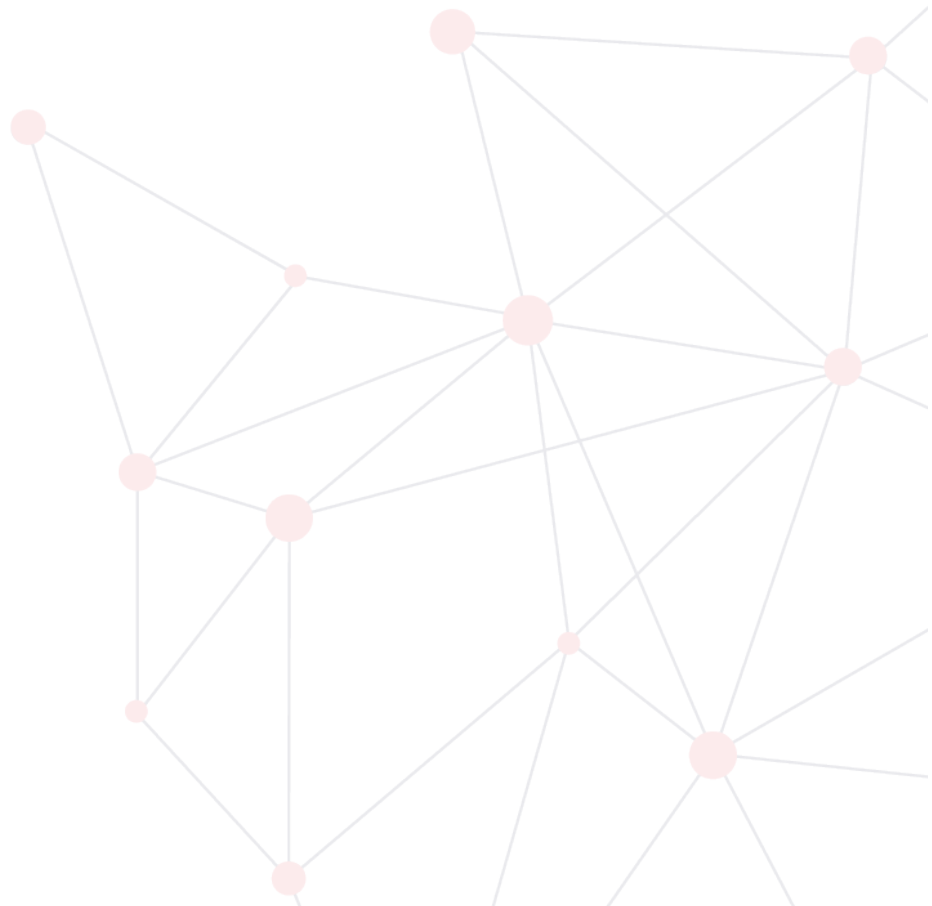

Incentivising private sector contributions to multilateral funds for the protection of biodiversity

Camila Cristancho Duarte, Agata Makowska-Curran, Juan David Merlo and Alejandro García Cabrera

Policy report

October 2026



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Abbreviations

ABS	Access and benefit-sharing
BBNJ	Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction
CBD	Convention on Biological Diversity
COP	Conference of the Parties
DSI	Digital sequence information on genetic resources
DSI MLM	Multilateral mechanism for digital sequence information for genetic resources established under CBD Decision 15/9
ESG	Environmental, social and governance
GBF	Global Biodiversity Framework
INSDC	International Nucleotide Sequence Database Collaboration
IPLCs	Indigenous Peoples and local communities
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
IRCC	Internationally recognised certificate of compliance
KMGBF	Kunming-Montreal Global Biodiversity Framework
MAT	Mutually agreed terms
MPTFO	Multi-Partner Trust Fund Office
MSA	Mean species abundance
PABS	Pathogen Access and Benefit-Sharing
PDF	Potentially disappeared fraction of species
PIC	Prior informed consent
PIP Framework	Pandemic Influenza Preparedness Framework
SMTA	Standard Material Transfer Agreement
UNDP	United Nations Development Programme
UNCLOS	United Nations Convention on the Law of the Sea
WHO	World Health Organization
WIPO	World Intellectual Property Organization

Glossary

Cali Fund	Global fund for the Multilateral Mechanism for the Fair and Equitable Sharing of Benefits from the Use of Digital Sequence Information on Genetic Resources (DSI).
CBD Clearing House Mechanism	An information-sharing platform established in Article 18.3 of the Convention on Biological Diversity (CBD) that facilitates scientific and technical cooperation among Parties, supporting non-monetary benefit-sharing through information exchange and capacity-building.
Deadweight	The portion of an incentive payment that supports behaviour that would have occurred even without the incentive.
Digital sequence information (DSI)	Refers broadly to nucleotide and protein sequence data, and associated information, derived from genetic resources and stored in digital form, typically accessed through public sequence databases rather than physical specimens. The term itself, however, remains a placeholder, as no formal definition of DSI has yet been adopted under the CBD. This report applies the term only to non-human sources, including plants, fungi, animals and microorganisms.
Genetic resources	Genetic material of plant, animal or microbial or other origin containing functional heredity that has actual or potential value (CBD Art. 2).
Multilateral Mechanism for the Fair and Equitable Sharing of Benefits from the Use of DSI (DSI MLM)	Established at COP15 through Decision 15/9, and later operationalised at COP16 through Decision 16/2, this mechanism serves as the framework for the fair distribution of both monetary and non-monetary benefits generated from the use of DSI. The system for sharing monetary benefits is implemented through the Cali Fund.
Mutually agreed terms (MAT)	Under the CBD, mutually agreed terms refer to the requirement that access to genetic resources, and the sharing of any benefits arising from their use, be governed by a contractual arrangement between the parties involved: the country providing the resource, acting through its competent national authority, and the party seeking to use it (CBD Art. 15(2) (4) and (7)).
Nagoya Protocol	The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) to the Convention on Biological Diversity was adopted in 2010 and entered into force in 2014, it supplements the CBD, establishing a transparent legal framework for implementing one of the Convention's three core objectives: the fair and equitable sharing of benefits arising from the use of genetic resources.
Prior informed consent (PIC)	A key requirement under the Nagoya Protocol, meaning researchers or companies must obtain official permission from a provider country before accessing its genetic resources.
Safe harbour	A term used in securities, tax and environmental regulation for an arrangement in which meeting specified conditions shields a party from further liability on the same matter.
UN Multi-Partner Trust Fund Office (MPTFO)	Hosted by the UNDP, the MPTFO acts as the UN system's central administrative agent and technical hub for pooled funding mechanisms.

Summary

Mobilising private finance for biodiversity

Biodiversity underpins a large share of global economic activity, yet the finance available to protect it falls well short of what is needed. An estimated US\$300 billion to US\$1 trillion per year is required by 2030, compared with current nature conservation spending of around US\$220 billion annually, more than 80% of which comes from governments.

Closing this gap will require greater public spending alongside new approaches to mobilising private finance. This report asks how private sector contributions to global biodiversity funds can be incentivised and integrated into core business activity rather than treated as philanthropy. Taking the Cali Fund as our primary case study, we draw out lessons for other biodiversity finance mechanisms. Combining a literature review with semi-structured interviews with digital sequence information (DSI) experts and participation in [DSI Informal Dialogues](#), we find that the business case for biodiversity does not in itself create a strong incentive to contribute to multilateral biodiversity funds. Participation is more likely to increase where contributions are commercially visible, non-contribution carries costs, and the value of contributing increases or its effective cost falls.

The Cali Fund: a pioneering mechanism with an uncertain revenue base

The Cali Fund provides a leading test case for this approach. It was created in response to the growing commercial use of DSI, genetic data that is commonly accessed through open-access databases. The scale and ease of accessing and using DSI made the traditional bilateral, deal-by-deal model of access and benefit-sharing (ABS) under the Nagoya Protocol increasingly impractical.

Parties to the Convention on Biological Diversity (CBD) therefore established a multilateral benefit-sharing mechanism through Decision 15/9 at the 15th Biodiversity Conference of the Parties (COP15) in Montreal, Canada, in December 2022, and operationalised it through Decision 16/2 at COP16 in Cali, Colombia, in October 2024. Inaugurated in February 2025 and administered by the UN Multi-Partner Trust Fund Office, the Cali Fund is the first multilateral mechanism to draw contributions directly from companies that benefit financially from biodiversity-derived genetic information.

Under Decision 16/2, companies are encouraged to contribute to the Cali Fund if they use DSI directly or indirectly, operate in one of seven indicative sectors, and exceed at least two of three financial thresholds over three consecutive years. The indicative contribution rate is 1% of profits or 0.1% of revenue. However, these contributions are not legally binding. As of October 2026, the Fund had received just five contributions, totalling US\$10,577, from UK and Belgium-based small- and medium-sized enterprises (UN MPTF, 2026).

Even if contributions increase, the Fund's potential revenue is concentrated among a relatively small group of sectors and jurisdictions. Pharmaceuticals are expected to account for roughly half of projected revenue under the Fund's central scenario, while the 10 largest contributing jurisdictions account for around 74%, with China alone representing more than 25%. This leaves the Fund dependent on a narrow set of large contributors.

Lessons from comparable mechanisms

Comparison with other multilateral mechanisms suggests that the success of voluntary contribution schemes depends less on the headline contribution rate than on the conditions under which they operate. Under the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA, or the Plant Treaty), contributions from six companies totalled just US\$825,000 by May 2025, compared with US\$36.9 million raised mostly from governments. This reflects, in part, the ability of users to avoid contribution requirements. By contrast, under the World Health Organization's Pandemic Influenza Preparedness Framework (WHO PIP), 17 vaccine

manufacturers, representing around 85% of pandemic vaccine production, have contributed US\$354.7 million since 2012 despite having no legal obligation to do so. This reflects a clearly defined contributor base and manufacturers' operational dependence on the Framework. These comparisons also highlight the importance of the wider institutional context in shaping incentives to contribute. The WHO Pandemic Agreement and the Agreement on Marine Biological Diversity of Areas beyond National Jurisdiction (BBNJ Agreement) raise the prospect of multiple, overlapping obligations for activities involving DSI.

Constraints and motivations for corporate action

The challenge of securing voluntary corporate contributions is structural, not simply a question of Fund design. Biodiversity behaves as a common pool resource: companies bear the costs of conservation, while the benefits are shared more widely. This creates a collective action problem for voluntary contributions. The literature suggests that biodiversity becomes strategically relevant to firms when it can be linked to commercial outcomes, including market access, product differentiation and competitive advantage, as well as social licence to operate and shareholder expectations. However, most sectors prioritised under Decision 16/2 remain underexplored in this literature. Contributing to the Cali Fund also does not currently discharge a company's separate obligations under national access and benefit-sharing law under the Nagoya Protocol. Stakeholder interviews suggest that a general business case for biodiversity does not, by itself, translate into an incentive to contribute to a mechanism such as the Cali Fund.

Policy options and recommendations

We organise policy options around four complementary levers that strengthen the incentives for companies to contribute to a multilateral fund. The most credible approach combines several levers. It should also keep two functions distinct: raising revenue for the Fund as a shared, multilateral public good, and mobilising investment for individual, company-specific projects.

- **Lever 1: Making contributions commercially visible.** DSI dependency is effectively invisible in corporate disclosures: only one of more than 20 sustainability reports reviewed mentions DSI, none of the disclosure frameworks reviewed refers to it explicitly, and commonly used biodiversity indicators do not capture genetic diversity. Standard-setters could build on Global Reporting Initiative (GRI) 101-3 and Taskforce on Nature Financial Disclosures (TNFD) approaches by adding quantitative indicators of DSI dependence, while negotiators address the definitional ambiguities in Decision 16/2. The Cali Fund's existing certificate should be independently verified, clearly defined and tied to a specific reporting period, and could evolve towards a tiered scheme anchored to the Decision's indicative rates. National ABS certification schemes in Costa Rica and India show that such a certificate can work as a market signal, though their limited uptake suggests that its value depends on sustained promotion. An official mark for verified contributors, accompanied by clear guidance on what claims it supports, could enable companies to communicate their participation without implying attributable outcomes from a pooled fund.
- **Lever 2: Increasing the cost of non-contribution.** Investor coalitions already engaging companies on biodiversity, such as Nature Action 100, Finance for Biodiversity and the Principles for Responsible Investment's (PRI) Spring initiative, could incorporate standard questions on Cali Fund contributions and DSI dependence into their engagement dialogues. The Conference of the Parties could also signal whether stronger benefit-sharing expectations are likely to emerge over time, giving companies an incentive to build internal DSI-tracking systems ahead of any future requirement.
- **Lever 3: Increasing the value of contributing.** A lightweight contributors' arrangement, building on the existing certificate, could offer verified contributors regular updates on Fund allocations and results, alongside structured dialogue with governments, Indigenous Peoples and local communities. This should not confer preferential influence over allocation or governance. The Conference of the Parties could also task the Secretariat

with developing guidance on how the Cali Fund relates to national ABS frameworks and other international instruments, with options ranging from mutual recognition to more limited safe harbour provisions providing legal certainty where specified conditions are met.

- **Lever 4: Reducing the cost of contributing.** A bond-linked contribution would be credible only as a ring-fenced, use-of-proceeds instrument with robust governance and external review; Germany's sovereign green bond support to PROBLUE offers the closest precedent. Tax authorities in jurisdictions where major DSI-using companies are headquartered could clarify the treatment of verified contributions for corporate tax purposes. Where governments choose to offer targeted fiscal incentives, eligibility should require prior verification, following Colombia's environmental tax credit, and incentives should be reviewed periodically to guard against excessive fiscal costs.

The Cali Fund is at an early stage of implementation, and its first contributions offer an initial signal of private sector engagement. Its future trajectory will depend in part on how several open design questions are resolved, including the scope of Decision 16/2, the Fund's relationship with national and international benefit-sharing regimes, and the incentives available to contributing companies. How these questions are addressed will help determine whether the Fund can translate its considerable theoretical revenue potential into sustained private sector participation.

1. Introduction

Efforts to close the biodiversity finance gap increasingly recognise the need to mobilise greater private finance alongside public resources. One emerging approach seeks to create a more direct connection between the economic value companies derive from biodiversity and their contribution to its conservation. This raises a particular challenge for multilateral biodiversity funds, where the benefits of conservation are widely shared but the commercial value of contributing may be less immediately visible.

This report addresses a timely and underexplored question at the forefront of biodiversity finance: how can private sector contributions to global biodiversity funds be effectively incentivised and embedded in core business activity, rather than viewed as philanthropic?

Grounded in economic theory, institutional design literature and stakeholder interviews, this report examines how benefit-sharing frameworks, in particular multilateral funds, can be designed to align private incentives with public conservation goals. It identifies transferable lessons from other research areas and examines policy and regulatory tools, such as sustainability disclosure standards, financial instruments and compliance mechanisms.

Bringing biodiversity into business decision-making

Businesses and investors are increasingly recognising that nature-related dependencies, impacts, risks and opportunities can have material financial implications. Developments such as the Taskforce on Nature-related Financial Disclosures (TNFD), emerging disclosure requirements and growing investor scrutiny have accelerated efforts to integrate biodiversity considerations into corporate strategy and risk management.

Alongside these developments, new mechanisms and policies are emerging to better reflect the value of biodiversity through the creation of markets, such as biodiversity credits, which seek to incentivise and reward positive biodiversity outcomes through market-based payments.

Much of this activity remains focused on managing biodiversity-related risks. A narrower set of initiatives goes further, seeking to recognise companies' positive reliance on biodiversity and to treat its preservation as a business-relevant objective in its own right.

