheries subsidies. However, none of the ten years Aichi biodiversity targets proposed by the UN Convention on Biological Diversity were reached in 2020 and the dependencies and the impact of human production and consumption patterns on biodiversity are still difficult to capture – both in analytical terms and concrete policies.

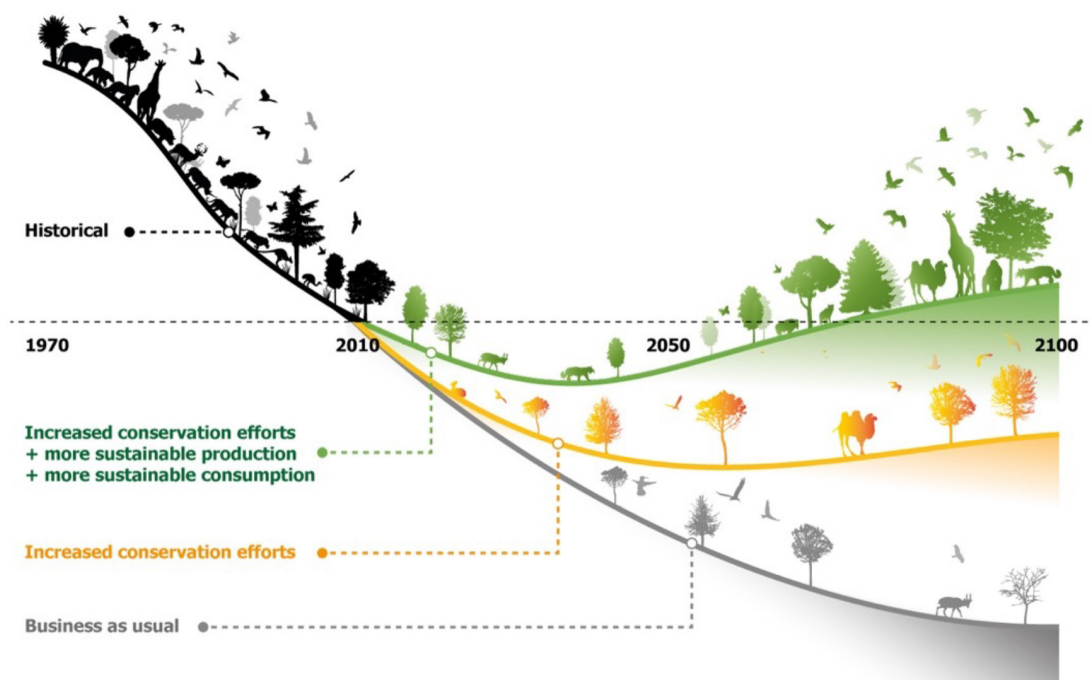
The 3E Research Centre of the Vrije Universiteit Brussel together with the Open University of the Netherlands organized a series of four public policy forums with distinguished experts to discuss how to better integrate, protect and restore biodiversity in economic policy making. Will the new policies ensure biodiversity conservation or fail again to reach their targets? How can economic and financial decision-making better grasp, value, and account for biodiversity? How can the frameworks on the table be

² As per the definition of the Convention on Biological Diversity (art.2), “biological diversity” means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

sufficiently implemented into current economic practices? The series has specifically highlighted the relation between biodiversity and valuation, finance, trade, and circular economy. This policy brief summarizes the results of the four sessions and distils some of the cross-cutting issues to better align economic policy-making with biodiversity protection.

do we proceed? How can policy making address and acknowledge the plural values of nature? David Leclère (IIASA) kickstarted the series with a presentation centred on how modelling scenarios help us to explore the action space to bend the curve of biodiversity loss. Increased conservation efforts such as landscape restoration need to be combined with addressing the drivers of habitat and species' loss, while equity considerations are to be acknowledged to address the wicked, i.e.

Figure 1. Modelling Scenarios for addressing biodiversity loss.



