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From assessment to action: Mapping Article 2.1(c) assessment frameworks for climate-aligned finance and related actions

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On behalf of the German Environment Agency

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Abstract: From assessment to action: Mapping Article 2.1(c) assessment frameworks for climate-aligned finance and related actions

The Paris Agreement's Article 2.1(c) calls for aligning finance flows with low-emission, climate-resilient development. Yet, how to operationalise and assess progress on Article 2.1(c), remains unclear and efforts to remedy this are fragmentary. This paper maps and evaluates existing assessment frameworks designed to track progress toward Article 2.1(c), identifying key trends, gaps, and lessons that pertain to the future development of these frameworks. The mapping of frameworks can be found in the annex of this paper in the form of an extensive tabular overview, which serves as the basis for the evaluation carried out in the paper's main part. Structured into three parts, the analysis first proposes parameters, which allow to systematically characterise frameworks. It then reviews frameworks across three levels – entity, country, and international – highlighting their design choices, strengths, and limitations. Finally, the paper identifies several blind spots, including the underrepresentation of adaptation finance, corporate investment, internal financing, and points to ways how to leverage design features present in, amongst others, entity-level framework, for country-level frameworks.

Kurzbeschreibung: Von der Evaluierung hin zur Umsetzung: eine Kartierung von Artikel 2.1 (c)-Bewertungsrahmen für klimakompatible Finanzierung und damit verbundene Maßnahmen

Artikel 2.1(c) des Pariser Abkommens fordert eine Ausrichtung der Finanzströme auf eine emissionsarme und klimaresistente Entwicklung. Wie jedoch die Umsetzung und Bewertung der Fortschritte gemäß Artikel 2.1(c) erfolgen soll, bleibt unklar, wenn nicht sogar unbestimmt. In diesem Papier werden bestehende Bewertungsrahmen zur Verfolgung der Fortschritte gemäß Artikel 2.1(c) erfasst und bewertet, wobei wichtige Trends, Lücken und Lehren für die künftige Entwicklung von Frameworks ermittelt werden. Das Papier ist als erläuternde Anleitung zu einer umfassenden tabellarischen Übersicht über ausgewählte Artikel 2.1(c) konzipiert, die im Anhang dieses Papiers zu finden ist. Die Analyse ist in drei Teile gegliedert und schlägt zunächst Parameter vor, mit denen sich Frameworks charakterisieren lassen. Anschließend werden die Frameworks auf drei Ebenen – Unternehmen, Länder und international – systematisch überprüft, wobei ihre Gestaltungsmerkmale, Stärken und Grenzen hervorgehoben werden. Schließlich identifiziert das Papier blinde Flecken, darunter die Unterrepräsentation von Anpassungsfinanzierungen, Unternehmensinvestitionen und kausalen Zusammenhängen zwischen Finanzströmen und realen Ergebnissen.

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List of abbreviations

ASCOR	Assessment of Sovereign Climate Risks and Opportunities
AUM	Assets Under Management
BAU	Business as Usual
BRSR	Business Responsibility and Sustainability Reporting
CAPEX	Capital Expenditure
CAT	Climate Action Tracker
CBDR-RC	Common but Differentiated Responsibilities and Respective Capabilities
CETEx	Centre for Economic Transition Expertise
CETP	Clean Energy Transition Partnership
CFMCA	Coalition of Finance Ministers for Climate Action
CPI	Climate Policy Initiative
CSRD	Corporate Sustainability Reporting Directive
DAC	Development Assistance Committee (OECD)
DFIs	Development Finance Institutions
E3G	Third Generation Environmentalism
ECB	European Central Bank
EFMs	Emerging Markets
EMDEs	Emerging Markets and Developing Economies
ESRS	European Sustainability Reporting Standards
ESG	Environmental, Social and Governance
EU	European Union
FI	Financial Institutions
G20	Group of Twenty
GCF	Green Climate Fund
GFANZ	Glasgow Financial Alliance for Net Zero
GHG	Greenhouse Gas
GRI	Global Reporting Initiative
ICF	International Climate Finance
ICAP	Investor Climate Action Plans

IISD	International Institute for Sustainable Development
IFRS	International Financial Reporting Standards
IPAF	Impact Potential Assessment Framework
IPCC	Intergovernmental Panel on Climate Change
ISSB	International Sustainability Standards Board
I4CE	Institute for Climate Economics
JETPs	Just Energy Transition Partnerships
JRC	Joint Research Centre
KPIs	Key Performance Indicators
MDBs	Multilateral Development Banks
NDCs	Nationally Determined Contributions
NGFS	Network for Greening the Financial System
NZAOA	Net-Zero Asset Owner Alliance
NZBA	Net-Zero Banking Alliance
NZIF	Net Zero Investment Framework
NZTP	Net Zero Transition Plan
ODI	Overseas Development Institute
OPEX	Operational Expenditure
PA	Paris Agreement
PACTA	Paris Agreement Capital Transition Assessment
PCAF	Partnership for Carbon Accounting Financials
RCP	Representative Concentration Pathway
RMI	Rocky Mountain Institute
SBTi	Science Based Targets initiative
SBTi-FI	Science Based Targets initiative for Financial Institutions
SDG	Sustainable Development Goals
SFBN	Sustainable Banking and Finance Network
SFR	Sustainable Finance Roadmap
SFWG	Sustainable Finance Working Group (G20)
SME	Small and Medium-sized Enterprises