The Cali Fund as a test case

One such development is the Cali Fund, established under the [Convention on Biological Diversity \(CBD\) Decision 16/2](#) to operationalise benefit-sharing from the use of digital sequence information on genetic resources (DSI). As the first multilateral mechanism of its kind to draw contributions directly from private sector companies that benefit from biodiversity-derived genetic information, the Fund offers an important test case for mobilising private capital for biodiversity and the people who protect it. Establishing effective incentive structures to support participation will therefore be critical to the success of this pioneering agreement and its potential to reshape nature finance and multilateral finance more broadly. This report therefore uses the Cali Fund as its primary focus, drawing out lessons that may also be relevant to the design of other biodiversity finance mechanisms.

Structure of the report

The remainder of the report is structured as follows. **Sections 2–4** establish the biodiversity finance context, trace the evolution of benefit-sharing from the Nagoya Protocol to DSI, and describe the Cali Fund. **Sections 5 and 6** examine lessons from comparable multilateral mechanisms and the constraints and motivations shaping corporate action on biodiversity. **Section 7** develops policy options for strengthening incentives to contribute, while **Section 8** considers their application in two additional biodiversity finance contexts. **Section 9** brings together the report's conclusions and policy recommendations.

2. The biodiversity finance gap

This section sets out the scale and significance of the biodiversity finance gap. It first considers the economic and social value supported by biodiversity, before examining the shortfall in public and private finance and emerging approaches to mobilising greater private contributions.

Biodiversity: the hidden foundation of economic prosperity and growth

Biodiversity underpins human societies in tangible ways, from its cultural and spiritual significance to its role in supporting economic growth. The World Economic Forum (WEF) estimated that roughly US\$44 trillion of economic value generation, or almost half of global gross domestic product (GDP), is moderately or highly dependent on nature and its services (WEF, 2020). PwC later revised this estimate upwards to around US\$58 trillion, or 55% of global GDP (PwC, 2023). Biodiversity contributes to this economic value across a wide range of sectors and activities. Roughly 80% of registered medicines are derived from or inspired by natural products (CBD, 2021), while global trade in medicinal plants alone exceeds US\$2.5 billion (WHO and SCBD, 2015). Pollination provides another example: it is estimated to be directly responsible for 5–8% of global crop production, with an annual market value of US\$235–577 billion (IPBES, 2016).

The benefits to livelihoods sustained by the world's biodiversity and the services it provides extend beyond economic value. One in five people worldwide relies on wild plants, algae and fungi for their food and income; around 2.4 billion people depend on fuel wood for cooking, and roughly 70% of the world's low-income population is directly dependent on wild species (IPBES, 2022). Preserving biodiversity is therefore not merely an environmental goal but a foundation of human wellbeing. As ecosystems degrade, the services they provide weaken and biodiversity is lost, exposing the sectors and the billions of livelihoods built upon them to compounding and often irreversible risk. Safeguarding biodiversity is safeguarding the systems on which human prosperity depends.

The shortfall in public and private biodiversity finance

It is estimated that between US\$300 billion and US\$1 trillion is needed annually by 2030 to close the biodiversity finance gap and effectively protect and restore nature (IPBES, 2026). Failure to close this gap risks irreversible ecosystem collapse, greater exposure to climate risks, economic losses and worsening inequality, particularly for the world's most vulnerable communities.

These financing needs significantly exceed current spending on nature conservation, estimated at around US\$220 billion per year (IPBES, 2026). Governments provide over 80% of this amount, equivalent to around US\$176 billion annually¹ through mechanisms including blended finance, grants and tax credits. At the same time, governments spend an estimated US\$500–800 billion each year on subsidies for agriculture, fisheries and forestry that harm biodiversity (UNEP, 2023; BloombergNEF, 2024). Target 18 of the Global Biodiversity Framework (GBF) aims to redirect US\$500 billion per year of these subsidies to support nature by 2030, but progress to date has been insufficient (OECD, 2020, 2021).

Private finance also remains critically underleveraged, contributing only around US\$35 billion each year (IPBES, 2022; UNEP, 2023). Despite growing interest in nature-related investments, the scale of the challenge demands a rapid and substantial increase in private capital flows. Private finance is essential not only to supplement constrained public budgets, but also to drive innovation and unlock new markets for nature-positive solutions supporting long-term ecological and economic resilience.

¹ The 80% share reported for 2020 is applied to the updated 2023 spending estimate, as an equivalent share for 2023 was not available.

Beyond public finance: the search for new funding mechanisms

Addressing the global biodiversity finance gap will require significantly greater mobilisation of private capital alongside the redirection of public finance flows from harmful subsidies towards nature-positive investments. While governments will remain central providers of biodiversity funding, growing attention is being given to mechanisms that can facilitate regular and sustained private payments for the economic value that biodiversity provides to businesses.

Several instruments are being explored as part of this broader search for private funding. This section briefly maps the landscape. Section 7 examines each instrument's potential and limitations in detail, including as a possible model or complement for private sector contributions to the Cali Fund.

- **Biodiversity certificates** seek to translate conservation or restoration activities and, in some cases, measured biodiversity gains, into units that companies and investors can finance. Unlike one-off philanthropic contributions, these instruments aim to create a more structured and potentially recurring link between private payments and identifiable biodiversity outcomes. Some are designed as positive contributions rather than offsets (e.g. the [United Kingdom's biodiversity net gain](#)) allowing purchasers to support conservation without claiming that their own environmental impacts have been removed (Wauchope et al., 2024). Certification and ecolabelling operate downstream, embedding biodiversity considerations into consumer and supply-chain purchasing decisions.
- **Nature-related disclosure frameworks** work further upstream, making companies' biodiversity impacts and dependencies more visible to investors and regulators.
- **Fiscal measures**, such as environmental taxes, conservation fees and tax reliefs, are better understood as national policy instruments that shape private incentives rather than direct sources of private finance. Evidence from Canada and Brazil suggests that they can nevertheless mobilise private action when paired with a supporting institutional framework (Schuster et al., 2018; Young and Castro, 2021). More stringent environmental policies and legislation have similarly been shown to help redirect credit flows towards private funding for nature (Ortega and Ossandon Busch, n.d.).

A related but distinct approach starts from a different premise: that those who benefit from biodiversity should contribute to its conservation and to the fair sharing of the benefits it generates. This principle underpins the access and benefit-sharing (ABS) framework established under the Convention on Biological Diversity (CBD), which focuses on the sustainable management of genetic resources and sharing of benefits derived from their use (UNCTAD, 2014).

3. From Nagoya to Cali: evolving approaches to sharing the benefits of biodiversity

This section traces the evolution of access and benefit-sharing from the bilateral framework established under the Nagoya Protocol to the multilateral approach developed for digital sequence information. It explains how the characteristics of DSI created challenges for traditional benefit-sharing arrangements and ultimately led to the establishment of the Cali Fund.

Understanding access and benefit-sharing

Genetic resources, as an essential element of biodiversity and a crucial input for scientific research and commercial development, sit at the centre of these challenges. ABS mechanisms established under the Convention on Biological Diversity provide the legal and institutional framework for regulating access to genetic resources² under national jurisdictions and ensuring that the benefits arising from their use are shared fairly and equitably.

A key legal foundation of ABS under the CBD is the acknowledgement of states' sovereign rights over their natural resources (Article 15 of the Convention). Building on this principle, the Nagoya Protocol was adopted in 2010 and entered into force in 2014 as a supplementary instrument to the CBD, specifically dedicated to implementing ABS (Greiber, 2012; CBD, 2015). As of February 2026, the Protocol had been ratified by 142 countries (CBD, 2026a).

The Nagoya Protocol applies to genetic resources covered by the CBD and to the benefits arising from their use. It also extends to traditional knowledge associated with these genetic resources and the benefits derived from using that knowledge (CBD, 2015). The system operates through bilateral, case-by-case agreements: users must obtain prior informed consent from the provider country and agree on terms for sharing any resulting benefits before accessing the resource.

The limitations of bilateral access and benefit-sharing for digital sequence information

At the time the Nagoya Protocol was being developed, scientific fields such as synthetic biology and gene sequencing were still emerging, and the ABS rules were primarily designed for tangible genetic resources rather than their digital counterparts (Vooren and Gevrenova, 2025). As scientific practices have progressed, life science research and development have come to depend increasingly on genetic data stored digitally, reducing the need for repeated physical collection of biological samples (Maia and Bourgeois-Gironde, 2025).

In parallel, open science practices have encouraged the widespread dissemination of genetic sequence data through publicly accessible databases (Scholz et al., 2022; Maia and Bourgeois-Gironde, 2025). Advances in sequencing technologies now allow DNA, RNA and proteins to be sequenced quickly and at relatively low cost, after which the resulting sequence data are routinely deposited in large open-access³ repositories such as the International Nucleotide Sequence Database Collaboration (INSDC) (Rohden et al., 2020). Once deposited, the data are freely available for researchers around the world to reuse, typically without further interaction with the country that originally supplied the genetic material (Maia and Bourgeois-Gironde, 2025).

Beyond the rapid and extensive circulation of DSI, CBD deliberations have highlighted challenges familiar from bilateral ABS frameworks, including traceability and the use of genetic material derived from multiple sources (Maia and Bourgeois-Gironde, 2025). For DSI, these challenges are magnified by scale: a single invention can draw on a very large number of sequences, making sequence-by-sequence bilateral agreements impractical.

² As defined by the CBD, genetic resources refer to "genetic material of actual or potential value", with genetic material further defined as "any material of plant, animal, microbial or other origin containing functional units of heredity" (CBD 1992).

³ Although numerous repositories follow open-access principles, their database governance frameworks vary in terms of use, metadata requirements and data-sharing provisions.

The transition towards multilateral benefit-sharing for digital sequence information

In response to the practical difficulties of applying the Nagoya Protocol's bilateral approach to DSI, CBD COP15 adopted Decision 15/9 (CBD, 2022), establishing a multilateral mechanism for the fair and equitable sharing of benefits from the use of digital sequence information on genetic resources (DSI MLM). In parallel, DSI was incorporated into Goal C and Target 13 of the Kunming-Montreal Global Biodiversity Framework (CBD, 2024b), embedding benefit-sharing from DSI within the objectives of the new global framework.

Building on this outcome, at COP16 in Cali, Colombia, in October 2024, Parties adopted Decision 16/2 (CBD, 2024a), which set out the modalities for operationalising the multilateral mechanism. The Decision established a dedicated global financing instrument, the Cali Fund, to receive and distribute benefits arising from the use of DSI.

The Cali Fund was officially inaugurated in February 2025 and is administered by the United Nations Multi-Partner Trust Fund Office (UN MPTFO, 2026), under the authority of and accountable to the Conference of the Parties.⁴

⁴ Decision 16/2, Annex, para. 21.

4. Understanding the Cali Fund

This section sets out how the Cali Fund is designed to operate, including the scope of the mechanism, how benefit-sharing works and which companies are expected to contribute. It also examines the Fund's revenue potential and the advantages and limitations of its current design.

Defining DSI and the scope of the multilateral mechanism

Within the CBD and other international agreements, DSI functions as a placeholder term, reflecting the lack of a commonly agreed definition (Houssen et al., 2020). Under the CBD, where most discussions on its meaning and boundaries have taken place, DSI is understood as a broad umbrella term covering a wide range of data types and uses, including DNA, RNA and protein sequences. This broad scope partly reflects the use of DSI across numerous scientific disciplines, which continue to evolve and interpret the concept in somewhat different ways (Heinemann et al., 2018; Smyth et al., 2020).

Box 4.1 sets out which DSI falls within the scope of the multilateral mechanism under Decision 16/2.

Box 4.1. Digital sequence information within the scope of the multilateral mechanism

[Decision 16/2 Annex para. 1] The multilateral mechanism covers DSI where it is:

- (a) publicly available, in compliance with national legislation, where applicable;
- (b) not governed by an existing bilateral agreement (mutually agreed terms), unless that agreement permits free access; and,
- (c) not already subject to benefit-sharing obligations under another international agreement.

In plain terms, subparagraph (a) excludes DSI held in private or closed databases unless it has been deposited somewhere publicly accessible. Subparagraph (b) preserves existing bilateral agreements under the Nagoya Protocol; where mutually agreed terms already govern the DSI, the multilateral mechanism does not apply, unless those terms permit free availability. Subparagraph (c) is intended to avoid duplication with other regimes where benefit-sharing from DSI is already provided. At present, the effect of this exclusion is unclear. Neither the International Treaty on Plant Genetic Resources for Food and Agriculture's (ITPGRFA) Multilateral System nor the World Health Organization Pandemic Influenza Preparedness Framework (WHO PIP Framework) currently extends benefit-sharing obligations to DSI, and both remain under negotiation. The WHO Pandemic Agreement has established a Pathogen Access and Benefit-Sharing (PABS) system, though its modalities are still being negotiated. More instruments affecting private entities are therefore likely to emerge, and the practical reach of subparagraph (c) will depend on how they develop. These and other international agreements are discussed in more detail in Section 5.

From access to benefit: how the mechanism works

The DSI MLM created under Decision 15/9 and further operationalised by Decision 16/2, differentiates between access to and use of DSI, and the modalities for benefit-sharing from its use. Its design makes important distinctions between commercial and non-commercial users, as well as between monetary and non-monetary forms of benefit-sharing, as illustrated in Figure 4.1 below.

DSI can be accessed through public and private databases.⁵ Users are grouped based on the type of activities they conduct. When DSI is used for commercial purposes, benefit-sharing is primarily

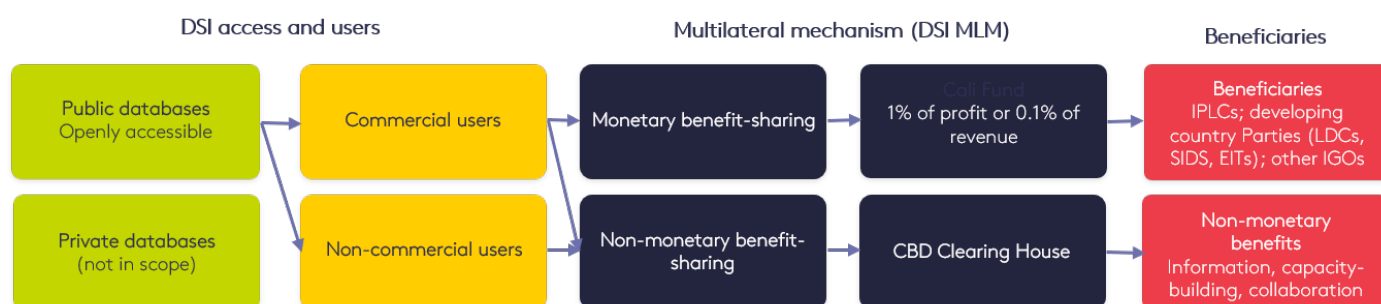
⁵ Note that Decision 16/2 Annex para.1(a) narrows the DSI covered by the DSI MLM.

expected to occur through monetary contributions to the Cali Fund.⁶ Non-commercial use of DSI, by contrast, is largely linked to non-monetary benefit-sharing, such as the exchange of information, capacity-building and scientific collaboration,⁷ which are supported through the CBD Clearing-House mechanism.⁸

In practice, the boundaries between commercial and non-commercial use can blur (e.g. in partnerships between academia and industry or in research that results in commercial products) (Vieira, 2015). The DSI MLM may also provide guidance on addressing these cases.

The benefits generated through the DSI MLM are intended to be allocated to Indigenous Peoples and local communities, developing countries, and other stakeholders with recognised capacity and technological needs, as well as to other intergovernmental forums that employ the mechanism.⁹

Figure 4.1. The digital sequence information multilateral mechanism



Notes: IPLCs – Indigenous Peoples and local communities; LDCs – least developed countries; SIDS – small island developing states; EITs – economies in transition; IGO – intergovernmental organisation.