This artwork illustrates the main findings of the article, but does not intend to accurately represent its results (<https://doi.org/10.1038/s41586-020-2705-y>)
Credit: Adam Islaam | International Institute for Applied Systems Analysis (IIASA)

Source: Leclère et al. (2020)ⁱ

Biodiversity Beyond Economic Valuation

The first policy forum built on the expertise of a multi-disciplinary panel to dig deeper into the valuation of biodiversity. While the economic valuation of biodiversity is now increasingly well-known (such as the monetary valuation of the climate benefits provided by forests, and of water retention benefits provided by wetlands), and has without a doubt contributed to the uptake of biodiversity concerns in multiple decision-making contexts, biodiversity and nature cannot and should not however be reduced to mere economic values. But then, how

complex problem of biodiversity conservation. The subsequent panel discussion asked how the new international biodiversity governance architecture, epitomized by the Global Biodiversity Framework (GBF) agreed upon in Montréal & Kunming, and the lively debate on the plural valuation of nature (as popularized by IPBES), can be integrated into an action-oriented debate on how to value and conserve biodiversity. Rein Spiessens (WWF Belgium) highlighted the importance of having a Paris-like agreement for biodiversity, yet immediately warned that close monitoring of its implementation is key. Governance structures should enable NGOs and citizens to act as watchdogs. Luc Janssens de Bisthoven (CEBIOs, Royal Belgian Institute of Natural Sciences) welcomed the breadth of

the GBF's objectives, in particular regarding capacity building – which will help strengthen the linkages between biodiversity conservation and development (among other Official Development Assistance). Calling for a pluricentric³ (instead of a dominant anthropocentric) perspective on nature and biodiversity and advocating a resilience approach is a good way to deal with the valuation of biodiversity. Resilience refers to the capacity to transform or adapt in the face of change. Stijn Neuteleers (Open University of the Netherlands) built on the philosophical foundations of the plural valuation debate to warn about over-optimism regarding the motivational power of putting a price on nature and mentioned the importance of being critical regarding the (lack of) comparability of different types of nature valuation. Acknowledging the instrumental (i.e. of direct use to humans), intrinsic and relational values of nature ideally creates more socially robust policies - and contributes to avoid costly resistance to change. During the ensuing panel discussion, the recent threat of the DR Congo to block the GBF negotiations in December 2022 was seen by some as a step towards emancipation of fragile, biodiversity-rich states, demanding international cooperation to help them conserve world heritage biodiversity. A call for fairness (at local and global levels), and a shared responsibility of so called Global South and Global North actors, pervaded the interventions of all panellists. Connecting back to the start of the session, models were presented as key tools to monitor the implementation of national-level GBF objectives. Finally, the plural valuation of biodiversity, including but not limited to economic valuation, was welcomed as both an effective communication strategy and as a new methodological basis (which can build on the rich experience which was developed among academic and scientific communities, NGOs and UN practitioners in using multiple ecosystem services assessment tools).

Aligning International Trade with Biodiversity Targets

The second policy forum focused on the integration of biodiversity targets in EU trade policy-making. What does the overarching global biodiversity framework mean for EU trade policies and how can EU trade policy be better aligned with biodiversity conservation? The interlinkages between the two policy fields have been dominantly viewed in negative terms – biodiversity protection as a barrier to international trade, and international trade as a cause of biodiversity loss. This panel instead discussed both positive developments and remaining challenges in the biodiversity-trade-nexus.