SSP	Shared Socioeconomic Pathways
SUSREG	Sustainable Financial Regulations and Central Bank Activities Tracker
TCFD	Task Force on Climate-related Financial Disclosures
TPI	Transition Pathway Initiative
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
WEF	World Economic Forum
WWF	World Wide Fund for Nature

Summary

The purpose of this paper is to provide clarity on how progress towards Article 2.1(c) of the Paris Agreement can be assessed. Article 2.1(c) commits signatories to the Paris Agreement to "making finance flows consistent with a pathway towards low greenhouse gas emissions and climate resilient development" (UNFCCC, 2015). Owing to its very formulation, Article 2.1(c) involves both *scope for interpretation*, operationalisation and assessment.

Forming part of a multi-part study, this paper builds on the preceding paper, titled *"Unpacking Article 2.1(c): Conceptual and Political Dimensions of Climate-Consistent Finance under the Paris Agreement"* (Argueta, 2025) which discusses different interpretations of Article 2.1(c). While the former paper focused on *scope for interpretation,* the current paper centres on the *scope for operationalisation and assessment.* To this purpose, the paper undertakes a mapping of existing frameworks to assess Article 2.1(c). The aim of this mapping is to offer a comprehensive review of available frameworks, covering all relevant frameworks with a distinct orientation towards Article 2.1(c). Thereby, the paper contributes to efforts like the Global Stocktake and related UNFCCC work processes, that have called for the development of effective, informed Article 2.1(c) country-level frameworks.

The mapping is carried out in two complementary ways: firstly, as a tabular overview that classifies frameworks along a set of parameters: the *level of application, dimensions of alignment, reference pathways used, polarities of finance flows, nature of the assessment, and stocks and flows covered*. These parameters are further developed in the paper. Secondly, in the form of an explicatory guidance, discussing the frameworks in the main body of this paper. Jointly, these two strands are meant to characterise frameworks based on certain parameters and tease apart commonalities and differences. Here, the paper will revisit different levels of frameworks, namely *entity-, country-*, and *international-level frameworks*.

Building on this mapping, the paper examines the landscape of available frameworks, with the aim of identifying trends, blind spots and highlighting possible points of departure for the future development of Article 2.1(c) country-level assessment frameworks.

Building on this, Parts 3 and 4 move beyond a descriptive review to gather evaluative insights: They tease out shortcomings in existing approaches and propose starting points aimed at informing the development of country-level frameworks. Part 5 draws conclusions for future work on Article 2.1(c).

Insights from entity-level frameworks

Firstly, regarding findings that can be drawn **from entity-level frameworks** for country-level frameworks, a key insight pertains to alignment metrics. Discussing the benefits and drawbacks of different alignment metrics, the discussion concludes – drawing from what is common practice in entity-level frameworks – that intensity-based metrics and relative comparisons of emission performance to business as usual scenarios are meaningful metrics to drive the real-world objectives encapsulated in Article 2.1(c).

Moreover, entity-level frameworks' attention to Scope 3 emissions – including financed, facilitated and insured emissions – underscores the importance of tracing alignment through the full value chain of both financial and nonfinancial actors. Despite these points of departure that can be gleaned from entity-level frameworks, the analysis of frameworks also reveals blind spots. Entity-level often fail to capture financial flows that shape allocation indirectly, such as intra-financial market transactions. Moreover, the discussion points to a common limitation of entity-level frameworks: That they often insufficiently incorporate the link between outcomes and real world impacts.

Beyond that, the paper highlights ways in which entity-level frameworks can inform the design of policies – which, at the secondary level, should feature in the assessment of such policies in the context of Article 2.1(c) assessment frameworks.

Notably, entity-level frameworks often posit a multi-pronged view on what alignment at the company-level should incorporate, *converging on governance, strategy, engagement, political advocacy, disclosure* and *portfolio composition*, as relevant dimensions. To capture options and ensure entity-level Paris alignment, country-level assessments should consider these different dimensions of alignment. Similarly, many entity-level frameworks prioritise certain high-impact sectors – a design feature whose transfer to country-level frameworks is raised as a potential point of departure. A further point concerns reference pathways and scenarios. The paper finds significant heterogeneity across entity level frameworks with respect to the use of global temperature goals, overshoot options and fair share considerations. Country-level frameworks should keep an eye on consistent use of pathways and scenarios, as this is crucial for science-based, meaningful climate and resilience alignment.