Source: Authors' illustration based on the CBD (2026b) and Orozco and Scholz (2025)

Who is expected to pay: the mechanics of contribution

Translating Decision 16/2 modalities into practice poses the question of who should pay into the Cali Fund, and how much. The Decision addresses this through a set of indicative criteria covering DSI use, sector, and company size, all of which should be met before a contribution is expected, at the rates set out in the Decision (see Figure 4.2; full text in Appendix 2). In short, the mechanism targets large commercial entities in sectors understood to benefit directly or indirectly from DSI use, with contribution levels designed to be proportionate to company size rather than DSI use itself, since usage is difficult to measure directly. However, the boundaries of the mechanism remain open to interpretation, pending further guidance from the Conference of the Parties.

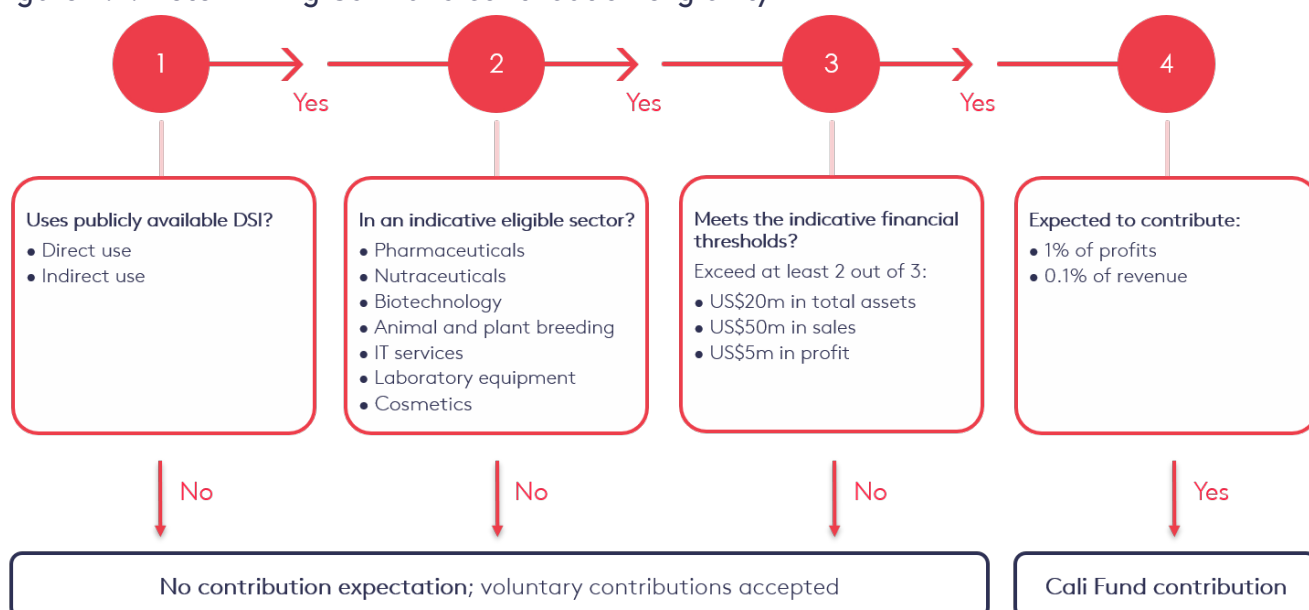
⁶ Annex, para. 3 to Decision 16/2.

⁷ Annex, para. 6 to Decision 16/2.

⁸ Annex, para. 8 to Decision 16/2. The CBD Clearing House mechanism is an information-sharing platform administered by the CBD that facilitates scientific and technical cooperation among Parties, underpinning non-monetary benefit-sharing such as knowledge transfer and capacity-building.

⁹ The mechanism is designed to work in a mutually supportive manner with other relevant instruments and processes, with operational coordination expected wherever other fora adopt compatible approaches.

Figure 4.2. Determining Cali Fund contribution eligibility



Source: Authors' illustration based on Decision 16/2

Estimating the Cali Fund's revenue potential

The Cali Fund's revenue potential is subject to several assumptions. A recent working paper by Makowska-Curran (2026) made the first attempt to identify all eligible companies globally by applying the indicative contribution thresholds and sectoral affiliation criteria (see Figure 4.2 for the thresholds and indicative sectors) to Orbis, a private database of global companies (Moody's Analytics, 2026). The study identified 21,690 entities across 100 CBD Party jurisdictions as potential contributors. If all of these entities were to contribute at the indicative rates set out in Decision 16/2, the Cali Fund would be expected to generate approximately **US\$3.6 billion per year**. This figure represents only a theoretical ceiling, since participation under Decision 16/2 is encouraged rather than mandatory.

A more realistic central estimate is roughly **US\$929 million a year**. This estimate adjusts for differences in participation across sectors, ownership type and the intensity of DSI use, based on assumptions derived from the peer-reviewed literature.¹⁰

The gap between full participation and a more realistic outcome is the principal source of uncertainty around the Fund's revenue, driven by the degree of participation rather than by the indicative contribution rates themselves. The empirical literature on voluntary environmental schemes which is used to calibrate the sector-specific participation rates in the Fund's revenue model, suggests participation rates of 15–40% (Nawaz et al., 2021; Lawson et al., 2025; Hobbs, 2002; Stamboulakis and Sanderson, 2020). Applying these rates reduces participation to around a quarter of the eligible pool, producing a central estimate of US\$929 million per year (Makowska-Curran, 2026).

A forthcoming CBD Secretariat study on contribution rates and competitiveness impacts narrows the potential range further, using the real-world performance of a structurally comparable mechanism as a lower benchmark: the Multilateral System of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). Its current contributions amount to roughly US\$55,000 a year, equivalent to just 0.5% of the projected US\$10 million (Moeller and

¹⁰ Participation rates and DSI intensity adjustments used in the central scenario are not directly observed. They are calibrated from literature on analogous voluntary schemes and sector-level proxies, respectively, since no data source currently measures either at the firm level. The resulting range should be read as reflecting this reliance on inferred rather than observed values, not as a forecast.

Stannard, 2013). Applying the same participation rate to the Cali Fund would put annual revenue at around **US\$46 million**.

It is worth noting that under the most optimistic, full-participation scenario in Makowska-Curran (2026), the Cali Fund, under its current modalities, could capture less than 0.1% of the US\$1 trillion annual biodiversity finance gap, positioning it as one of many solutions needed to close the gap. The multilateral mechanism presents a novel opportunity to involve the private sector directly, but in its current non-binding form, its success requires broad participation.

As of August 2026, only two companies had contributed to the Fund. The first payment, US\$1,000 from [UK-based TierraViva AI](#), was received in November 2025, roughly nine months after the Fund's official launch. A second payment of US\$5,000 was made in [July 2026 by another UK-based company, Prozomix](#), described as the first biotech company to contribute. While both payments provide a positive signal of early private sector engagement, neither company falls within the Fund's expected contributor base: both are small- and medium-sized enterprises (SMEs) and do not meet the two-of-three financial threshold set out in Decision 16/2. The Fund's actual contributor base to date therefore looks markedly different from the large-firm-dominated revenue base assumed in the modelling above.

Beyond its overall magnitude, the Fund's revenue base is also highly concentrated, shaping both how much it can raise and how stable those revenues are likely to be. Pharmaceuticals and information and AI services together account for roughly half of full-participation revenue, despite representing only 40% of eligible firms. In the realistic central scenario, pharmaceuticals account for almost half of total contributions, while the share from information and AI falls to around 11%. Geographic concentration follows a similar pattern: the ten largest contributing jurisdictions represent about 74% of central-scenario revenue, with China alone accounting for more than 25%. Because revenue is generated primarily by a small number of large firms, it is relatively insensitive to changes in the eligibility thresholds: doubling all three thresholds would remove 43.5% of eligible firms yet reduce contributions by only 7.4% (Makowska-Curran, 2026).

Advantages and limitations of the current design

These design choices come with clear benefits but also leave several questions unresolved. As part of our research, we interviewed 14 DSI experts including scientists, negotiators, government officials and company representatives. The interview findings were supplemented by observations and discussions from the authors' participation in DSI Informal Dialogues organised by Geo-Media and sponsored by the Norwegian Cooperation Agency and the EU Commission. The main advantages and limitations of the current design identified through this research are set out below.

Advantages

- The size- and sector-based thresholds are simple to apply and do not require tracing individual DSI transactions, which would be difficult in practice given how sequence data are shared and reused. Avoiding such tracking and tracing was an explicit aim of the multilateral approach.
- Because a small number of large firms account for most potential revenue, the Fund's income is relatively insensitive to where the eligibility thresholds are set. This gives negotiators flexibility to adjust the thresholds without materially affecting expected revenue.
- The voluntary invitation to small and other entities not expected to contribute keeps the door open to broader participation over time, without relying solely on contributions from the expected contributor base. The Fund's first two contributions illustrate this potential, as both came from SMEs that fall outside the financial thresholds set out in Decision 16/2.
- Excluding DSI already subject to benefit-sharing under another international instrument (Box 4.1 (c)) aims to avoid duplicate obligations relating to the same genetic resource.

This is a sensible safeguard given the potential for overlap between regimes governing DSI, including existing bilateral ABS agreements covering DSI in several jurisdictions and other multilateral mechanisms discussed in Section 5.

Limitations

- Because participation is voluntary rather than mandatory, actual revenue could fall far short of the theoretical ceiling, as the wide range across the modelling scenarios illustrates.
- Decision 16/2 has no mechanism to verify whether an eligible company has correctly assessed its eligibility and expected contribution, or to compel payment if it chooses not to contribute. This is distinct from the voluntary nature of the mechanism: even a mandatory scheme would require a means of identifying eligible companies and verifying compliance.
- Key terms remain undefined, particularly what constitutes 'direct or indirect' use of DSI and whether eligibility applies at the level of a corporate group or an individual subsidiary. This leaves room for inconsistent interpretation across companies and jurisdictions, and potentially for corporate structures to be used to avoid contributions.
- The mechanism covers only publicly available DSI (Box 4.1(a)); sequence data held in private or closed databases fall outside its scope. This could create an incentive for commercial users to limit public deposits to reduce their exposure to the mechanism, potentially eroding the Fund's revenue base while working against the CBD's broader open-science objectives.
- As other regimes such as the ITPGRFA and the WHO PIP Framework (see Section 5) move towards their own DSI-specific provisions, the exclusion in Box 4.1(c) may become harder to apply cleanly. A single sequence could plausibly fall within the scope of multiple mechanisms, or between them if responsibility is unclear.
- The concentration of expected revenue among a small number of firms, sectors and countries makes the Fund's income base potentially fragile, as it depends on continued participation from a relatively narrow set of large contributors rather than a broad, diversified base.

5. The Cali Fund in comparative perspective

To place the Cali Fund in comparative perspective, this section examines four multilateral mechanisms, the Plant Treaty (ITPGRFA), the WHO PIP Framework, the WHO Pandemic Agreement, and the International Seabed Authority (ISA), focusing specifically on the factors that drive meaningful private sector participation. The BBNJ Agreement is also considered briefly for its emerging DSI-relevant obligations, although it has not yet reached the stage of developing a private-payment mechanism. The key features of each mechanism are summarised in Table 5.1.

The Plant Treaty shows that a higher contribution rate does not guarantee revenue if payment can be avoided

The Plant Treaty (ITPGRFA) is a multilateral system that pools plant genetic resources from member countries and grants companies streamlined access to them for research and breeding. Its Standard Material Transfer Agreement (SMTA) sets an effective rate of about 0.77% of sales to determine company contributions (CBD Secretariat, forthcoming; Tsioumani, 2020). However, this applies only when a company commercialises a product using material from the Treaty's Multilateral System *and* restricts further access to it, for example through a patent. According to stakeholders interviewed, the rate is therefore not directly comparable with the Cali Fund's 0.1% of sales, which applies more broadly to any eligible company meeting the threshold and size criteria, regardless of whether a specific product has reached commercialisation or been patented. Other interviewees noted, however, that the SMTA provides contributors with legal certainty that is currently lacking in the Cali Fund modalities.

Even with this narrower, arguably more defensible trigger, the Plant Treaty has raised minimal funds: by May 2025, user contributions from six companies totalled only US\$825,000, compared with US\$36.9 million raised mostly from voluntary government funding (FAO, 2025). The remaining funding has relied on voluntary government contributions, led by Norway, Italy and the European Commission (FAO, 2025). Several structural weaknesses explain this shortfall (ITPGRFA Secretariat, 2014; Tsioumani, 2020):

- Obligations arise only at the point of commercialisation, which is rarely reached given the long interval between research and product development, and only where the user also restricts further access to the product.
- Companies can avoid obligations entirely by sourcing material outside the Multilateral System.
- Payment beyond the mandatory trigger is voluntary, creating a first-mover disadvantage for companies that pay relative to competitors that do not.

The Plant Treaty experience highlights two potential routes for contribution avoidance under the Cali Fund:

1. DSI held in private databases sits outside Decision 16/2's scope entirely, creating a potential avoidance route analogous to sourcing material outside the Multilateral System under the Plant Treaty.
2. Whereas the Plant Treaty has relatively narrow and precisely defined triggers, several aspects of the Cali Fund modalities remain undefined and open to interpretation, including 'direct or indirect' use, 'entity' and even what constitutes DSI, potentially creating further scope for contribution avoidance.

The WHO Pandemic Influenza Preparedness Framework shows that voluntary contributions can work at scale, but only under the right structural conditions

The WHO's PIP Framework requires companies that rely on the WHO's global network for tracking influenza viruses to contribute towards pandemic preparedness in return for that access. Seventeen vaccine manufacturers, representing about 85% of pandemic vaccine manufacturing

globally, pay an annual Partnership Contribution despite having no legal obligation to do so, and have contributed US\$354.7 million cumulatively since 2012 (WHO, 2025, 2026). The difference from the Plant Treaty is structural: PIP has a clearly bounded contributor base and, according to stakeholders interviewed, manufacturers are operationally dependent on its genetic material. Giving companies a concrete reason to pay beyond reputational benefits matters. The Cali Fund, by contrast, lacks this leverage, since DSI is open-access and no single company's product can easily be tied to specific DSI use (Sett et al., 2024).

Obligation stacking is a further, distinct risk with Pathogen Access and Benefit-Sharing

The WHO Pandemic Agreement, adopted in 2025, establishes a Pathogen Access and Benefit-Sharing (PABS) system under which pharmaceutical companies share a portion of pandemic-related production with the WHO in exchange for access to pathogen data. Its in-kind PABS obligations and the Cali Fund's monetary obligations could both apply to a single company using the same pathogen-derived DSI, since pathogen sequences sit in open databases and neither regime yet defines how the two would interact (Hampton, 2023; Habibi and Phelan, 2025). According to some of the stakeholders interviewed, non-monetary benefits (e.g. vaccines, diagnostics and therapeutics) are of particular interest to companies, while monetary contributions are of secondary importance. More broadly, WHO-relevant pathogen data make up only around 3% of publicly available sequence data, against 56% falling under CBD scope (Sett et al., 2024), so the overlap is unlikely to affect most commercial DSI use, though it could matter disproportionately for pharmaceuticals and biotechnology, which account for a large share of expected contributions. With the modalities of both regimes still being settled, this remains a potential risk rather than a present reality. For firms that could be affected, the lack of guidance on cumulative versus complementary obligations is a genuine source of uncertainty.

Future opportunities in marine biodiversity through the BBNJ Agreement

The BBNJ Agreement, a separate treaty governing marine biodiversity in international waters that entered into force on 17 January 2026, adds a further layer. It has already been established that developed countries, not private users, bear the financial obligation to date, with any future private-user payment mechanism for marine genetic resources and DSI left for the Conference of the Parties to decide (Krabbe, 2025). Should such a mechanism eventually be designed, it would sit alongside the Cali Fund as another potential DSI-related obligation for some firms. The potential for overlap is likely to be limited, however, since marine genetic resources within BBNJ scope account for less than 1% of publicly available sequence data and are less relevant to most of the sectors targeted by Decision 16/2 (Sett et al., 2024).