Madeleina Tuininga (European Commission) reviewed EU trade policies on biodiversity on the unilateral, bilateral, and multilateral level with a focus on current practices.ⁱⁱⁱ In the context of global supply chains, biodiversity remains a challenge for trade policy, due to the complex character of biodiversity and the potential perception of environmental trade policy measures as “green imperialism”. Saskia Bricmont (MEP, Greens/EFA group) underlined the urgency of the biodiversity loss and the high ambitions of the European Parliament in regard to the policy coherence between trade and biodiversity policies.^{iv} Whereas the corporate due diligence directive and the anti-deforestation regulation are steps in the right direction, the implementation of biodiversity commitments in EU trade agreements is critical. A one health approach is needed given the interlinkages between biodiversity, trade, and COVID. Shunta Yamaguchi (OECD) assessed the increasing integration of biodiversity provisions in trade agreements as an encouraging development.^v More research and better data is needed for more transparency, however action could be already taken now in respect to pressure points such as environmental harmful subsidies for fossil fuels, or environmental crime like wildlife trafficking, illegal logging or IUU fishing.^{vi} Marianne Kettunen (Trade, Development and the Environment Hub) pointed to the cross-cutting role of trade for all targets of the Global Biodiversity Framework and the domino

³ Pluricentric world-views focus on relationships between humans and other-than-humans, as well as nature's elements and systemic processes (IPBES).

effect of trade measures in respect to agriculture, fishery, and sustainable development.^{vii}

To increase positive and decrease negative interactions between biodiversity and trade policies, the discussants identified six main challenges: (i) there is a persistent lack of knowledge on how biodiversity and trade policies interrelate in a context of regional and global supply chains. A mapping who does what successfully is lacking, as well as quantifiable targets what long-term success would actually mean until 2050; (ii) Political ambition needs to be increased on pressure points whose negative effects are already well known such as IUU fishing, and on measures with positive effects such as the liberalization of green goods; (iii) Whereas it is yet unclear to what extent biodiversity commitments in EU trade policy and the GBF can effectively reverse declining biodiversity trends, existing tools are not sufficiently implemented. Sustainability Impact Assessments for example could be used more frequently and better reflect biodiversity targets; (iv) The trade and the biodiversity communities are not as separated anymore as in the 1990s, however misunderstandings persist about what trade policy tools can do for biodiversity and about the positive economic potential of addressing biodiversity conservation; (v) International cooperation remains crucial to achieve biodiversity targets. Whereas the EU aims to be an environmental frontrunner, unilateral measures risk losing other countries on the way if the responsibility is not shared and differentiated. The Trade and Environmental Sustainability Structured Discussions are a positive example within the World Trade Organization; (vi) overall, it is also a value question what trade policies and economic integration should aim for: Is the aim of trade policy to increase economic growth only or to achieve broader notions of prosperity?

Protecting Biodiversity Through a Circular Economy

An environmentally sustainable circular economy can be portrayed as optimising the use of materials and energy from the viewpoint of the environment.^{viii} Although the environmental objectives and benefits of a circular economy are often described through proxies such as the durability, repairability,

reusability, recyclability or the recycled contents of a product, the ultimate outcomes of a circular economy are in fact reductions on impacts on the environment.^{ix} Increasingly important among these objectives is to reduce the loss of biodiversity. As was reminded by Barbara Oberč of IUCN in the third of our Policy forums transforming the way that our societies produce, consume and discard materials is an important part of the efforts to conserve and restore biodiversity on our planet (target 16 of Kunming Montreal GBF, which is to “Enable sustainable consumption choices to reduce waste and overconsumption”). A more circular economy is a means to address the drivers of biodiversity loss, especially land use change, climate change, invasive species and pollution. Developing circular economy strategies is nevertheless complex. The strategies need to consider trade-offs, not only between the economy and the environment, but also between multiple different impacts on the environment. Of particular importance are the interlinkages between climate change and biodiversity loss, reminded Anna Karamat from Directorate General Environment of the European Commission. Recent research^x by another of the panelists, Tim Forslund (SITRA), has established that transforming four key sectors of the society – food, forestry, textiles and construction – would have substantial potential to halt and reverse global biodiversity loss to year 2000 levels by 2035. In the panel discussion, also the two-directional interdependence between the nature and economy was highlighted: half of global GDP is at high to moderate risk due to nature loss according to the Commission. Timo Lehesvirta of the Metsä Group gave the example “regenerative forestry” on what such interdependence can mean in the private sector: nature-based solutions promote secured wood production, which contributes to climate change adaptation and mitigation, which feeds back into supporting the nature-based solutions. The aim of such regenerative cycle is to restore nature, focusing on valuable habitats and threatened species hot spots.