Insights from country-level frameworks

Turning to insights and trends in existing **country-level frameworks** that should be taken into account in the construction of a country-level framework, the paper offers relevant starting points. One prominent issue is the absence of policy sequencing. Many assessment tools list the presence or absence of policies without considering the order in which policies are introduced, even though sequencing is decisive for their effectiveness. Disclosure regulations and taxonomy frameworks, for instance, can serve as a precondition for concessional green or transition-based subsidies. Sequencing points to a more general learning, namely that country-level frameworks should not focus on the presence of specific policies, but rather contextualise them, so that timing and interaction with other measures are considered. A second blind spot in country-level frameworks is a *mitigation bias*. Although Article 2.1(c) expressly covers climate resilient development, existing country-level assessments prioritise GHG mitigation. This reflects the broader imbalance in climate finance, where adaptation finance constitutes a small fraction of global flows. Nonetheless, future assessment frameworks should capture resilience more adequately, as better measurement and assessment options for resilience would also incentivise resilience investments.

Insights from international-level frameworks

At the **international level**, insights relate primarily to the insufficiently granular assessments of countries' involvement on the international stage. Commonly used benchmarks often only focus on aggregate expenditure figures, while disregarding the conditions, exclusions and actual impacts of the finance provided. Here, the paper teases out best practice examples, e.g. comparing aggregate expenditure figures with required spending under fair-share benchmarks. Secondly, international-level frameworks highlight options for international engagement by countries, highlighting alignment-promoting actions that are typically missing as relevant assessment dimensions within country-level frameworks. These include *knowledge-sharing, fostering coordination, identifying synergies* across different international institutions, and *interoperability* – all of which should feature as variables to be assessed within country-level frameworks.

Cross-cutting insights

With the key trends, gaps, and points of departure *within* frameworks identified in previous sections, Part 4 goes one step further, turning to the question of which trends, blind spots, and points of departure exist when the entire landscape of existing frameworks is considered. The paper refers to such issues as *overarching*.

A central issue is **causality**, specifically the link between financial impacts and real-world outcomes. While Article 2.1(c) enshrines the requirement that finance flows be consistent with climate mitigation and resilience outcomes, most frameworks do not specify or substantiate how financial interventions translate into real world effects. Entity-level frameworks, such as the NZIF, acknowledge in principle that reducing real economy emissions is the ultimate goal, but do not succeed in establishing causal attribution beyond portfolio reweighting. Country-level assessments, similarly, tend to capture commitments, enabling conditions or financial outcomes (such as sectoral lending volumes or sovereign bond issuances) without tracing their actual effect on emission reductions or resilience building. The report conceptualises this problem through a causal chain consisting of five stages: commitments, operationalisation, implementation, outcomes and impacts.

While this paper does not seek to propose remedies for this issue, it reflects on the question of how country-level frameworks can address the tension between the causal role of financial flows stipulated in Article 2.1(c) and the difficulty of establishing such causality within assessment frameworks. The paper converges on acknowledging this methodological difficulty and taking account of confounding factors, and distinguishing between outcomes and impacts as provisional points of departure to grapple with causality.

Closely related is the issue of **output versus effectiveness-orientation**. A number of existing frameworks rely on output indicators, typically binary indicators that evaluate the presence or absence of a certain policy lever (e.g. whether a sustainable finance strategy has been published or a climate finance-working group established). While these may signal intentions, they risk confusing progress on paper with effectiveness at the effectiveness-level.

Another overarching shortcoming is the **neglect of the real economy** in entity-level frameworks. Assessments of finance-alignment have primarily concentrated on financial institutions, leaving aside nonfinancial corporates' investment and financing decisions. Related to this, the review highlights the importance of **internal corporate financing** – retained earnings and cash holdings. Since adaptation in particular is often financed internally at the firm level, neglecting this dimension means omitting a critical piece of the Article 2.1(c) puzzle. A future framework should therefore consider ways of incorporating information on internal corporate financing, at least for key high emission or high impact sectors, despite the acknowledged data difficulties.

Taken together, the analysis shows that different frameworks have considerably different logics of functioning, contents, and therefore, are of different usefulness for country-level Article 2.1(c) assessments. Entity-level initiatives provide operational detail on alignment metrics, corporate governance elements and sectoral coverage, but are limited in real economy causality and typically mitigation-focused. Country-level tools offer useful leverage points and recognition of government policy choices, but suffer from a lack of sequencing, mitigation bias and insufficient consideration of climate resilience. International level frameworks highlight the importance of coordination and cross-border alignment, yet often prioritise procedural harmonisation over evaluative adequacy. Across the landscape, the failure to establish causal linkages from financial flows to real world impact, the overreliance on outputs rather than effectiveness, and the neglect of private nonfinancial corporate and internal financing flows, constitute weaknesses whose betterment should be points of departure in future frameworks.