Taken together, these comparisons point to three conditions for turning the Cali Fund's current voluntary framework into a genuine source of revenue:

1. Closing routes to avoidance that allow payments to be sidestepped, as seen in the Plant Treaty.
2. Giving firms a clear and bounded reason to participate beyond reputational benefits, as PIP achieved.
3. Clarifying how the Cali Fund relates to other emerging DSI-related regimes, so that companies do not face unclear or potentially duplicative claims on the same underlying activity.

Table 5.1. Comparison of multilateral benefit-sharing mechanisms

Model (year)	Contribution (who, how much)	Binding?	Current outcome
The Cali Fund (2025)	Entities using DSI directly or indirectly, operating in one of seven indicative sectors and meeting two of three financial thresholds (primarily large firms); indicative contribution rate of 0.1% of revenues or 1% of profit	No (voluntary)	US\$6,000 from 2 SMEs
Plant Treaty (2004)	Users via SMTA: effective rate on commercialised products' sales; 1.1% of sales minus 30% of the rate ($\approx 0.77\%$); governments are main funders.	Contract only	US\$0.8m from 6 users (= 2.2% of US\$36.9m fund) (May 2025)
WHO PIP Framework (2011)	17 vaccine manufacturers ($\approx 85\%$ of production) through an annual Partnership Contribution of US\$28m	No (voluntary)	US\$354.7m cumulative, 2012–25
WHO Pandemic Agreement (2025)	Manufacturers: 20% of real-time pandemic production; in-kind contributions allowed	Treaty adopted, not yet in force	Not in force; PABS annex still under negotiation missed May 2026 deadline, extended to 2027
BBNJ Agreement (2023)	Developed states: annual contributions; private users: undecided	Yes, user obligations to be determined	In force January 2026; no user payment rule yet

Source: Authors' compilation

6. Corporate action on biodiversity: constraints and motivations

This section examines the constraints and motivations that shape corporate action on biodiversity and, in turn, companies' incentives to contribute to mechanisms such as the Cali Fund. It considers the collective action problem that can discourage investment, alongside the commercial, regulatory and reputational factors that can motivate companies to act.

Constraints

Multiple factors make it difficult for companies to build an investment case for biodiversity. Unlike pure public goods such as national defence or public lighting, biodiversity and ecosystem services have characteristics of common pool resources. Their benefits are considered non-excludable, since biodiversity's genetic variation and the services it provides, such as pollination and carbon capture, are generally widely accessible. On the other hand, the underlying living organisms that sustain biodiversity are rival and depletable, as their consumption reduces what remains available to others, unlike sunlight (Fenichel and Dean, 2024). This combination of non-excludability and rivalry can give rise to well-known market failures, such as free-riding, capital misallocation and underfunding of public and common goods. The result is a collective action problem: companies bear the private costs of biodiversity conservation while many of the benefits are shared more widely, making it harder for them to correctly price biodiversity assets and to justify investment in biodiversity as a core business activity (Dixon, 2024).

Free-riding is among the most pressing barriers to biodiversity investment. From a private company perspective, incentives to use biodiversity are not necessarily aligned with incentives to invest in its conservation. This dynamic is even more pronounced in the case of DSI, where free-riding is not merely a practical challenge but a structural feature of the resource itself. Unlike physical genetic resources, DSI is non-rival, since one company's use of a publicly available sequence does not diminish its availability to others. It is also non-excludable by design, with the open-access principle being a deliberate architectural commitment of the global sequence database infrastructure. This stands in contrast to the WHO's PIP Framework discussed in Section 5, where manufacturers' dependence on access to virus data creates a structural incentive to participate in, and contribute to, the framework. Under the Cali Fund's current structure, there is no equivalent conditionality.

The collective action problem and the Cali Fund

Decision 16/2 already provides an institutional foundation for addressing the collective action problem through club-style dynamics. Companies that contribute to the Cali Fund receive a certificate confirming that they have met their monetary benefit-sharing obligation for that year (Nordhaus, 2015; CBD, 2024). This provides a verifiable signal of contribution that non-contributors cannot replicate, potentially creating a basis for distinguishing participating companies from non-participants.

No formal alliance or coalition of participating businesses has yet formed around this certificate. There has, however, been movement on the government side that could plausibly pave the way for one. A group of states convened as the 'Friends of the Cali Fund' has pledged to promote the mechanism's implementation, build trust and collaboration with the private sector, and work to avoid duplication and stacking of benefit-sharing obligations across instruments, with the aim of providing companies with greater legal clarity and certainty. While this initiative is intergovernmental rather than business-facing, it signals a coordinated push to make participation more attractive and less legally uncertain, both of which would also support the development of a business-side coalition. An equivalent Friends of the Cali Fund for participating businesses could help generate the same club dynamics seen in other voluntary business initiatives.

Motivations

Despite these challenges, the literature consistently finds that some firms perceive biodiversity protection to be strategically relevant (Ma et al., 2024). Several sources suggest that biodiversity is increasingly framed as a material issue for firms and financial markets because ecosystem degradation can affect operations, supply chains, asset values and long-term economic resilience. Biodiversity protection can also represent an unvalued investment opportunity (IPBES, 2026).

According to our findings, biodiversity's strategic value varies by sector. Our literature review also shows greater representation of companies in land-use-intensive sectors (e.g. agriculture and forestry), resource-dependent sectors (e.g. metal and mining, energy), and infrastructure-heavy sectors (e.g. water utilities and real estate) (Dixon, 2024). Firms in these sectors are more directly dependent on biodiversity, more exposed to stakeholder pressure, or more vulnerable to regulatory scrutiny, and therefore more likely to view biodiversity as material. By contrast, many of the sectors prioritised under COP16 Decision 16/2 on the Cali Fund, such as pharmaceuticals, information technology and cosmetics, are underexplored in the main literature on biodiversity finance drivers (Bassen et al., 2025). This highlights a distinctive structural feature of the Cali Fund: the indicative sectors identified as DSI users are often not those with the largest direct physical footprints on biodiversity. With the exception of agriculture (animal and plant breeding), their relationship to nature operates through different and less visible channels, including overexploitation of source species and raw materials (as in cosmetics), pollution from chemical processing (as in pharmaceuticals), and intensification and monoculture risks associated with breeding programmes. Laird and Wynberg (2016) make a related argument, showing that the 'decoupling' of genetic research from the physical environments in which material was originally collected does not remove the underlying dependency on natural resources.

Despite the underrepresentation of many Decision 16/2 sectors in the literature, the broader findings remain useful for identifying the main reasons why companies invest in biodiversity. **We find that biodiversity is more salient to firms when it can be linked to concrete commercial outcomes, such as securing market access, product differentiation and competitive advantage** (Meißner and Grote, 2017). Biodiversity protection can support product differentiation, for example through claims of responsible sourcing, certified biodiversity-friendly production or reduced ecosystem impact. This is especially relevant in consumer-facing sectors, such as food and agriculture, cosmetics and personal care, where biodiversity commitments can contribute to brand value, reputation and competitive positioning (Bassen et al., 2025).

For companies in several sectors, including cosmetics and biotechnology, physical genetic resources remain commercially relevant, with access governed by existing national ABS regulations. Under these regulations, implemented through bilateral agreements between country providers and users of genetic resources, companies agree to benefit-sharing arrangements, such as payments, research partnerships, technology transfer, local capacity building or commitments to share profits. Companies that use both physical resources and DSI therefore navigate this binding bilateral regime alongside a separate, non-binding international contribution mechanism for DSI, which operates without prejudice to any national DSI measures.

Our interview findings indicate a growing interest among companies in reducing the costs associated with accessing genetic resources, which can be high because of variation in national ABS regulations. According to respondents, a multilateral mechanism could help address this problem if contributing to the Cali Fund also helped companies meet their broader ABS obligations under the CBD, thereby reducing compliance costs. At present, however, Decision 16/2 offers no such guarantee, given that the mechanism operates outside national legislation and existing bilateral agreements (see Box 4.1(b)). A Cali Fund contribution does not discharge or substitute for a company's separate ABS obligations under national law or the Nagoya Protocol. This limits the mechanism's potential to reduce access and compliance costs directly, unless future guidance from the Conference of the Parties clarifies how contributions interact with existing bilateral agreements.

Market access and product measures also affect the social licence to operate (SLO), also referred to as the ‘social contract’, another important reason flagged in the literature why companies decide to invest in biodiversity (Holte Dahl et al., 2023). SLO emerged as a concept in the mining and forestry industries, which helps explain its prominence in the literature reviewed. In the corporate literature, it refers to the acceptance or approval a business receives from the communities and stakeholders affected by its activities (Stronge et al., 2024). The factors underpinning this approval vary across sectors, including those targeted by the Cali Fund. In pharmaceuticals, SLO is strongly influenced by pricing and price transparency, ethics in clinical trials, and research to develop new medicines (Inc, 2019; Foster et al., 2026). In cosmetics, it is influenced by ingredient transparency and the credibility of ethical claims, including those related to cruelty-free practices and ingredient sourcing (Holte Dahl et al., 2023). SLO is also valued when it supports shareholder expectations (Keckel et al., 2025).

The motivations for companies to invest in or integrate biodiversity into their operations are summarised in Table 6.2. According to interviews, companies currently place greater emphasis on drivers related to protecting value. However, contributing to the Cali Fund, and therefore supporting biodiversity and benefit-sharing activities, can also create value for companies through market access, product differentiation and meeting shareholder expectations.

Table 6.2. Drivers of corporate biodiversity action

Value creation	Value protection
Market access: securing biological assets via ABS, research, and partnerships and capacity-building	Risk and resilience: protecting supply chains, assets
Product differentiation: responsible sourcing and certified biodiversity claims	Compliance: national regulation
Shareholder expectations: satisfying growing pressure from board or external stakeholders	Social licence to operate: securing social approval

Source: Authors’ compilation

7. Policy options

This section translates the analysis in Section 6 into a concrete set of policy levers for Cali Fund implementation. Those findings suggest that corporate engagement with biodiversity is more likely where it supports identifiable commercial interests, whether through market access, product differentiation and competitive advantage, the protection of the social contract, or pressure from investors. For the Cali Fund, the challenge is therefore to connect contribution to the commercial incentives that shape corporate decisions and make those incentives visible to relevant functions, including finance, legal, procurement and investor relations.

The growing financial relevance of biodiversity risk

Emerging financial research suggests that biodiversity-related risks are becoming more relevant to companies and investors, with growing evidence that financial markets are beginning to price these risks directly. Garel et al. (2024) for example, found that investors have begun to demand a risk premium in response to uncertainty around future biodiversity regulation, following major policy signals including the Kunming Declaration and the launch of the TNFD. At the same time, central banks and supervisors are increasingly examining nature-related dependencies and impacts as potential sources of financial risk (TNFD, 2023). Other researchers construct biodiversity risk measures from newspaper coverage and corporate regulatory filings, showing that exposure varies systematically across industries and is beginning to be reflected in markets and insurance underwriting (Giglio et al., 2024). Hoepner et al. (2023) find, in a sample of infrastructure firms, that stronger biodiversity risk management is associated with better financial outcomes, while Bassen et al. (2025) link larger corporate biodiversity footprints to a higher risk of stock price crash. These findings do not in themselves imply that companies will contribute voluntarily to multilateral biodiversity funds. They do, however, suggest that biodiversity is increasingly entering the financial and regulatory considerations that shape corporate decision-making, creating potential entry points for the market-based incentives examined in this section.

Market-based incentives

Understood as policies that rely on market forces to influence producer and consumer behaviour,¹¹ market-based incentives offer an opportunity to encourage participation in the Cali Fund by changing the private payoff associated with contributing. They can increase the commercial value of contributing, reduce its effective cost, or increase the reputational, financial or regulatory cost of non-contribution.

This framing matters because the biodiversity-finance literature has concentrated primarily on instruments that mobilise private capital for specific projects and investment vehicles, including green bonds, biodiversity credits, payments for ecosystem services and blended-finance structures (introduced in Section 2) (Rohden et al., 2020; Deutz et al., 2020). These instruments generally seek to channel capital towards nature-positive activities by generating financial returns, reducing investment risks or creating other market-based benefits at the project or portfolio level. The Cali Fund operates differently: it seeks voluntary corporate contributions to a global financing instrument designed to share benefits arising from the use of DSI, while the financial returns to contributing companies are indirect. Recognising this distinction is important in identifying which market-based incentives could realistically strengthen the business case for contributing to the Fund.

Table 7.1 summarises this approach by examining four complementary policy levers, each of which can create different incentives for companies to contribute. Disclosure has little effect if investors and regulators do not use the information in investment and supervisory decisions. Similarly, certification has little value if the company's underlying contribution is too small to signal meaningful action, while fiscal incentives can be expensive if they subsidise payments that would

¹¹ See United States Environmental Protection Agency: <https://www.epa.gov/environmental-economics/economic-incentives>

have occurred anyway. A credible incentive system therefore needs to combine complementary levers, while preserving a clear distinction between revenue mobilisation for a multilateral public good and investment mobilisation for individual projects.

Table 7.1. Four policy levers for changing the corporate payoff from contributing to the Cali Fund

Lever	How it changes incentives	Illustrative mechanisms
I. Make contributions commercially visible	Turns payment into a reportable and credible corporate action.	Disclosure recognition; certification; assurance; branding
II. Increase the cost of non-contribution	Increases investor, reputational or regulatory pressure on firms that do not participate.	Stewardship; public benchmarks; comply-or-explain; regulatory hardening
III. Increase the value of contributing	Provides benefits that non-contributors cannot obtain.	Contributor clubs; convening access; regulatory credit; legal certainty
IV. Reduce the cost of contributing	Lowers the after-tax or administrative cost without removing the company's own financial stake.	Sustainable finance instruments (e.g. green bonds); business-expense treatment; targeted tax incentives; streamlined procedures

Source: Authors' compilation

Importantly, based on Makowska-Curran's (2026) findings summarised in Section 4, which identified 21,690 eligible companies across 100 CBD Party jurisdictions, the relevance of these incentives is unlikely to be uniform across the Cali Fund's potential contributor base. The top 100 potential contributors account for 27.6% of contributions under full participation. This concentration creates vulnerability if major firms do not participate, but it also makes targeted engagement and incentive strategies more feasible than they would be for a highly diffuse contributor base.

I. Making contributions commercially visible

For a voluntary contribution to create value for a company, it needs to be visible and recognisable within the systems through which companies communicate their environmental performance to investors, regulators, customers and other stakeholders. These can include sustainability reports, disclosure frameworks, certificates and other verification systems, as well as branding.

Disclosure frameworks and reporting

Although DSI still lacks a formal definition and remains a placeholder term (Housen et al., 2020), the industries that profit most from it have been clearly identified. Pharmaceuticals, cosmetics and biotechnology, among other sectors, are listed as indicative contributors to the Cali Fund (CBD, 2024). The challenge, however, lies not in identifying who depends on DSI but in whether that dependency is reflected in corporate reporting. To test whether DSI is visible in companies' reports, we reviewed sustainability reports from 17 companies identified as the largest potential contributors to the Fund. Across both the literature and the reports reviewed a consistent finding emerges: DSI dependency remains effectively invisible in corporate disclosures. Only one of the sustainability-related documents examined addresses DSI, and even then only as an emerging regulatory issue under the CBD/Nagoya framework, without disclosing or quantifying the

company's own dependence on it. This suggests that neither existing frameworks nor voluntary reporting practices yet treat DSI as a disclosable biodiversity dependency.