The EU is in the process of drafting multiple legislative instruments that as a part of its Circular Economy Action Plan (2020)^{xi} address the interlinkages between a circular economy and biodiversity. Recent proposals on the policy agenda include, for example, the European Critical

Raw Materials Act^{xii}, the Construction Products Regulation^{xiii}, the revision of the rules on packaging and packaging waste^{xiv}, and the Ecodesign for Sustainable Products Regulation^{xv}. For these circular economy policies to actually have an impact on biodiversity loss, careful attention will be required on at least four aspects. First, the focus on preserving and restoring nature is a novel policy objective in circular economy strategies, so there is a lack of experience on how to mainstream biodiversity into such strategies. Timo Lehesvirta reminded that this is also a contentious objective as the political turmoil around the EU's nature restoration law has demonstrated. Second, the circular economy policies themselves require mainstreaming^{xvi} in novel areas such as procurement^{xvii} and trade policies.^{xviii} Third, circular economy policies need to extend their focus from production and end-of-life practices to consumption, where environmentally essential decisions are increasingly taken according to Tim Forslund.^{xix} Reducing food waste and substitution from single-use to sustainably reusable plastic products are further examples, provided by Barbara Oberč. Fourth, as explained above, circular economy policies tend to pursue environmental benefits on the basis of proxies.^{xx} Moving from proxies to actual impacts on the environment is particularly demanding in terms of biodiversity loss, as life-cycle analyses and other tools remain at early stages of development.^{xxi} Progress on all of these four fronts is important, and Europe has an important responsibility to carry. 33% and 26% of biodiversity impacts in Central and Southern America and in Africa, respectively, are driven by consumption outside these regions.^{xxii}

The Integration of Biodiversity into the Financial Sector and Investments

In order to address the Kunming-Montreal's GBF objectives applicable to financial institutions, appropriate regulatory and market-led initiatives need to be further developed. While there is the need to address the subsidizing or financing of economic activities which cause adverse impact on nature, there is also the opportunity to support the transitioning of these activities to mitigate their

negative impacts on the environment and meet the funding gaps for financing a nature-positive economy.

Taking stock of the multiple initiatives which are already under way, the fourth policy forum discussed whether these will be sufficient to meet the pressing and complex challenges of preserving and restoring biodiversity. The session started with an overview of key EU regulatory initiatives that have been put in place or are in development to better account for biodiversity in the financial system, presented by Sébastien Godinot (WWF). As of today, most EU financial sector or corporate finance legislation focuses mainly on reporting requirements. To that extent, the concept of double materiality which considers biodiversity-related risks beyond their financial materiality (i.e. not only how the financing of activities with dependencies or impacts on nature may lead to financial risks per se, but also the actual and potential impacts these financial decisions may have more broadly on the environment and society) is a key dimension to be integrated. Parallel to the regulatory frameworks, new international standards and initiatives such as the Taskforce for Nature Related Financial Disclosures (TNFD) initiative are gaining traction. The TNFD framework presented by Marianne Haahr (Global Canopy) aims to build a risk management and disclosure framework to identify, assess, manage, and disclose nature-related dependencies, impacts, risks, and opportunities.