Zusammenfassung

Ziel dieses Papiers ist es einen Überblick über bestehende Ansätze zur Bewertung und Operationalisierung von Artikel 2.1(c) zu verschaffen. Artikel 2.1(c) verpflichtet die Vertragsparteien das Pariser Abkommens, „[…] Finanzströme mit einem Pfad hin zu einer emissionsarmen und klimastabilen Entwicklung in Einklang zu bringen“. Unklar bleibt jedoch, wie Artikel 2.1(c) in der Praxis umgesetzt werden kann. Denn die Formulierung des Artikels lässt Spielräume für Interpretation als auch für unterschiedliche Ansätze, wie man den Artikel operationalisieren und Fortschritt bewerten kann.

Als Teil einer mehrteiligen Studie baut dieses Papier auf dem vorangegangenen Discussion Paper *“Unpacking Article 2.1(c): Conceptual and Political Dimensions of Climate-Consistent Finance under the Paris Agreement*” (Argueta, 2025) auf, welches verschiedene Lesarten von Artikel 2.1(c) beleuchtet hat. Während dieses frühere Papier den Schwerpunkt auf diese Lesarten legte, richtet das vorliegende Papier den Fokus auf die Umsetzung und Bewertung. Zu diesem Zweck wird eine Kartierung bestehender Frameworks zur Bewertung von Artikel 2.1(c) vorgenommen. Ziel dieser Kartierung ist es, eine umfassende Übersicht über verfügbare Frameworks zu bieten, womit das Papier zu den im Rahmen des Global Stocktakes und verwandter UNFCCC-Prozesse angestoßener Bemühungen der Entwicklung wirksamer, fundierter nationaler Artikel 2.1(c)-Frameworks beiträgt.

Diese Typologie klassifiziert Frameworks entlang einer Reihe von Parametern, die im Papier näher ausgearbeitet werden: *Ebene der Anwendung, Dimensionen der Ausrichtung, verwendete Referenzpfade, Finanzflüsse in verschiedene Richtungen, Art des Bewertungsansatzes sowie erfasste Finanzströme und -bestände*. Mit Hilfe dieser Typologie soll in diesem Beitrag ein analytisches Instrumentarium entwickelt werden, das es ermöglicht, Gemeinsamkeiten und Unterschiede herauszuarbeiten und Rahmenbedingungen anhand bestimmter Parameter zu charakterisieren.

Die Kartierung erfolgt auf zweierlei Art: Erstens in Form einer tabellarischen Übersicht, in der die Frameworks anhand von sechs Parametern klassifiziert werden: *Anwendungsniveau, Ausrichtungsdimensionen, verwendete Referenzpfade, Polaritäten der Finanzströme, Art der Bewertung sowie Finanzströme und -bestände.* Diese Parameter werden im Papier näher erläutert. Zweitens in Form einer diskursiven und evaluativen Überprüfung dieser Frameworks im Hauptteil dieses Papiers. Gemeinsam sollen diese beiden Stränge die Frameworks anhand bestimmter Parameter charakterisieren und Gemeinsamkeiten und Unterschiede herausarbeiten.

Zu diesem Zweck betrachtet das Papier verschiedene Ebenen von Frameworks, nämlich Frameworks auf *Akteursebene, Länderebene und auf internationaler Ebene.* Aufbauend auf dieser Kartierung untersucht das Papier anschließend die Landschaft der verfügbaren Frameworks mit dem Ziel, Trends, Lücken sowie mögliche Ansatzpunkte für die zukünftige Entwicklung eines nationalen Artikel 2.1(c)-Bewertungsrahmens zu identifizieren.

Auf Grundlage dieser deskriptiven Erfassung von Frameworks widmen sich die Teile 3 und 4 einer evaluativen Überprüfung der Frameworks. Sie arbeiten Defizite bestehender Frameworks heraus und schlagen andersherum Ansatzpunkte vor, die als Grundlage für die Entwicklung von Frameworks auf Länderebene dienen können. Teil 5 zieht Schlüsse für zukünftige Arbeit zu Artikel 2.1(c).

Rückschlüsse aus der Analyse der Akteursebene

Ein erstes Ergebnis aus der Analyse von Ansätzen auf **Akteursebene** betrifft die verwendeten Metriken zur Ausrichtung. Die Diskussion über Vor- und Nachteile unterschiedlicher Metriken kommt – unter Rückgriff auf gängige Praxis auf Akteursebene – zu dem Schluss, dass

Intensitätsmetriken und relative Vergleiche der Emissionsleistung mit Business-as-usual-Szenarien sinnvolle Indikatoren sind, um die in Artikel 2.1(c) verankerten Ziele in der Realwirtschaft voranzubringen.

Darüber hinaus verdeutlicht die Berücksichtigung von Scope-3-Emissionen (einschließlich finanzierter, erleichterter und versicherter Emissionen) in Frameworks auf Akteursebene die Bedeutung einer umfassenden Nachverfolgung entlang der gesamten Wertschöpfungskette, sowohl für Finanz- als auch Nichtfinanzakteure. Gleichzeitig offenbaren diese Ansätze Lücken: Häufig erfassen sie indirekt wirkende Finanzströme – etwa Transaktionen innerhalb der Finanzmärkte – nicht. Zudem weisen sie oft eine unzureichende Verknüpfung von Ergebnissen mit realwirtschaftlichen Wirkungen auf.