Most existing biodiversity disclosure frameworks are centered on firms' location-specific relationships with nature, covering both how firms affect nature and how they depend on it. The European Sustainability Reporting Standard for Biodiversity and Ecosystems (ESRS E4) asks companies to locate direct impact drivers across their upstream and downstream value chains, drawing on the phases of the TNFD's guidance on the identification and assessment of nature-related issues (the 'LEAP approach') (European Commission, 2023; TNFD, 2023a). The Global Reporting Initiative on Biodiversity (GRI 101) similarly requires organisations to identify the locations of their biodiversity impacts and their proximity to ecologically sensitive areas. A firm's relationship with nature is therefore assessed largely through the places where it materialises, linking physical risks from ecosystem decline to the specific locations in which a firm operates or from which it sources biodiversity (European Commission, 2023; TNFD, 2023a).

DSI is not explicitly mentioned in any of the frameworks reviewed, in part because it does not sit comfortably within their spatial logic. A company may commercially use genetic sequence data originating from ecosystems in which it has no physical operations or direct supply-chain relationship. For instance, a South Korean cosmetics company using snail mucin DSI in its skincare products may have no operations, nor even a legal presence, in Nigeria, the country from which the sequence was originally obtained. Moreover, DSI can be difficult to trace back to a single location (Rohden et al, 2020).

Sector guidance does not close this gap. Across the TNFD guidance for biotechnology and pharmaceuticals, food and agriculture, and fishing, as well as GRI's guidance on Agriculture, Aquaculture, and Fishing (GRI 13), neither DSI nor Nagoya-based ABS obligations are addressed. Genetic material appears as a provisioning ecosystem service rather than as a resource whose utilisation triggers benefit-sharing. TNFD's biotechnology guidance comes closest, flagging the BBNJ agreement as a policy risk to genetic-resource access and uncompensated use as a reputational risk, but providing no metric or reference to Target 13 or the Cali Fund. The consequence is that DSI has no standard disclosure pathway, leaving firms in DSI-intensive sectors without an established route to report their material reliance on it.

While frameworks continue to develop in this area, some existing disclosure frameworks offer possible, if partial, entry points for reporting DSI reliance. For example, some frameworks recommend that companies disclose research and development (R&D) expenditure, but do not require this to be disaggregated to identify R&D related to genetic-resource use. GRI 101 offers a qualitative entry point through Disclosure 101-3 on access and benefit-sharing, which asks organisations active in pharmaceuticals, cosmetics and agriculture to describe how they comply with ABS regulations (Global Reporting Initiative, 2024). TNFD's additional metric A14.0 captures R&D spending on technologies to mitigate nature-related risk. Although TNFD references ABS in its engagement guidance, it does not include specific ABS disclosure metrics (TNFD, 2023b, 2023a). Neither framework, however, requires a quantitative account of DSI reliance. This gap is compounded by an underlying traceability problem: sequence data can be followed through public repositories such as the INSDC, but that traceability breaks down once the data leaves a public database and enters private R&D pipelines (Rohden et al., 2020).

At the metrics level, a further problem emerges: how to measure companies' impacts on biodiversity and their dependencies on it, including those associated with DSI use. In short, the **indicators most commonly used to measure biodiversity loss are not well suited to capturing what DSI-dependent industries actually rely on.**

Indicators embedded in biodiversity footprint tools, such as Potentially Disappeared Fraction (PDF) of species and Mean Species Abundance (MSA), are designed to capture in-situ biodiversity loss, using species-level measures as proxies (TNFD, 2023b). This approximation, however, leaves unobserved the ecological processes that sustain genetic diversity, the dimension of biodiversity on which DSI-dependent industries ultimately rely on. Because DSI use is linked to R&D and the development of new products, it is more closely connected to a company's dependence on

genetic diversity and broader biodiversity richness than to the physical footprint captured by PDF- or MSA-style indicators.

This matters because genetic diversity is not evenly distributed across biomes (Miraldo et al., 2016); ecosystems with similar species counts can differ substantially in the underlying genetic richness they contain. An indicator based on species loss alone therefore cannot capture the corresponding loss of genetic diversity, the dimension of biodiversity that DSI-dependent industries draw upon. Any single indicator can, at best, offer a static snapshot of genetic richness rather than capture the ongoing ecological and evolutionary processes, such as gene flow, mutation and speciation, that generate and sustain it (Proudani and Goumet, 2026).

Beyond the measurement problem, the reporting gap itself also affects the visibility of contributions to the Cali Fund. If DSI dependence is difficult to identify in corporate reporting, companies have limited opportunities to demonstrate how contributing to the multilateral mechanism responds to this dependence. One opportunity is therefore to integrate recognition of Cali Fund contributions into existing disclosure frameworks rather than create a separate reporting architecture. Guidance from standard-setters and implementation bodies could clarify how verified contributions to the multilateral benefit-sharing mechanism could be reported as part of a company's nature-related actions. This would provide companies with a clearer way to communicate their participation to investors, regulators and other stakeholders.

Greater recognition of contributions could be complemented by indicators that make DSI dependence and benefit-sharing more visible in corporate reporting. Table 7.2 sets out seven indicators proposed in this report, mapped to the existing frameworks and the data sources that could support them. The purpose of these indicators is to provide more consistent information on DSI dependence and benefit-sharing, rather than to establish complete traceability of DSI use. These indicators should be understood as proxies rather than comprehensive measures of DSI dependence: biodiversity measurement remains inherently multidimensional, and any proxy should be reported with its assumptions and limitations made explicit (Fenichel and Dean, 2024; Proudani and Goumet, 2026).

Certificates and verification

Decision 16/2 provides that companies contributing to the Cali Fund receive a certificate for that year, thereby excluding them from any further obligation to share monetary benefits under the mechanism for the same year (Annex, para. 15). While disclosure can make a company's contribution visible through corporate reporting, certification offers a more direct signal, giving investors, customers, business partners and other stakeholders a standardised way to distinguish companies that have contributed from those that have not. The value of this signal depends on what the certificate represents, how contribution levels are verified, and whether stakeholders consider the underlying criteria credible.

Discussions on operationalising the certificate scheme have centred on three distinct dimensions: reputational, transparency and legal. The reputational dimension relates to how a company's contribution to biodiversity, or its compliance with due diligence practices, is perceived by relevant stakeholders. The transparency dimension concerns the certificate's potential for integration into corporate disclosure and alignment with TNFD and environmental, social and governance (ESG) reporting frameworks. The legal dimension concerns the discharge of additional benefit-sharing obligations under the multilateral mechanism, recognition across national ABS regimes, and the avoidance of double payments.

Table 7.2. Proposed indicators for DSI dependence and benefit-sharing

Metric/data point	Framework it responds to	Description	Potential sources
Proportion of R&D expenditure linked to genetic-resource use	TNFD Governance C (equitable ABS statement); GRI 101-3 (access and benefit-sharing)	Share of R&D spend drawing on genetic resources	Internal financial/R&D accounts. Permits cross-checkable against the ABS Clearing-House
Number of internationally recognised certificates of compliance (IRCC) referenced in the reporting period	TNFD Governance C (ABS attained); GRI 101-3-a (compliance with ABS regulations)	Count of IRCCs cited. They are the only legally standardised Nagoya Protocol instrument documenting lawful genetic-resource access	ABS Clearing House
Patent filings citing sequences, split by whether the sequence is claimed or cited	TNFD Governance C/DSI dimension of ABS (GBF Target 13); GRI 101-3-b (voluntary actions)	Distinguishes sequences central to the protected invention from those used as supporting context	Internal accounts. Can be cross-checked with PATSTAT (EPO), WIPO PATENTSCOPE, USPTO, European Patent Office and World Intellectual Property Organization patent sequence data, national patent office filings
Number of INSDC accession numbers cited in R&D or patent filings	TNFD Governance C/DSI dimension of ABS (GBF Target 13)	Count of nucleotide-sequence records referenced	Internal accounts. Can be cross-checked with INSDC: GenBank (NCBI), ENA (EMBL-EBI), DDBJ
Number of keystone or ecologically significant species with DSI sourced	Fills the gap left by TNFD A3.5 and GRI 101-6-b-I, ESRS E4	Flags reliance on ecologically pivotal species	Internal accounts. Can be cross-checked with IUCN Red List, Global Biodiversity Information Facility (GBIF)
Number of sequences accessed or downloaded from the public DSI databases	Cali Fund (Decision 16/2, Annex paras 2-3, 6); DSI dimension of ABS (GBF Target 13); TNFD Strategy A/B and Metrics & Targets B; GRI 101-3-a/b	Captures DSI that informs R&D (e.g. comparison sets in crop breeding) and creates value even where no sequence appears in the final product	INSDC (GenBank/ENA/DDBJ) download logs; EPI/NCBI usage statistics; company-reported database access
Sequencing instruments purchased or in use, and related genomics equipment expenditure	ESRS E4/TNFD capex-related disclosure	Indirect proxy for in-house DSI generation and use where sequence-level reporting is unavailable	R&D disclosures, assets reporting in financial filings

Source: Authors' compilation

Reputational dimension

The reputational value of the certificates is linked to how relevant stakeholders perceive a company's contribution to biodiversity, one of the key drivers of corporate action on biodiversity covered in Section 6. According to our review of the literature on voluntary environmental certification, a certificate can generate corporate value, but only when it is **meaningful, credible and visible** to the relevant audience.

A certificate can be meaningful for companies where several conditions are met. Under signalling theory, a certificate addresses information asymmetry between a company and its stakeholders; to remain effective, it should differentiate between high and low performers (Connelly et al., 2011). If the same certificate can be obtained regardless of the scale of a company's contribution, it provides limited information about the extent of participation. The literature therefore points to the importance of stringency and differentiation, particularly where a label is intended to distinguish stronger from weaker environmental commitments (Humphries et al., 2020). For the Cali Fund, this suggests that any recognition mechanism should be linked to clearly defined contribution criteria rather than simply to the fact that a payment has been made, while guarding against the risk of greenwashing.

Certification credibility depends on governance independence, verification and assurance. Certificates perceived as *self-declared* or *industry-governed* produce weaker price premiums and consumer trust than those with independent, multi-stakeholder governance (Darnall et al., 2018; Delmas and Grant, 2014). In the context of the Cali Fund, governance already reflects a multi-stakeholder structure: the Steering Committee comprises representatives of Parties, Indigenous Peoples and local communities, and UN organisations, alongside observers from civil society, scientific institutions and the private sector (Decision 16/2, Enclosure IV). Equally important is the assurance process, through which an entity can demonstrate that the information underpinning a certificate is reliable, credible and compliant (Dilla et al., 2023). A Cali Fund certificate supported by third-party assurance of the contribution level would therefore be more credible and potentially more valuable to companies than one without such assurance.

Two national schemes offer the closest existing analogues to what a Cali Fund certificate could become. Costa Rica's *Distinctivo ABS*, administered by the National Commission for Biodiversity Management (CONAGEBIO) since 2018, certifies individual products whose developers have met national prior informed consent (PIC) and mutually agreed terms (MAT) requirements. The certificate is designed explicitly as a market differentiator for companies using the country's genetic and biochemical resources. Six products had received the certificate by 2023 (OECD, 2023).

India's Voluntary Certification Scheme for Incentivisation of ABS (VCS-I-ABS), launched in June 2026 by the Ministry of Environment, Forest and Climate Change with the National Biodiversity Authority, the Quality Council of India and the United Nations Development Programme (UNDP), takes this approach further by building an accreditation infrastructure around certification. Certification is delivered through third-party bodies accredited under the National Accreditation Board for Certification Bodies, and the resulting logo has been registered as a trademark.

Both schemes are national rather than multilateral, and neither of them addresses DSI specifically, but they illustrate how government-backed ABS certification can move beyond a record of compliance to become a recognisable market signal. India's scheme is too recent to show evidence of market uptake, while Costa Rica's appears to have certified only a small number of products. The experience therefore also points to a potential limitation: establishing a credible, government-backed certificate does not guarantee widespread uptake or visibility without sustained promotion.

Existing biodiversity and responsible-sourcing schemes provide useful additional comparative context. The Union for Ethical BioTrade (UEBT), founded in 2007 and explicitly aligned with the CBD, certifies companies and, since 2020, ingredients against requirements related to biodiversity, ethical sourcing and benefit-sharing. Its annual *Biodiversity Barometer*, published since 2009, is the most-cited grey-literature source on consumer and corporate awareness of biodiversity in the cosmetics, food and beverage, and natural ingredients sectors. Key findings across editions include:

- Consumer awareness of 'biodiversity' as a term has risen sharply in major markets (over 80% in Brazil, France, Germany; lower but rising in the UK, US and Asian markets).

- Over two-thirds of consumers in UEBT-surveyed markets want companies to be transparent about the origin of natural ingredients, and a majority report greater trust in third-party certified companies.
- However, consumer recognition of specific biodiversity labels remains low (typically under 15%) compared with organic, fair trade or carbon labels.

Beyond UEBT, schemes such as the Forest Stewardship Council (FSC), Rainforest Alliance, Marine Stewardship Council (MSC), Roundtable on Sustainable Palm Oil (RSPO), Aquaculture Stewardship Council (ASC) and Bonsucro address biodiversity without making it their primary focus. Being commodity-specific and largely agricultural, they are relevant mainly for lessons on certification credibility and stringency rather than as direct templates for a Cali Fund certificate. For the pharmaceutical and biotech sectors, there is essentially no mature biodiversity certification. The closest analogue, the UN Trade and Development (UNCTAD) BioTrade Initiative, focuses on compliance with legal access rather than recognition for biodiversity investment. This is a critical distinction, since existing infrastructure rewards legal access compliance rather than conservation financing.

A final design consideration is simplicity. Companies and consumers already encounter numerous environmental labels, and the existing literature points to declining recognition and differentiation as the number of labels increases (Horne, 2009).

Transparency dimension

The transparency dimension concerns the certificate's potential for integration into existing disclosure architectures, rather than its trustworthiness to external audiences per se. As discussed above, DSI dependence is currently difficult to identify within TNFD, ESRS E4 and GRI 101 reporting, and the same disclosure-integration approach proposed above, recognising Cali Fund contributions within existing frameworks rather than building separate reporting infrastructure, applies directly to the certificate itself. Concretely, this could mean treating a verified certificate as a defined disclosure item under GRI 101-3, or as a component of TNFD's R&D-related metrics, giving it a clearer role within the broader disclosure landscape.

Some proposals, including that of Kamath and Thambisetty (2025), mention a Transparency Register that would go a step further by publishing lists of contributors and non-contributors alike to leverage reputational pressure directly. This remains a proposal rather than an official feature of the mechanism, but it illustrates how the certificate already provided for under Decision 16/2 could be extended into a more visible, comparative signal.

Legal dimension

The legal dimension centres on two unresolved questions: (i) whether and how a Cali Fund certificate is recognised by national ABS authorities; and (ii) how it interacts with obligations under parallel instruments (WHO PABS, BBNJ, ITPGRFA) to avoid 'stacking' of obligations.

The internationally recognised certificate of compliance (IRCC) under the Nagoya Protocol is the only existing CBD-family certificate with a comparable legal function. Structurally, an IRCC is generated by a provider country through the ABS Clearing-House once PIC and MAT have been established, and functions as evidence that material has been obtained in accordance with national access and benefit-sharing laws (Biber-Klemm and Martinez, 2016). Under EU implementing legislation, obtaining a genetic resource under a published IRCC satisfies the user's due diligence obligations under European law (European Parliament, 2014). This illustrates the kind of legal recognition a Cali Fund certificate could replicate to be useful to industry.

IRCCs have been issued for over a decade, but only 34 of 142 parties to the Nagoya Protocol have issued certificates, as of August 2026, with India, France, Spain, Argentina and Panama among the major issuers (Access and Benefit-Sharing Clearing-House, n.d.). The lack of certification can be explained by limited institutional capacity to implement ABS legislation (Ivey et al., 2023) or by a country's decision not to regulate access. This leaves the certificate's efficacy dependent on the

country's regulatory and institutional capacity, a gap that the Cali Fund decision addresses, since certificate issuance is triggered not by the provider country but by the user's contribution to the Fund.