A key requirement which has been highlighted by investors for better integration of biodiversity is the need for biodiversity-relevant data which can be used to inform financial practices and better measure biodiversity risks and impacts. As highlighted by Arne Klug (MSCI), in practice doing a comprehensive assessment of impact drivers and dependencies on nature is highly complex, and financial institutions are still in a learning phase where they need to build capacity to effectively assess biodiversity-related risks, opportunities and identify the most relevant metrics to act upon. To that extent, there is a need to take and implement decisions based on the best available information before having complete data sets in place, as getting comprehensive, more transparent measurements of nature-related risks and impacts

will require a mid to long-term effort, when at the same time risks and impacts caused by the financing of economic activities on biodiversity need to be mitigated urgently given their high materiality. This includes the development by financial institutions and companies of internal policy guidelines and adopting a clearer stance towards precautionary approaches.

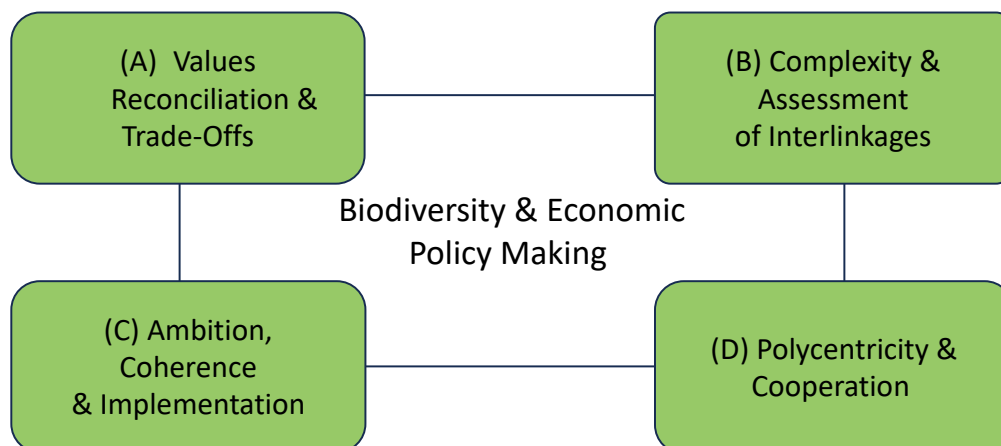
Much emphasis has been put so far on assessing and reporting biodiversity risks in the financial sector, however there is also the question of how and to what extent regulation should also set actual requirements on the operations and practices of the financial sector. The session discussed the opportunity of having direct incentives included in regulatory frameworks to mitigate biodiversity-related risks and redirect capital towards a nature positive economy. This includes tackling prudential rules (such as the Capital Requirements Regulation (CRR), Capital Requirements Directive (CRD), and Solvency II), clarifying the EU ‘transition finance’ policy framework for biodiversity (EU Taxonomy), tightening corporate due diligence rules or completing retail finance policies. Supervisory authorities such as central banks or market authorities also have a key role to play in the development and implementation of new practices. Besides the need for stronger regulatory incentives or signals, Jessica Smith (UNEP FI) highlighted that other dimensions need to be considered as well such as awareness and capacity building in the financial sector to mainstream biodiversity (supporting GBF Target 14 “Integrate Biodiversity in Decision-Making at Every Level”), or portfolio

alignment in terms of setting transparent, time bound and science-based targets (supporting GBF Target 19 to “Mobilize \$200 Billion per Year for Biodiversity From all Sources, Including \$30 Billion Through International Finance”), as defined in the UNEP FI nature strategy.^{xxiii} To that extent, the infrastructure for the financing of Nature Based Solutions contributing positively to biodiversity still needs to be scaled up. A recent study from UNEP^{xxiv} points to the fact that less than 20% of current flows in nature-based solutions comes from the private sector, and that the overall flows targeted at such solutions will have to more than triple in this decade.

Cross-cutting Themes and Ways Forward

Four cross-cutting needs have emerged across the four BSOG-OUN policy forums: (a) For a nature positive economy, the plurality of values in biodiversity and nature, as well as the ensuing, unavoidable trade-offs in the economic system, needs to be acknowledged; (b) Comprehensive assessments of the biodiversity-economy-interlinkages need to be integrated into policy instruments; (c) Ambition and coherence between the various regulatory initiatives are needed to ensure a systemic change approach towards preserving and restoring nature; (d) Cooperation between many types of stakeholders is necessary to take different interests in the economic-biodiversity-nexus into account, and to develop and implement policies beyond the business-as-usual scenario.