Das Papier hebt außerdem hervor, wie Frameworks auf Akteursebene zur Gestaltung von Politikmaßnahmen beitragen können – und wie diese Maßnahmen wiederum in die Bewertung nach Artikel 2.1(c) einbezogen werden sollten. Auffällig ist, dass Frameworks auf Akteursebene regelmäßig eine mehrdimensionale Sicht auf Ausrichtung vertreten, die Aspekte wie Unternehmensführung, Strategie, Engagement, politische Interessenvertretung, Offenlegung und Portfoliozusammensetzung umfasst. Diese Dimensionen sollten auch auf Länderebene berücksichtigt werden. Ebenso legen viele Ansätze besonderes Gewicht auf emissionsintensive Sektoren – ein Gestaltungsmerkmal, das sich für nationale Ansätze übernehmen ließe. Bezüglich Referenzpfade und Szenarien zeigt sich eine erhebliche Heterogenität, etwa hinsichtlich Temperaturzielen, Überschreitungsoptionen oder Fair-Share-Überlegungen. Nationale Ansätze sollten hier für Konsistenz sorgen, da dies zentral für eine wissenschaftsbasierte und belastbare Ausrichtung ist.

Rückschlüsse aus der Analyse der Akteursebene

Mit Blick auf **nationale Frameworks** hebt das Papier mehrere Ansatzpunkte hervor. Besonders ins Gewicht fällt das Fehlen einer Betrachtung der Reihenfolge von Politikmaßnahmen: Viele Instrumente erfassen lediglich die Existenz bestimmter Politiken, nicht aber deren Einführungsreihenfolge – obwohl diese für die Wirksamkeit entscheidend ist. Offenlegungspflichten oder Taxonomien können beispielsweise Voraussetzung für Förderungen oder Übergangs-Subventionen sein. Allgemein sollten nationale Frameworks daher Politiken im Kontext bewerten und deren zeitliche Einbettung sowie Wechselwirkungen berücksichtigen. Eine weitere Lücke ist der starke Fokus auf Emissionsreduktion: Obwohl Artikel 2.1(c) ausdrücklich klimaresiliente Entwicklung umfasst, liegt der Schwerpunkt nationaler Bewertungen bislang fast ausschließlich auf Emissionsminderung. Dies spiegelt das Missverhältnis in der Klimafinanzierung wider, bei der Anpassungsfinanzierung nur einen geringen Anteil hat. Künftige Bewertungsrahmen sollten Resilienz daher deutlich stärker berücksichtigen.

Rückschlüsse aus der Analyse der Akteursebene

Auf **internationaler Ebene** verweist das Papier zunächst auf die mangelnde Detailtiefe gängiger Bewertungen: Häufig werden lediglich aggregierte Ausgaben betrachtet, während Bedingungen, Ausschlüsse und tatsächliche Wirkungen unbeachtet bleiben. Als gute Praxis wird u. a. der Abgleich von Ausgaben mit Fair-Share-Benchmarks hervorgehoben. Darüber hinaus unterstreichen internationale Ansätze die Rolle von Wissensaustausch, Koordination, Synergieerkennung und Interoperabilität – Dimensionen, die in nationalen Bewertungen bisher kaum Beachtung finden, aber aufgenommen werden sollten.

Übergreifende Rückschlüsse

Teil 4 zieht schließlich **Schlüsse genereller bzw. übergreifender Art, die alle Ebene von Frameworks betreffen.**

Eine zentrale Herausforderung betrifft die Frage, ob Frameworks eine **Kausalität**, zwischen Finanzflüssen und realwirtschaftlichen Wirkungen auf Emissionsminderung und Klimaresilienz herstellen können. Während Artikel 2.1(c) diesen Zusammenhang explizit fordert, bleibt er in den meisten Frameworks unscharf. Das Papier konzeptualisiert dies über eine Kausalkette mit fünf Stufen: Verpflichtungen, Umsetzungsschritte, Durchführung, Ergebnisse und Wirkungen. Zwar schlägt das Papier keine Lösung vor, reflektiert jedoch, wie nationale Frameworks mit dieser methodischen Schwierigkeit umgehen könnten – etwa durch die Unterscheidung zwischen Ergebnissen und Wirkungen sowie durch Berücksichtigung externer Einflussfaktoren. Eng damit verbunden ist die Problematik von ‚output- versus -effectiveness' - Orientierung: Zahlreiche bestehende Ansätze nutzen binäre Indikatoren (z. B. ob eine nachhaltige Finanzstrategie veröffentlicht wurde), die Absichten dokumentieren, jedoch kaum Auskunft über tatsächliche Wirksamkeit geben.