The Cali Fund already has an institutional basis on which such a mechanism could be built. Decision 16/2 provides that contributing entities receive a certificate demonstrating that they have met their monetary benefit-sharing contribution for the relevant year. Rather than establishing a separate certification scheme, the Fund could develop this existing certificate into a standardised and verifiable form of recognition. This would require clear rules on what level of contribution qualifies, how the contribution is calculated and verified, and what information the certificate communicates.

Branding

Branding refers to the use of a verified contribution as part of a company's corporate- or product-level communications. This can be particularly relevant in consumer-facing sectors, where biodiversity, natural ingredients or genetic resources can be more readily connected to the products being sold. The commercial value of such communication is not uniform across sectors, however, and depends on whether consumers perceive a credible connection between the company, its products and the environmental cause.

Research on cause-related marketing provides some relevant lessons. Studies find that the perceived fit between a company or product and the supported cause influences how consumers respond to such associations (Pracejus and Olsen, 2004; Nan and Heo, 2007). For the Cali Fund, this suggests that companies in sectors such as cosmetics, food and natural ingredients may find it easier to communicate the relevance of biodiversity and benefit-sharing to consumers than those whose commercial dependence on DSI is less visible in their final products. This does not mean that the latter have a weaker rationale for contributing, but rather that the potential branding value associated with the contribution may differ substantially across sectors.

The way in which the contribution is communicated also matters. The cause-related marketing literature indicates that companies see a stronger effect on consumer behaviour when a contribution is presented as tied to a specific purchase, for example, when a stated share of the price of one product line funds the cause, rather than when the same donation is described only as general corporate giving (Strahilevitz and Myers, 1998; Henderson and Arora, 2010). This raises a design question for the Cali Fund's contribution and verification system: whether the certificate issued to a contributor could support companies' branding and communication efforts by linking a contribution to a particular product or service, rather than only to the company as a whole, through the way the company frames its payment to customers. Costa Rica's Distinctivo ABS already operates at this product level, with the badge awarded to individual products and displayed on packaging as a point of differentiation for that specific product. This suggests that product-level certification is administratively workable, though it also means a company selling multiple product lines would need distinct certificates for each line it wishes to badge in this way, rather than a single company-wide certificate covering its full portfolio.

Any such communication would need to reflect the Fund's pooled nature. A company could credibly state that it contributes to the multilateral benefit-sharing mechanism, provided that the contribution is verified, but it should not imply that its payment financed or generated a specific conservation outcome unless such attribution can be demonstrated. The objective is therefore not to transform the Cali Fund into a project sponsorship mechanism, but to allow companies to communicate their participation in a way that is accurate, verifiable and relevant to their stakeholders.

II. Increasing the cost of non-contribution

Because contributions to the Cali Fund are voluntary, companies do not currently face a direct legal penalty for choosing not to contribute. However, non-contribution can still become more consequential when other market actors take it into account. This subsection examines three mechanisms through which the consequences of non-contribution could increase: investor stewardship and engagement, transparency and reputational benchmarking, and the possible shift from voluntary expectations to harder compliance over time.

Investor stewardship and engagement

Investors can influence corporate behaviour not only through decisions to buy or sell securities but also through stewardship activities, including engagement with company management, voting, and communication of expectations on environmental and other strategic issues. As biodiversity-related risks and dependencies receive greater attention from financial institutions, some investors have begun incorporating nature into these stewardship activities. For a voluntary mechanism such as the Cali Fund, this creates a potential channel through which contribution decisions can become an issue that companies are expected to explain to their shareholders.

Existing initiatives illustrate how biodiversity considerations are being incorporated into investor engagement. Nature Action 100 brings together institutional investors to engage companies considered systemically important to reversing nature loss and assesses their performance against a common set of expectations. Principles for Responsible Investment (PRI) has developed the Spring initiative, which focuses on corporate action related to forest loss, while Norges Bank Investment Management (NBIM) has published expectations for portfolio companies on biodiversity and ecosystems (Nature Action 100, 2024; IIGCC, 2024). These initiatives do not currently focus on contributions to multilateral biodiversity funds, but they demonstrate how investors can translate broad biodiversity objectives into more specific questions for company management and boards.

Transparency and reputational benchmarking

Incorporating such questions into stewardship dialogues or biodiversity benchmarks would not make payment mandatory, but it could make the decision whether or not to contribute more visible to shareholders and require companies to explain their position. The case for focusing investor engagement on the Cali Fund is reinforced by the composition of its potential contributor base. Makowska-Curran (2026) identifies investor scrutiny and reputational exposure as relevant sources of heterogeneity in voluntary participation and finds that the Fund's revenue prospects are highly concentrated among large firms, particularly in the pharmaceutical sector. This concentration suggests that stewardship strategies directed at a relatively small number of major DSI-dependent companies could play an important role in resource mobilisation.

Shift from voluntary expectations to harder compliance over time

Voluntary environmental mechanisms can operate alongside, and sometimes precede, more formal reporting or regulatory requirements. In this context, 'harder compliance' refers to a gradual strengthening of expectations, for example from voluntary participation to requirements to disclose or explain non-participation, and potentially to more binding obligations adopted through national or international policy. For the Cali Fund, the relevance of this pathway is not to assume that contributions will become mandatory, but to recognise that companies may respond differently when they expect the rules governing biodiversity and benefit-sharing to become clearer or more demanding over time.

Experience with sustainability reporting illustrates how such expectations can evolve. In France, Article 173 of the 2015 Energy Transition Law introduced climate-related reporting requirements for institutional investors using a comply-or-explain approach. Article 29 of the Energy and Climate Law later strengthened the reporting framework and extended it to biodiversity-related

considerations.¹² This does not mean that voluntary environmental expectations inevitably become mandatory. However, softer disclosure requirements can form part of a broader process through which reporting expectations become more formalised over time.

The Cali Fund currently remains a voluntary mechanism. Decision 16/2 states that companies meeting the relevant criteria “should” contribute, rather than imposing a binding payment obligation. Future decisions under the CBD may further clarify the operation of the mechanism, but the direction and degree of any future strengthening should not be assumed. What matters for corporate incentives is that policy uncertainty itself can influence how companies prepare for emerging requirements. Firms that consider stronger or more specific benefit-sharing expectations plausible may have an incentive to develop internal systems for identifying DSI use, calculating potential contributions and documenting payments before such practices are formally required. A further consideration is that such requirements could emerge through national legislation rather than through the mechanism itself, creating a risk of divergent national interpretations of the Cali Fund.

The history of ABS under the CBD provides some context for this possibility. The CBD established broad principles on access to genetic resources and benefit-sharing, which were later elaborated through the Nagoya Protocol and subsequently implemented through domestic ABS frameworks in many countries. This history does not mean that the Cali Fund will follow the same legal trajectory, but it illustrates how international biodiversity principles can acquire more specific legal and administrative form over time. For the Cali Fund, the implication is that the credibility and clarity of future policy development may themselves influence corporate decisions, even while contributions remain voluntary.

III. Increasing the value of contributing

Another way to strengthen participation is to increase the benefits associated with contributing. These benefits do not need to take the form of a direct financial return. They can instead include forms of recognition, access, coordination or legal certainty that are valuable to companies and are available only, or more readily, to contributors. In this sense, the objective is to make participation more attractive without changing the Fund into a conventional investment vehicle. This value could be created in two main ways: through contributor clubs or membership benefits, and through regulatory and legal certainty.

Contributor clubs and membership benefits

One way of addressing the free-rider problem explained in Section 6 is to link participation to benefits that are available only to members and can therefore be withheld from non-members (Buchanan, 1965). Such arrangements are often described as clubs, in which participants contribute towards a shared objective while receiving selective membership benefits, such as recognition, access to networks or information, coordination opportunities or market advantages. For the Cali Fund, this approach is relevant because companies currently benefit from the continued availability of DSI regardless of whether they contribute. While a contributor arrangement could not make access to DSI itself exclusive under the current mechanism, it could attach other forms of value to participation.

Experience from responsible-sourcing initiatives provides useful examples of how membership benefits can support voluntary participation and address free-riding. Two mechanisms offer instructive analogies to solve collective action problems:

- The **Responsible Minerals Initiative (RMI)** combines common responsible-sourcing standards and due-diligence tools with membership in a business network. Its members include manufacturers that use minerals in their production processes and demand responsibly sourced inputs from suppliers. Compliant suppliers can gain access to the RMI network of businesses, spanning more than 500 upstream companies. Large, high-status

¹² For Article 173: France, Law 2015-992, Article 173. For Article 29: Law 2019-1147 and Decree 2021-663.

firms with significant reputational stakes were among the first to adopt responsible-sourcing practices, with smaller firms subsequently following, contributing to a cascading diffusion of compliance norms across the supply chain (Zhang et al., 2024).

- The **Roundtable on Sustainable Palm Oil (RSPO)** provides another example of a collective sustainability scheme with club-like characteristics. Its certification system allows participating companies to demonstrate compliance with a recognised standard and, for relevant supply-chain actors, provides access to markets and buyers seeking certified sustainable palm oil. These benefits can create reputational and market-access advantages for participating firms and extend expectations through supply chains where large buyers adopt common requirements. The RSPO operates almost entirely on reputational and market access dynamics, as major consumer-facing brands require suppliers to be RSPO-certified to protect their own ESG status. The RSPO has contributed to reducing deforestation in certified areas, although significant caveats have been raised around additionality and leakage, including the potential displacement of deforestation to non-certified areas (Carlson et al., 2018; Heilmayr et al., 2020).

Other environmental coalitions provide another model based on collective participation. The Symbiosis Coalition brings companies together to support advance purchases of high-integrity nature-based carbon removals, while the LEAF Coalition aggregates corporate and public demand for tropical forest protection. These initiatives are not directly comparable to the Cali Fund because participating companies are purchasing defined environmental products or outcomes. Nevertheless, their institutional design offers a useful analogy: companies participate through a common platform that can provide quality assurance, coordination and a recognisable association with other participating firms.

The experiences of the RMI, RSPO and analogous environmental initiatives suggest that neither reputational incentives nor conditionality alone is sufficient to address free-riding at scale. Durable contribution mechanisms may instead require a layered design, combining reputational dynamics and conditional market and policy-backed incentives to close remaining gaps.

For the Cali Fund, a contributors' alliance could build on the certificate already provided for under Decision 16/2, using it as evidence of participation. Additional benefits could include regular information on Fund allocations and results, participation in dedicated briefings, and opportunities for dialogue with governments, Indigenous Peoples and local communities, and other actors involved in the multilateral mechanism. These benefits would need to be designed carefully: participation should provide access to information, dialogue and recognition, but should not give contributors preferential influence over Fund allocation or the governance of the mechanism.

Regulatory credit and legal certainty

A different way of increasing the value of contributing is to reduce the legal or regulatory uncertainty companies face in meeting benefit-sharing requirements. For companies using DSI originating from multiple jurisdictions, the value of a contribution depends partly on whether the payment provides clarity about their wider obligations. One approach is regulatory credit, whereby a payment through the multilateral mechanism is formally recognised when determining related benefit-sharing obligations under another applicable regime. A safe harbour would go further, providing assurance that a company meeting specified contribution requirements would not face additional monetary claims for the same underlying DSI use.

This issue is particularly relevant to the Cali Fund because Decision 16/2 establishes the multilateral mechanism without prejudice to national legislation (Annex, para. 1(b); see also Section 4). As a result, questions remain about how contributions to the Fund interact with national ABS frameworks that may also regulate DSI or related genetic-resource use. Some law firms and stakeholders interviewed identify this potential overlap, sometimes described as 'obligation stacking', as a source of uncertainty for companies operating across jurisdictions (Clark et al., 2018). If a contribution to the Cali Fund is additional to, rather than recognised

under, applicable national benefit-sharing requirements, companies may perceive it as increasing their overall compliance costs without providing greater certainty over which obligations it satisfies.

Resolving this issue is not only a question of designing an attractive incentive for companies. It also involves the interests of countries that have established or may establish national ABS systems. National implementation can improve legal certainty for companies if, for example, domestic rules clearly specify that compliance with the multilateral mechanism satisfies a corresponding monetary obligation for the same DSI use captured under national ABS legislation. However, governments may be reluctant to provide such recognition while the Cali Fund's implementation, revenue collection and allocation remain uncertain. Crediting a payment to the multilateral mechanism could reduce or redirect revenues that would otherwise flow through a national benefit-sharing system, while the benefits a country receives from the Cali Fund would depend on its eventual allocation arrangements. The challenge is therefore to provide greater certainty for companies without transferring uncertainty or revenue risk to provider countries.

These considerations also extend to other international agreements, including the BBNJ Agreement, the Plant Treaty, and WHO PIP and PABS mechanisms described in Section 5. Interactions between different benefit-sharing and financing regimes should be addressed explicitly, rather than left to companies and national authorities to navigate separately.

One policy option would therefore be to explore arrangements under which verified contributions to the multilateral mechanism are recognised against overlapping monetary benefit-sharing requirements related to the same DSI use. This could take different forms, including crediting a Cali Fund payment against certain domestic obligations, as mentioned by one interviewee; mutual recognition arrangements between multilateral and national systems; or defined safe harbour provisions. Such arrangements are not a general feature of the current mechanism and would require agreement through the relevant international and national processes. This proposal should therefore be understood as a possible design option rather than an existing feature of the mechanism.

The potential benefit for companies would be greater predictability and legal certainty. Where firms are unsure about whether several benefit-sharing requirements may apply to the same commercial activity, clearer rules on how those obligations interact could make the total cost of compliance easier to identify and incorporate into business decisions. This would also distinguish the Cali Fund from other biodiversity-finance instruments.

Even where full regulatory credit is not feasible, greater clarity could still be valuable. Guidance on the relationship between the multilateral mechanism and national ABS rules, clearer principles for avoiding duplication, or provisions specifying how early voluntary contributions would be treated if requirements evolve could all give companies greater confidence about the implications of contributing. The central design question is therefore not simply how to reward payment, but whether participation in the multilateral mechanism can provide greater clarity over the benefit-sharing obligations associated with a company's use of DSI.

IV. Reducing the cost of contributing

Even where companies see strategic value in contributing, the effective cost of participation can influence whether and how much they contribute. This cost extends beyond the amount transferred to the Fund. It can also depend on how the payment is treated for tax purposes, the administrative requirements associated with making and documenting it, and any fiscal incentives available in the jurisdictions where contributing companies are headquartered. For a voluntary mechanism such as the Cali Fund, reducing unnecessary costs or uncertainties around participation can therefore strengthen the business case for contributing.

Three related factors could reduce the cost of contributing. First, sustainable finance instruments, such as green bonds, could allow companies to finance a contribution rather than treating it purely as a cash outflow. Second, how the payment is treated for tax purposes can affect its

after-tax cost and how it is accounted for internally. Third, targeted fiscal incentives, such as tax credits or deductions, could further reduce the cost of contributing, but may also create risks of fiscal expense, deadweight and poorly targeted support.

Sustainable finance as a cost-reduction channel

A further way to reduce the effective cost of a Cali Fund contribution is to finance it through sustainable finance instruments, most plausibly green bonds, rather than treating the payment purely as a cash outflow. Recent literature reviewed below indicates that such instruments may support payments into the Cali Fund, but only under strict conditions. Any contribution pathway linked to these instruments would need to be made sufficiently specific, traceable and auditable to sustain market credibility.

Green bonds¹³ are the most established mainstream instruments in this context and may attract a more diversified investor base while signalling an issuer's environmental commitments (Deschryver and de Mariz, 2020; Maltais and Nykvist, 2020). Biodiversity conservation is also recognised as a green theme in market practice under the Green Bond Principles (GBP)¹⁴ published by the International Capital Market Association (ICMA) (Freeburn and Ramsay, 2020). The GBP explicitly recognise biodiversity conservation as both an eligible project category and a high-level environmental objective, which provides a conceptual basis for a Cali Fund-linked green bond. However, the GBP's Use of Proceeds and Reporting requirements, which require project-level tracking, impact quantification and annual disclosure, create structural demands that a multilateral contribution mechanism would need to satisfy before such an instrument could be considered fully GBP-aligned. The literature does not support a broad assertion that an issuer could simply label a generic payment to the Cali Fund as green. A more defensible position is that a bond-linked contribution could be credible if structured as a tightly governed, ring-fenced and reportable use of proceeds (Freeburn and Ramsay, 2020; Thompson, 2022; Hunt, 2024).