Figure 2. Cross-cutting needs to better integrate biodiversity targets in economic policy making.



a) Value Reconciliation and Trade-Offs in the Biodiversity-Economy-Nexus

The IPBES considers a plural lens on biodiversity as crucial due to multiple values and valuations of nature and its contribution to people. In the IPBES' Integrated assessment valuation framework^{xv}, bio-physical, monetary and socio-cultural assessments and diverse valuation methods are combined into hybrid approaches that can be used in specific policy areas such as trade, circular economy and investment. A plural lens on the instrumental, intrinsic and relational values of nature allows to design policies that are more inclusive and fit for purpose. Different perceptions about what trade policy can and should do for promoting the value of biodiversity have hindered the trade and biodiversity communities from discovering the economic benefits of biodiversity conservation and the potential of trade to protect biodiversity. Circular economy policies on for example re-use and recycling may alleviate pressures on biodiversity hotspots, but can also decrease employment in raw material extraction. It is not evident what kind of mechanisms can make the reconciliation of values transparent, how to prioritise the values in case of trade-offs, which institutions are best positioned to discuss and to decide on the values, and how to ensure legitimacy in the eyes of different stakeholders with varying expectations. In investments, conflicting values arise already while defining the investment pathways towards "nature positive" goals. A mitigation hierarchy, best efforts and best practices, as well as investments in nature restoration can serve as first heuristic instruments. However, what about net negative impacts on nature that cannot be avoided, mitigated or restored while pursuing an economic activity? Instruments and systems that could be used for offsetting and compensating the net impacts, such as "biodiversity credits" or "biodiversity offsets", raise fundamental questions about values. To what extent can a negative impact on one ecosystem component and set of values be offset by investing in another activity which restores nature in a different value context? A plural lens on values is critical for legitimate, transparent and inclusive decision-making procedures.

b) Complexity and Comprehensive Assessments of Biodiversity-Economy-Interlinkages

Assessing biodiversity impacts is a complex endeavour, considering the multiple viewpoints – bio-physical, monetary and socio-cultural, as well as the direct and indirect drivers of biodiversity loss and the geo-specific dimension of their impacts. A systems approach is required to grasp the interlinkage within and between biodiversity components and economic activities, potential tipping points and systemic risks. However, such holistic approaches also hinder the applicability of the corresponding tools. In trade, regional and global value chains complicate the attribution of specific biodiversity impacts to specific actors and their accountability across diverse jurisdictions. More information, data and transparency is needed to make the interlinkages transparent and the measures and indicators intuitive. In circular economy, a comprehensive environmental assessment of products necessitates a life cycle perspective. This is a challenge in a global economy, because the multiple interdependent stages of the more sustainable circular lifecycles need to be measured in different countries of the world. In investments, a critical issue for the assessments is the consideration of double materiality, whereby financial institutions and investors need to account for and report on impacts beyond those that can be deemed financially material. The private sector too needs to develop adequate measurement and reporting to better account for its impacts on nature, including habitats, ecosystems and species.

c) The Ambition, Coherence and Implementation of Biodiversity-related Economic Policies