Ein weiteres Defizit ist die **Vernachlässigung der Realwirtschaft**: Die Analyse von Finanzströmen fokussiert stark auf Finanzinstitutionen, während Investitionsentscheidungen nichtfinanzieller Unternehmen – insbesondere über **interne Unternehmensfinanzierung** – weitgehend unberücksichtigt bleiben. Da gerade Anpassungsmaßnahmen häufig über Eigenmittel finanziert werden, bedeutet dies eine gravierende Lücke.

Insgesamt zeigt die Analyse, dass bestehende Frameworks höchst unterschiedliche Logiken, Inhalte und damit auch Nützlichkeit für nationale Bewertungen von Artikel 2.1(c) aufweisen. Ansätze auf Akteursebene liefern wertvolle Details zu Metriken, Unternehmensführung und Sektorabdeckung, sind jedoch mit Blick auf die Erfassung realwirtschaftlicher Auswirkungen limitiert und zudem stark auf Emissionsreduktion fokussiert. Ansätze auf Länderebene bieten Ansatzpunkte zur Entwicklung politischer Maßnahmen, weisen jedoch Defizite bei der Berücksichtigung der Reihenfolge von Maßnahmen, eine einseitige Konzentration auf Emissionsminderung und mangelnde Resilienzerfassung auf. Internationale Ansätze betonen Koordination und grenzüberschreitende Ausrichtung, legen den Fokus aber oft auf Verfahren statt auf Wirksamkeit. Frameworks übergreifend zählen die fehlende Kausalverknüpfung zwischen Finanzströmen und realwirtschaftlicher Wirkung, die Überbetonung von Outputs gegenüber tatsächlicher Effektivität sowie die Vernachlässigung nichtfinanzieller Unternehmen und interner Finanzierung als entscheidende Merkmale gekennzeichnet die bei der Weiterentwicklung künftiger Frameworks berücksichtigt werden sollten.

1 Introduction: frameworks in context

The Paris Climate Agreement is widely recognised as a landmark in global climate policy. Often, talk is about the two-long term goals of the Paris Agreement: the goals of climate mitigation, codified in Article 2.1(a), and climate adaptation, set out in Article 2.1(b). There is, however, a third long-term goal that is lesser known but arguably just as momentous in its consequences: Article 2.1(c).

Article 2.1(c) posits a role for finance in addressing climate change and fostering climate resilience. In the exact wording, it calls for:

> *"[…] making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development."* (UNFCCC, 2015)

The ambiguity and indefiniteness of this formulation has led to much debate about how Article 2.1(c) is to be understood: Which finance flows in particular should be made 'consistent'? What does it mean for finance to be consistent *with a pathway of climate mitigation and resilience*? And how to ascertain that a country is making progress on Article 2.1(c), that is on shifting financial flows in line with climate mitigation and resilience?

This paper contributes to discussions that seek to elucidate these questions, focusing on the latter question that of *how to assess countries' progress in aligning financial flows*. To gain a better understanding of what options to assess Article 2.1(c) exist, the paper conducts a comprehensive mapping of existing frameworks relevant to assessing progress on Article 2.1(c). Doing so, it identifies promising approaches, blind spots of existing approaches, and points of departure for developing Article 2.1(c) assessment frameworks.

The paper is the second publication in a multi-part study commissioned by the *German Environmental Agency.* The study's overarching aim is to review options to operationalise Article 2.1(c) and, ultimately, to build a state-of-the-art assessment framework for Article 2.1(c), which can be applied to different country contexts.

The first part of this study is titled *"Unpacking Article 2.1(c): Conceptual and Political Dimensions of Climate-Consistent Finance under the Paris Agreement"* (Argueta, 2025). This first part develops a working definition of Article 2.1(c), including by offering an extensive interpretation of each of its key concepts e.g., 'consistent', 'pathway' (A.1 A working definition of Article 2.1(c)). Informed by the understanding of Article 2.1(c) established there, this paper will review existing assessment frameworks for the Article.

For the undertaking of assessment, a key challenge of Article 2.1(c) is that it sets a global ambition – that of global alignment of finance with emission reduction and resilience goals – but leaves it undetermined how this ambition can be translated into action by private and public actors. As Noels and Jachnik poignantly phrased the problem:

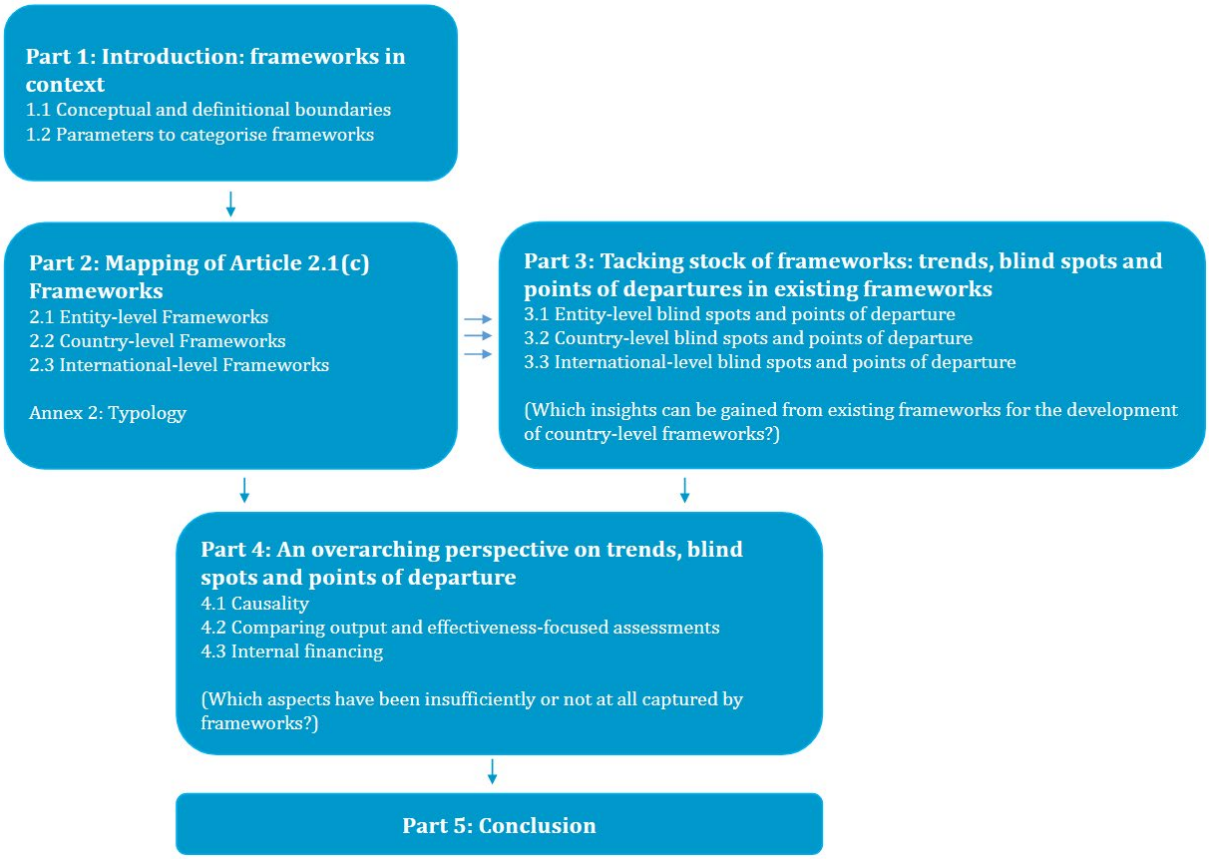
> *"[…] [T]here is no agreed or unique way of downscaling the PA's global temperature goal to the level of individual financial assets and underlying economic sectors, actors, or countries, all of which can and will decarbonise at different rates over time. As a result, […] any assessment of the degree of alignment or misalignment of financial assets and portfolios is dependent on a range of different assumptions and methodological choices."*(Noels & Jachnik, 2022)

In this context, assessment frameworks play a vital role because they outline how to draw the connection between a global ambition and actors at different levels that implement it. Assessment frameworks are important for a second reason: they are a precondition for applying Article 2.1(c) into practice, because they allow taking stock, deducing policy recommendations, and understanding the interplay of different actors involved in Article 2.1(c).

This practical importance of assessment therefore motivates the aim of this paper to gain a better grasp of existing approaches and frameworks to assessment.

The paper is structured into five parts (Figure 1). The *first part* establishes the definitional and conceptual foundations, and outlines a set of review parameters along which assessment frameworks can be categorised. The *second part* conducts a mapping of the most relevant existing frameworks for assessing Article 2.1(c), covering entity-level (section 2.1), country-level (section 2.2) and international-level frameworks (section 2.3). The *third part*, organised in parallel tripartite manner, puts the frameworks discussed in earlier sections into perspective by focusing on past trends, underrepresented aspects and starting points for Article 2.1(c) framework development. The *fourth part* takes a meta-perspective to single out aspects in frameworks that remain under represented in the current landscape of frameworks. Finally, the *fifth part* concludes the paper's findings.

Figure 1: Roadmap through the paper



Source: own illustration, Germanwatch diagram

1.1 Key concepts and methodology

To set the stage for the later review of frameworks, this section first delineates two key concepts used throughout this paper: that of 'Article 2.1(c)' and that of an '(assessment) framework'. It is worth pointing out that the terms defined in the following are defined solely for the purposes of this paper; they are open for adjustments, as the multi-part study develops.

As regards the definition of 'Article 2.1(c)', this paper uses the working definition proposed in (Argueta, 2025). For the purpose of this paper, this definition is crucial, because it helps delineating which frameworks actually fall within the remit of Article 2.1(c).