The conceptual basis for a Cali Fund-linked instrument need not rest on biodiversity conservation alone. Because the Fund's allocation formula directs a share of resources to Indigenous Peoples and local communities, a contribution pathway could also draw on the [ICMA Social Bond Principles](#), alongside the GBP. This dual framing was raised in stakeholder consultations as a way of potentially widening the pool of sustainability-oriented investors.

As highlighted by Reitmeier et al. (2025), not all sustainable debt instruments are equally well suited to this purpose. Sustainability-linked bonds (SLBs) differ from green bonds in a way that is relevant for the Cali Fund. SLBs are general-purpose instruments whose coupons are tied to the issuer achieving pre-defined sustainability performance targets, and are designed to reward structural changes to a firm's operations. Payment into the Cali Fund does not reflect an operational change of this kind; it is a financial transfer, closer in nature to a use-of-proceeds allocation than to a performance-linked commitment. Green bonds are therefore more suitable, since proceeds can be earmarked for a specific, identifiable use rather than tied to an aggregate key performance indicator.

Existing precedent supports this preference. Banco Bilbao Vizcaya Argentaria (BBVA) Colombia and the International Finance Corporation issued the first corporate biodiversity bond in 2024, which directed private capital to reforestation and ecosystem restoration in Colombia. Germany's sovereign green bond channels a share of proceeds to international cooperation under Sustainable Development Goal 17 (SDG17), including contributions to the pooled PROBLUE Fund, offering a close structural parallel to a multilateral vehicle like the Cali Fund. The Nature Conservancy's US\$350 million green bond has similarly financed conservation projects across more than a dozen countries through blended public and philanthropic co-financing.

¹³ Green bonds are debt instruments whose proceeds are earmarked for environmental purposes, with the issuer committing to track the use of proceeds and report on them, typically on an annual basis.

¹⁴ The Green Bond Principles are voluntary market standards published by the International Capital Market Association, setting out expectations on the use of proceeds, project selection, management of proceeds and reporting. Issuers follow them to establish credibility with investors; they are not legally binding.

Evidence on financing benefits is more limited. Some studies find that green bonds may deliver lower yields or pricing advantages in certain cases, though these effects vary by issuer type and depend on issuer reputation and credible external review (Bachelet et al., 2019; Fatica et al., 2019). Secondary market evidence further suggests that second-party opinions can provide particularly important credibility signals, with more apparent effects observed for financial sector issuers (Simeth, 2022). Overall, the literature supports only a cautious claim: a Cali Fund-linked instrument could attract sustainability-oriented investors, and might improve financing terms in some circumstances, but such benefits cannot be taken for granted (Bachelet et al., 2019; Fatica et al., 2019; Deschryver and de Mariz, 2020; Simeth, 2022).

Credibility remains the binding constraint, and this applies with particular force to pooled or portfolio-style structures. Recent work on blue bonds and other biodiversity-linked instruments suggests that broader portfolio-style structures can give rise to concerns about credibility, measurement and disclosure, particularly where the activities being financed are not clearly identified (Thompson, 2022; Bosmans and de Mariz, 2023). This does not mean that pooled arrangements are unworkable. Debt-for-nature instruments offer partial precedents where biodiversity finance is channelled through trust funds or comparable pooled mechanisms, though the more persuasive cases tend to rest on stronger governance and enforcement conditions (Nedopil et al., 2024; Olsen and de Mariz, 2025).

Legal and policy analysis of the green bond market points in the same direction. Greenwashing risk is a persistent concern, and market credibility rests primarily on standards and external review rather than on contractual enforcement (Freeburn and Ramsay, 2020). Where a bond carries a green label but fails to deliver the promised environmental use of proceeds, the consequences are typically reputational rather than legal (Freeburn and Ramsay, 2020). For the Cali Fund, this reinforces the need for a contribution pathway that is specific, traceable and auditable rather than reliant on commitments alone. The role of the Cali Fund's allocation formula is therefore to provide a transparent and auditable basis for how contributions are disbursed, even where the initial contribution instrument does not allow proceeds to be fully traced to specific uses from the outset.

In practice, any Cali Fund-linked instrument should meet three requirements: a defined, ring-fenced use of proceeds rather than a general commitment to the Fund; independent external review or second-party opinion at issuance, given that standards and assurance, not contractual enforcement, are what the market treats as credible; and recurring, public disclosure of how proceeds are allocated, aligned with the Fund's own allocation formula rather than running a parallel reporting track.

This transparency requirement needs to be balanced against the Fund's allocation objectives. Indigenous Peoples and local communities, as well as other intended recipients with limited institutional capacity, may not be able to meet demanding fiduciary reporting standards. A disbursement system designed only around investor-grade traceability could therefore risk directing resources away from those the mechanism is intended to benefit.

Scale considerations reinforce these credibility concerns. Biodiversity-labelled use of proceeds accounted for only around 16% of green bond issuance in 2023, up from 5% in 2020, within a green bond market of roughly US\$600 billion in 2023 (S&P, 2024). The Nordic Investment Bank's (NIB) 2019 Baltic Sea blue bond illustrates a related constraint. Despite strong investor demand, no further blue bond has followed, due to a shortage of well-defined, income-generating biodiversity assets to finance rather than a lack of investor appetite (Natixis Investment Managers, 2024). For the Cali Fund, this suggests that credibility is not the only constraint. A contribution pathway would also need a sufficiently deep and continuously replenished pipeline of eligible projects to support more than a single, one-off issuance.

Business-expense treatment

One way to reduce the effective cost of contributing is to clarify how the payment is treated under corporate tax rules. This is distinct from creating a new tax incentive. The question is not

whether governments should subsidise the contribution, but whether a payment associated with a company's commercial use of DSI qualifies, for example, as an ordinary business-related expense, a charitable contribution, or another category under domestic tax law. The distinction is fundamental because the tax consequences of these categories can differ. A deductible business expense generally reduces the income on which corporate tax is calculated. A charitable contribution may also receive favourable treatment, but the form of that relief varies across jurisdictions: it may reduce taxable income or, in some systems, generate a credit that directly reduces the tax payable. Charitable relief may also be subject to specific requirements concerning the recipient and the amount contributed, as well as rules on whether relief can be carried forward to future tax years.

Analysis by the Organisation for Economic Co-operation and Development shows that many jurisdictions place restrictions on tax relief for cross-border charitable giving, meaning that a contribution to an international fund may not receive the same treatment as a donation to an eligible domestic charity (OECD, 2020). By contrast, expenditures incurred for business purposes are generally governed by a different set of tax rules. For companies that derive commercial benefits from DSI, this raises the question of whether contributions made under the multilateral benefit-sharing mechanism could qualify as a business-related expenditure rather than a charitable donation. The answer cannot be assumed and would need to be determined under the tax law of each relevant jurisdiction.

The design of the Cali Fund provides some elements that could support such clarification. Paragraph 14 of the annex to Decision 16/2 provides that a receipt will be issued when a contribution is made. Under paragraph 15, a user who makes a monetary contribution in line with the modalities of the mechanism is considered to have fairly and equitably shared monetary benefits for that year and receives a certificate accordingly. The certificate also excludes the user from any expectation to share further monetary benefits within the scope of the multilateral mechanism for that year. Together, these documents provide evidence of the payment and its purpose under the mechanism, although they do not and cannot determine its tax treatment under domestic law. Tax authorities in jurisdictions where major DSI-using companies are headquartered could therefore clarify how verified contributions to the multilateral mechanism should be treated under domestic corporate tax rules.

Such guidance could reduce uncertainty for companies considering a contribution and help ensure that the tax treatment reflects the economic purpose of the payment. Where the payment qualifies as a business expense, its deductibility could reduce its after-tax cost. More broadly, such treatment would be consistent with framing benefit-sharing associated with the commercial use of DSI as part of business decision-making, rather than solely as corporate philanthropy.

Targeted fiscal incentives

Beyond clarifying the ordinary tax treatment of contributions, governments could choose to provide an explicit fiscal incentive to encourage companies to contribute to the Cali Fund. Such an incentive could take the form of a tax credit, deduction or other preferential treatment linked specifically to a verified contribution. Unlike the business-expense treatment discussed above, this would represent a deliberate use of public resources to reduce part of the private cost of contributing. Any such incentive would need to generate additional contributions at a reasonable fiscal cost, without transferring an excessive share of the contribution back to taxpayers. It should also provide benefits that exceed its costs, taking into account the foregone benefits of using those public resources to finance biodiversity objectives directly.

The international character of the Cali Fund is relevant when considering fiscal incentives. Existing tax incentives for charitable giving may not automatically apply to contributions made to a multilateral or foreign recipient. For example, in the United States, which is not a Party to the CBD, the rules governing corporate charitable deductions generally require qualifying recipient organisations to be organised under US law, raising questions about whether a contribution to a UN-administered multilateral trust fund would qualify under ordinary charitable-deduction rules.

The UK similarly limits corporate charitable-donation relief to organisations meeting the requirements of its domestic legislation. The precise treatment of Cali Fund payments would need to be determined under each jurisdiction's tax law. Importantly, these limitations on existing charitable relief do not prevent governments from establishing a specific fiscal incentive for contributions to a multilateral fund where they consider this appropriate.

Experience with environmental tax policy provides lessons for how such an incentive could be designed. Colombia's environmental tax credit illustrates the use of an eligibility requirement linked to prior certification. Article 255 of the Colombian Tax Statute provides a 25% tax credit for qualifying investments in environmental control and conservation, subject to prior certification by the relevant environmental authority. For the Cali Fund, the transferable feature is not the credit rate or the activities covered, but the requirement that eligibility be verified before the fiscal benefit is granted ([Estatuto Tributario, Article 255](#); [Decree 2205 of 2017](#)).

Some experiences, such as syndicated conservation easements in the US, illustrate the potential risks. In this case, tax deductions for conservation easements under section 170(h) of the Internal Revenue Code were intended to compensate landowners for permanently restricting development on their land. In the syndicated version of this transaction, a promoter would acquire land cheaply and commission an appraisal that assigned it a much higher speculative value. The promoter would then use this inflated valuation to claim a larger deduction for the conservation easement, even though the land was never intended for the use assumed in the appraisal. The deduction could then be passed through to investors, reducing their taxable income. Investors bought into these arrangements specifically to claim a share of the deduction, often several times larger than their investment, rather than because of any interest in the land or its conservation. This allowed some arrangements to operate as tax shelters (Internal Revenue Service, 2026).

The Internal Revenue Service designated certain syndicated conservation easement arrangements as 'listed transactions', meaning transactions it had identified as potentially abusive tax-avoidance schemes. Subsequent legislation also sought to restrict the practice. For the Cali Fund, this experience highlights the importance of clear eligibility rules, verification of contribution amounts, and safeguards against using an environmental incentive primarily for tax planning.

Fiscal incentives also raise questions about additionality. A large tax credit means that part of a contribution recorded as private finance is effectively financed through foregone public revenue. Since the country collects less tax from the company, it effectively bears part of the cost of the contribution and may also raise double-counting concerns if the company reports the full payment as a private contribution while the government separately accounts for the associated tax expenditure as public biodiversity finance. There is also a risk of deadweight where the incentive subsidises contributions that companies would have made anyway.

Finally, the jurisdiction in which the fiscal incentive is provided also matters. If biodiversity-rich provider countries use their own tax revenues to subsidise contributions by DSI-dependent companies, they could bear both the costs of biodiversity conservation and the fiscal cost of the incentive, while much of the immediate benefit accrues to firms headquartered elsewhere. Where governments choose to introduce fiscal incentives, they should be considered primarily in jurisdictions where major DSI-using companies are headquartered and taxed.

For the Cali Fund, targeted fiscal incentives should therefore be considered as a complement to other mechanisms rather than as the principal rationale for contributing. Their potential role is to reduce part of the effective cost of participation, particularly where existing tax rules provide limited relief for payments to an international fund, while preserving a meaningful private contribution and limiting excessive fiscal costs, deadweight and double counting.

8. Applying the policy options across other biodiversity funds

The incentives examined above will not have the same value across all biodiversity funds. Their relevance depends on the relationship between the companies being asked to contribute, the biodiversity resource involved and the institutional structure through which contributions are collected and used. To illustrate these differences, this section compares the Cali Fund with two additional contexts: coral reef finance, drawing on the Global Fund for Coral Reefs and the Quintana Roo reef-insurance experience, and the Special Fund established under the BBNJ Agreement. These cases illustrate how the same market-based incentives can be adapted to different forms of corporate dependence on biodiversity.

Coral reef finance

Coral reef finance requires a distinctive incentive structure compared with the Cali Fund because the connection between the ecosystem and commercial activity can be identified geographically. Coral reefs support tourism, fisheries and coastal protection, creating direct economic value for hotels, tourism operators, fishing businesses, infrastructure owners and insurers in reef-dependent areas. Reef-adjacent tourism alone has been estimated to generate approximately US\$36 billion annually (Spalding et al., 2017).

The Global Fund for Coral Reefs (GFCR) provides one international example of private sector engagement in reef finance. It combines grant funding with an investment fund that seeks to mobilise private capital into reef-positive businesses, including through an anchor commitment from the Green Climate Fund. This differs from the Cali Fund because private investors in the investment window seek a financial return rather than making an unrecompensed contribution to a pooled mechanism. Its relevance here is therefore not as a model to be copied directly, but as evidence that reef conservation can be connected to commercially structured private finance when the underlying economic activity and its relationship to the ecosystem are identifiable.

The experience of Quintana Roo, Mexico, offers a more direct lesson for recurring contributions by beneficiaries. A coastal zone management trust, funded partly through tourism sector revenues, pays premiums for insurance covering part of the Mesoamerican Reef, with insurance proceeds available for reef restoration following qualifying storms. The arrangement links financing for ecosystem protection to economic actors whose revenues depend on that ecosystem (Swiss Re, 2020).

These characteristics make beneficiary-based mechanisms particularly relevant to coral reef finance. Contributions can be linked to risk management, business continuity and the protection of a locally identifiable natural asset. Certification and consumer-facing recognition may also be valuable for tourism businesses because the environmental assets are visible to customers. The challenge is scalability. A model based on identifiable local beneficiaries is easier to construct around a specific coastline than across multiple countries and reef systems, and claims about the relationship between an individual payment and a particular ecological outcome still require credible monitoring and verification.

BBNJ Special Fund

The second example is provided by the BBNJ Agreement. The high-seas context presents challenges that are different from both DSI and locally identifiable reef ecosystems. Governance is divided among several international regimes and bodies, including the broader United Nations Convention on the Law of the Sea (UNCLOS) framework, the International Seabed Authority, regional fisheries management organisations and the International Maritime Organization. Monitoring and verification are also more difficult offshore, while the high seas lack the geographically concentrated business constituency that can support mechanisms such as local reef finance.

Nevertheless, some of the incentives developed for the Cali Fund remain applicable. Disclosure and investor engagement can reach companies in sectors such as fisheries, shipping and pharmaceuticals, regardless of where their activities take place. A contribution certificate and transparent reporting on allocations could provide verification and recognition from the outset. A contributors' forum could offer participating companies structured opportunities for information and dialogue without conferring decision-making authority.