Whereas several regulatory initiatives have been put forward since the IPBES Global Assessment in 2019, it remains unclear whether they are ambitious enough to meet the aspirations of the Global Biodiversity Framework, and whether they are concrete enough to have biodiversity better accounted for in economic policies. There is clearly a need to integrate more biodiversity targets into existing or new economic regulations, however the

new economic legislations need to be coherent with sector and industry specific environmental regulations, such as in the field of habitats, nature protection and restoration, and pollution prevention. Trade policy has direct and indirect consequences on all GBF targets. Furthermore, it may trigger changes also in agriculture and fishery. Whereas multilateral agreements within the WTO would be optimal, it is critical that biodiversity commitments are also increased and implemented in bilateral and regional trade agreements. Circular economy policies often set objectives as proxies (such as increased recycling rates) rather than as actual biodiversity impacts. The lack of precision is however likely to reduce the policy's ability to reach concrete result and makes their measurement difficult. Moreover, the value chains of products are regulated through different sectoral policies from trade law and labour standards to consumer safety. To decrease the impact of products on biodiversity (e.g. through product design requirements) circular economy policies need to be coherent with local, national, and international frameworks, without risking their effective implementation. The emphasis of financing the nature positive transition has been put so far on improving disclosures, reporting and targets by financial institutions and corporates. However, disclosures alone will not be sufficient to internalise these externalities. To shift investment towards nature positive activities, actual economic incentives and environmental standards are required in particular for economic activities with the largest biodiversity footprint or highest potential for nature restoration.

d) Polycentricity and Cooperation in Biodiversity-related Economic Policies

Different actors do not only need to act locally, but also cooperate internationally to take into account transboundary and global dynamics in the biodiversity-economy-nexus. Biodiversity hotspots are not distributed equally among countries and are in many cases located in already vulnerable zones. It is crucial to address burden sharing and distributional issues to ensure the transition towards a nature positive economy – in particular as extraterritorial policies may be apprehended as geo-political interference, or even 'green imperialism'. Whereas polycentric action and specific country-level targets for becoming nature

positive are required, effective cooperation is needed to share the financial burden between countries and between the public, not-for-profit and private actors. In trade policy, the EU moved forward with a number of unilateral instruments such as the EU Deforestation-free Regulation (EUDR), the Corporate Sustainability Due Diligence Directive (CSDDD), or the Carbon Border Adjustment Mechanism (CBAM). Whereas this kind of leadership may be helpful to introduce new measures, they risk losing other countries on the way. Discussions in multilateral fora such as the Trade and Environment Structured Discussions are promising steps forward. In circular economy, strategically important products or materials are increasingly related to industrial and defensive political objectives, such as resilience on critical raw materials. The political sensitivity of these objectives and attempts to regulate these value chains may hinder the long-term biodiversity aims. The International Resource Panel and the initiative to create an international treaty on plastic pollution are among the first steps to collaborate internationally from the perspective of a global circular economy. Whereas the costs of inaction exceed the costs of financing the transition towards a nature positive economy, there is a major financial gap to be met in particular in low-income economies that heavily depend on primary sectors (agro-forestry, mineral extraction) or heavy industries. Investments in nature-based solutions rely heavily on public funding representing more than 80% of the total funding. Accordingly, cooperation will be required not only between high-income and low-income countries, but also between public and private sectors to steer sufficient investment to support the GBF objectives.

Overall, the BSOG-OUN-Policy Forum series highlighted that to achieve the targets of the Global Biodiversity Framework, biodiversity targets need to be better integrated across multiple economic policy fields. Key avenues to be explored are mechanisms and solutions to reconcile and trade-off values, address complexity in the assessment of biodiversity-economy-interlinkages, ensure better coherence and ambition across different levels and fields of economic policy making, as well as explore options for polycentric action and cooperation among multiple actors. Efforts across these areas are necessary to ensure the systems level change that is required for preserving and restoring nature.

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- ^{xiii} COM(2022) 144 - Proposal for a Regulation laying down harmonised conditions for the marketing of construction products, amending Regulation (EU) 2019/1020 and repealing Regulation (EU) 305/2011.
- ^{xiv} COM(2022) 677 - Proposal for a regulation of the European Parliament and of the Council on packaging and packaging waste, amending Regulation (EU) 2019/1020 and Directive (EU) 2019/904, and repealing Directive 94/62/EC.
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