Legal and regulatory predictability may also become important. As the relationship between voluntary contributions and monetary benefit-sharing under the BBNJ Agreement is further developed, clear rules on how early contributions are treated could reduce uncertainty for companies considering participation. Similarly, coordination among relevant international ocean bodies could increase the value of contributions if participation were recognised consistently across the different regimes in which companies operate. These are proposed design options rather than existing features of the BBNJ Special Fund. Certificates, recognition of early contributions, a contributors' forum and coordinated recognition across ocean institutions are presented here as possible applications of the incentive toolbox.

Across contexts, the comparison shows why there is no single market-based incentive that can mobilise voluntary corporate contributions. Table 8.1 compares the application of these market-based incentives to the Cali Fund, coral reef finance and the BBNJ Special Fund.

Table 8.1. Application of the policy toolbox incentives across three fund contexts

Dimension	Cali Fund	Coral reef fund	BBNJ Special Fund
Core business proposition	Support continued open DSI use and a predictable benefit-sharing system	Protect a natural asset that underwrites tourism, fisheries, coastal protection and insurance value	Support a predictable high-seas governance regime and conservation of marine biodiversity
Strongest incentives	Disclosure recognition; verified certificate; investor pressure; regulatory credit against overlapping ABS obligations	Local beneficiary clubs; insurance logic; branding; transparent links between payment and reef outcomes	Contribution certificate; contributor forum; investor engagement; early-payment credit against future benefit-sharing rules; recognition across ocean bodies
Useful precedents	Nature Action 100 for stewardship; UEBT for certification	Quintana Roo reef insurance; coastal water and ecosystem-service arrangements	Outcome-linked conservation finance; multilateral ocean-finance platforms
Main constraints	Costless free-riding on open data; DSI disclosure blind spots; uncertainty about interaction with national ABS regimes	Difficulty scaling local beneficiary logic across geographies; attribution and additionality	Fragmented governance; difficult monitoring and verification; weak direct connection between beneficiaries and high-seas ecosystems

Source: Authors' compilation

9. Conclusions and policy recommendations

This report set out to answer a specific question: how can private sector contributions to the Cali Fund, and to biodiversity funds more broadly, be incentivised as a matter of core business decision-making rather than treated as philanthropy? The analysis shows that there is no single solution. The Cali Fund is a genuinely novel instrument: the first multilateral mechanism to seek monetary benefit-sharing directly from companies for their commercial use of a shared, open-access resource. That novelty is precisely why its early design choices matter so much. Comparable mechanisms, from the Plant Treaty's marginal user-based revenue to the WHO PIP Framework's far more successful voluntary contributions, suggest that the ability to raise meaningful revenue depends less on the generosity of the stated rate than on whether avoidance is possible, whether the value of participating is clear and whether companies can determine their total obligations with confidence.

The Cali Fund's own early record reflects this uncertainty. Two contributions received in its first 18 months of operation, against a modelled revenue range spanning tens of millions to several billion US dollars, illustrate both how far the mechanism currently is from its potential and how much remains undetermined about its ultimate trajectory. This is not necessarily a verdict on the mechanism itself but reflects important questions that remain unresolved: definitional ambiguities in Decision 16/2, the relationship between the Fund and overlapping national and international obligations, and the absence, so far, of the market and reputational infrastructure that has supported comparable voluntary mechanisms elsewhere.

These are addressable design questions. The recommendations below set out complementary steps across four policy levers that could strengthen the Fund's current voluntary framework and make participation a more established part of ordinary business decision-making.

Lever 1: Making contributions commercially visible

For a Cali Fund contribution to function as more than a compliance cost, it needs to be visible within the systems companies already use to communicate performance to investors, regulators and customers. Three actions would help close the current visibility gap:

i. Strengthen disclosure frameworks and reporting

In the near term, standard-setters could operationalise the provisions already in place (GRI 101-3 and TNFD A14.0) by adding the complementary quantitative indicators set out in Table 7.2. These could include the proportion of R&D expenditure linked to genetic-resource use; the number of internationally recognised certificates of compliance referenced during the reporting period, the only legally standardised instrument under the Nagoya Protocol for documenting genetic-resource access; the number of active patents for which DSI was a material input; and the number of INSDC accession numbers cited in R&D or patent filings. A further data point, whether companies draw upon keystone or ecologically significant species, physically or through DSI, would close a gap left by existing wild species metrics, since both TNFD A3.5 and GRI 101-6 capture only physical extraction from natural habitats and not reliance mediated by sequence data (Global Reporting Initiative, 2024; TNFD, 2024).

Beyond R&D, guidance should extend the spatially explicit tools already embedded in the LEAP approach to capture the commercial use of genetic sequence data across value chains, while ensuring that the additional reporting burden does not itself become a disincentive to transparency. Metrics such as PDF and MSA should evolve to map physical biodiversity stress to potential DSI loss, biome by biome, a task the scientific community is best placed to lead. Throughout this process, it is essential to acknowledge that any such indicator can only function as a proxy and should be reported with its assumptions and boundaries made explicit (Proudani and Goumet, 2026).

In the international policy sphere, negotiators should resolve ambiguities in Decision 16/2, including the scope of direct and indirect use, the treatment of contributing entities, the basis for the indicative rates and the allocation criteria, ideally informed by the DSI-tailored reporting frameworks and metrics proposed above. Each of these guidelines should be grounded in transparent, science-based methodologies that can withstand scrutiny from companies, investors and regulators alike (Mair et al., 2024).

ii. Strengthen certification and verification

For the Cali Fund's existing certificate to function as a credible signal, three basic conditions need to be met: contribution levels must be independently verified rather than self-reported, the certificate must be clearly and consistently defined, and it must be tied to a specific reporting period rather than implying open-ended good standing. Without these conditions, the certificate risks being discounted by investors and other informed stakeholders, regardless of how many companies hold one.

Beyond this baseline, a further development worth considering is moving from a single pass/fail certificate to a tiered scheme, for example Contributor, Silver and Gold, with tiers set relative to a company's DSI-dependent revenue rather than a flat threshold. A single-tier certificate does little to distinguish a company making a minimal contribution from one contributing substantially more, which limits its long-term reputational value. Anchoring any tiers to Decision 16/2's existing rate structure (1% of profit or 0.1% of revenue) would preserve the scheme's signalling value without requiring a new metric to be built from scratch.

Two national schemes offer practical precedents for how this could be operationalised. Costa Rica's Distintivo ABS and India's VCS-I-ABS show that an ABS certificate can function as a market signal, while India's approach of delivering certification through accredited third-party bodies and registering the resulting logo as a trademark is directly relevant to the verification and controlled-use mark proposed here. Their limited uptake to date also indicates that a certificate alone is not sufficient; sustained promotion to relevant audiences is needed for it to carry value.

iii. Establish branding and communications guidance for verified contributors

A useful next step would be for the Cali Fund's governing bodies to issue a short communications guidance note, paired with an official, controlled-use mark available only to verified contributors. The guidance would set out permitted and non-permitted claims. Linking a contribution to a particular product or purchase, as suggested by the transaction-based approaches discussed in Section 7, can be commercially effective, but the guidance should require a pooled-fund disclaimer to accompany any such claim.

This kind of controlled mark and guidance note is a well-established tool in adjacent fields, comparable to how carbon offset and green-claims frameworks increasingly restrict which claims a verified payment can support. It would give the certificate discussed above practical use in company communications, rather than leaving it as a compliance document with no defined external use.

Lever 2: Increasing the cost of non-contribution

Because contribution to the Cali Fund carries no legal penalty for non-participation, market and reputational pressure are the main levers available in the near term. Two concrete steps would strengthen these pressures:

i. Incorporate Cali Fund contributions into investor stewardship

Investor coalitions already engaging companies on biodiversity, such as Nature Action 100 and the PRI's Spring initiative, could add specific, standard questions to their engagement dialogues. These could cover whether a company contributes to the Cali Fund, how dependent it is on DSI derived from biodiversity, and how its contribution compares with the indicative basis set out in Decision 16/2. This would not require any new institutional infrastructure, only a small, deliberate

addition to engagement frameworks that already exist and already reach many of the Fund's largest potential contributors.

ii. Signal the shift from voluntary expectations to harder compliance

Given the precedent of voluntary disclosure regimes evolving into mandatory ones, as seen in France's shift from comply-or-explain climate reporting to biodiversity-inclusive requirements, the Conference of the Parties could signal, even informally, whether stronger benefit-sharing expectations are likely over time. Such a signal would cost nothing to provide but could give companies an incentive to build internal DSI-tracking systems now, ahead of any future requirement, rather than waiting until they are imposed.

Lever 3: Increasing the value of contributing

Beyond making non-contribution costlier, the Cali Fund could make contributions more valuable, independent of any change to the underlying payment rate. Two mechanisms would help achieve this:

i. Establish a contributor club with membership benefits

Parties, with the support of existing industry associations and the Fund's Steering Committee, could formalise a lightweight contributors' arrangement building on the existing certificate. It could offer verified contributors regular briefings on Fund allocations and results, and structured opportunities for dialogue with governments, Indigenous Peoples and local communities, and other actors in the mechanism. These benefits should be limited to information, dialogue and recognition, and should not extend to influence over the allocation of Fund resources or the mechanism's governance. The risk of formal influence is low, given the governance arrangements set out in Decision 16/2, but stating the boundary clearly would help secure the confidence of Parties and other actors in the mechanism.

ii. Provide regulatory credit and greater legal certainty

The Conference of the Parties could task the Secretariat with developing guidance on the connection between the Cali Fund and ABS frameworks and other international instruments as a matter of priority. This could include exploring options ranging from full mutual recognition, whereby a Cali Fund payment is credited against overlapping domestic obligations, to more limited safe-harbour provisions protecting early contributors from future claims on the same underlying activity.

Lever 4: Reducing the cost of contributing

Even where a company sees clear strategic value in contributing, the effective cost of doing so, not just the headline payment, shapes whether and how much it contributes. Three mechanisms could reduce this cost without weakening the private financial stake involved:

i. Develop a sustainable finance pathway for contributors

Three conditions must be met for a sustainable finance pathway into the Cali Fund to hold up under scrutiny. Any bond-linked contribution should be structured as a ring-fenced, use-of-proceeds instrument rather than a general-purpose or performance-linked one. The contribution pathway also needs governance and reporting arrangements that meet or come close to the Global Biodiversity Framework's standards, including project-level tracking and independent external review, since market credibility rests on these mechanisms rather than on contractual enforcement (Freeburn and Ramsay, 2020). Furthermore, a single issuance is unlikely to be enough. The Nordic Investment Bank precedent suggests that sustained market interest depends on a continuously replenished pipeline of eligible, well-defined biodiversity projects rather than a one-off transaction.

The Cali Fund's allocation formula speaks to the second of these conditions. It cannot substitute for traceability at the point of contribution, but it can offer disbursement-side transparency that

strengthens the broader governance case for a pooled, multilateral vehicle. In practice, this points to a more promising starting point than pursuing green bond alignment directly: engagement with sovereign green bond frameworks that already channel proceeds to pooled international mechanisms. Germany's SDG17/PROBLUE precedent is the closest structural match, both in the parallel it offers and in the governance infrastructure already in place.

ii. Clarify the business-expense treatment of contributions

Tax authorities in jurisdictions where major DSI-using companies are headquartered should clarify, under their own domestic law, how verified Cali Fund contributions are to be characterised for corporate tax purposes, for example as an ordinary business expense, a charitable contribution or another applicable category. The tax consequences of each category, and which is more favourable to the contributing company, depend on the rules of the relevant jurisdiction and cannot be assumed in advance. The certificate and receipt already provided for under Decision 16/2 give tax authorities a documented basis for this determination without requiring any new reporting infrastructure. Settling and communicating this characterisation clearly would reduce the effective cost of contributing by removing an ambiguity that might discourage participation.

iii. Consider targeted fiscal incentives

Where governments wish to go further, any dedicated tax credit or deduction for Cali Fund contributions should be designed with two safeguards drawn directly from comparable experience. First, following Colombia's environmental tax credit model, eligibility should require prior verification before the fiscal benefit is granted, rather than being claimed retrospectively, to avoid the abuse seen in unverified US conservation-easement deductions. Second, incentives should be reviewed periodically against their fiscal cost and concentration among large donors, to guard against deadweight loss and the risk that an incentive primarily benefits taxpayers in the country granting it rather than supporting the biodiversity outcomes it is intended to achieve. As a general principle, such incentives are best considered a complement in jurisdictions where major DSI-using companies are headquartered, not a substitute for the underlying contribution itself.

The Fund's future will be shaped substantially by decisions taken at the 17th Conference of the Parties to the Convention on Biological Diversity (COP17) in Yerevan, Armenia, and in the period immediately surrounding it. Whether Parties, the private sector and the Fund's governing bodies use this opportunity to resolve the mechanism's open questions, or allow them to persist by default, will determine whether the Cali Fund becomes a durable model for sharing the value of digital sequence information, or a cautionary tale about the gap between a well-intentioned multilateral decision and its practical implementation.

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Appendix 1. Interviews and guiding questions

The systematic literature review was complemented by semi-structured interviews with experts from diverse backgrounds. The call for interviews was circulated by the CBD Secretariat to members of the Steering Committee, and supplemented by individual outreach emails to our network, using a snowball sampling approach whereby initial contacts were asked to recommend additional relevant experts. Table A1 summarises the interview profiles.

Guiding questions

- What is your perspective on the Cali Fund decision? What are some advantages and disadvantages?
- What are some of the barriers or constraints that are preventing contributions to the Cali Fund?
- Can you describe what motivates a company in your sector to contribute to biodiversity protection?
- If contributions to biodiversity exist, how do you choose where and what projects to invest in?
- How can contributions in biodiversity be justified when it comes to the use of Digital Sequence Information (DSI)?
- What type of biodiversity conservation or restoration projects would you like the Cali Fund to invest in? Would this serve your business case?
- What are some of the challenges, lessons learned and good practices from other multilateral mechanisms that you would like to highlight?
- How are contributions to other multilateral mechanisms justified internally, and how do you usually finance those payments?
- What is the value added of biodiversity certificates, and how can it benefit a company in your industry?
- What role do you think financial institutions can play while engaging with companies to increase contributions to the Cali Fund? What can be some of the gaps to fill?
- What is the value of contributions to the Cali Fund or any other multilateral mechanisms to investors?

Table A1. Interview profiles

Type of organisation	Number of interviews
Civil servants	3
DSI scientists	2
Consultants	2
Financial institutions	2
Representatives from companies targeted by Decision 16/2	2
IPLCs	1

Appendix 2. Decision 16/2 modalities

A. Cali Fund contributors

As defined in Decision 16/2:

DSI use and type of activity: [Annex para. 3] *Users of digital sequence information on genetic resources in sectors that **directly or indirectly benefit from its use** in their **commercial activities** (...).*

Company size: [Annex para. 3] *Entities that, on their balance sheet dates, exceed at least two out of three of thresholds (namely, total assets: 20 million United States dollars, sales: 50 million dollars, and profit: 5 million dollars) averaged over the preceding three years.*

DSI-using sectors:

[Enclosure I para. 1] *Sectors that may benefit directly or indirectly from the use of digital sequence information on genetic resources include:*

Pharmaceuticals;

Nutraceuticals (food and health supplements);

Cosmetics;

Animal and plant breeding;

Biotechnology;

Laboratory equipment associated with the sequencing and use of digital sequence information on genetic resources, including reagents and supplies;

Information, scientific and technical services related to digital sequence information on genetic resources, including artificial intelligence

B. Indicative contribution rates

[Annex para. 3] (...) *should contribute to the global fund **1 per cent of their profits or 0.1 per cent of their revenue**, as an indicative rate.*

Appendix 3. Company sustainability reports reviewed

AstraZeneca

Bayer (including Bayer Crop Science)

Börlind

COFCO

CSL

Fujitsu

GSK

Google

Janssen Pharmaceutica

Hitachi

Johnson & Johnson (including Janssen)

Microsoft

NEC

Novo Nordisk

Sinopharm

Swords Laboratories

Tata Consultancy Services (TCS)