To summarise, this definition understands *financial flows* as comprising public, private, domestic, international, and transnational financial flows and stocks. *Consistency* is understood as implying that such financial flows support or at least do not undermine low-emissions and climate-resilient development. This includes coordinated actions across sectors and governance levels, evolving mandates and strategies, and addressing barriers like high capital costs and debt. Argueta further proposes a definition of *pathways as nationally determined, fair share-based* regarding both mitigation and adaptation goals, and including an operational understanding of equity and *Common but Differentiated Responsibilities and Respective Capabilities* (CBDR-RC), for example, through differentiated timelines (Argueta, 2025). The full definition, including a detailed interpretation of each of the terms, can be found in Annex 1.

Two terms in the definition are worth highlighting for the review of assessment frameworks: *flows,* which refer to financial flows *and* stocks (henceforth 'financial outcomes') and *actions,* which relate to measures to align finance (see the boxes below for the ad verbatim definitions). Financial outcomes provide an answer to the question 'how aligned are financial flows and stocks?'. Actions, also referred to as 'enabling levers' are an answer to the questions 'by which means, measures, and policies can Article 2.1(c) aligned finance be promoted?' or 'how aligned is the Article 2.1(c) policy, institutional, or market enabling environment?'

Financial outcomes

- "Includes all finance flows and stocks, public, private, domestic, international and transnational that are relevant to different national circumstances, without exceptions.
- Includes flows under Article 9 of the Paris Agreement.
- Encompasses flows that support, undermine or are neutral towards the goals of the Paris Agreement" (Argueta, 2025)

Actions

- "[…] all policies and measures, at the national and international level that promote consistency of finance flows.
- […] actions to ensure consistency of finance flows, implemented by public and private sector actors, at the local, national and international levels; and supported by civil society and academia.
- […] actions that result from cooperation between public, private and a mix of public, private and other actors, in different forums nationally and internationally, including those aimed at addressing challenges to implementation (e.g. cost of capital, debt).
- […] the evolution of mandates and business-models of relevant actors, to integrate the potential for transformation of Article 2.1(c).
- […] consideration of the complexity of causal relations, leading to holistic strategies." (Argueta, 2025)

Ultimately, these are two different perspectives of looking at progress on Article 2.1(c): looking at actual outcomes vs. looking at factors deemed relevant to enable positive outcomes.

Financial outcomes matter for assessments because they give perspective on the state of aligned finance, in particular regarding volumes of aligned finance. Actions are critical for assessments since it is actions that determine a country's or an entity's progress on Article 2.1(c). The

difference between financial outcomes and actions will be further elaborated in section 1.2, under the 'nature of assessment' parameter (see Table 1).

It is worth pointing out that, while the reference definition used in (Argueta, 2025) proposes specifications on the scope and interpretation of Article 2.1(c), it is built on the premise of acknowledging different understandings Parties might endorse. This paper endorses this premise. This pertains to two issues in particular: *first*, the role of inconsistent flows and *second*, how CBDR-RC under the UNFCCC determine the extent to which countries are considered to use frameworks and act on recommendations accordingly. While recognising the importance these questions have for ensuring equitable implementation of Article 2.1(c), they are not further discussed here, yet treated extensively in (Argueta, 2025).

The concept 'framework' is used in this paper as encompassing various conceptual constructs – beliefs, ideas, rules, methodologies, indicators – that can be used for making judgements on progress towards Article 2.1(c) (see Oxford University Press, 2020, for a canonical definition of 'framework'). This includes frameworks of different *types*:

- assessment frameworks
- assessments
- databases with quantitative and qualitative data
- trackers
- methodologies and guidance frameworks
- recommendations and other discussion contributions[1].

Table 1 provides detailed definitions for each of these terms and teases them apart as they are used in this paper. These six types of frameworks – both in their usage as well as in their demarcation from each other – are not consistently used across publications on Article 2.1(c). In light of this, the above definitions and distinctions should be viewed as an attempt to systematise different approaches to assess Article 2.1(c), rather than being definitive.

Methodology

Building on these definitional guardrails, this paper has selected frameworks through a three-step process. Firstly, it reviewed canonical surveys of frameworks, notably (OECD, 2024; UNFCCC SCF, 2022), (OECD, 2024). All frameworks included in Part III C "Implementation of methodologies, approaches and tools" of the (UNFCCC SCF, 2022) were included. The selection of frameworks was then cross-checked and complemented by (UNFCCC SCF, 2024) and (OECD, 2024). Second, it utilised a database compiled by a consortium for a related project on tracking progress in sustainable finance[2]. Lastly, it identified additional frameworks that fulfil the condition of having a distinctive finance-related dimension. Consistently, this latter selection step implies that the paper focuses on frameworks with a distinctive finance focus.

Frameworks that assess climate policies more broadly, without finance-specific elements, are outside the scope of this report. While such more 'generic' climate policies, e.g. minimum energy performance standards or bans on diesel cars, can lead to Article 2.1(c) consistent investments,

[1] The rationale underlying broad definition of a framework is to include different types of relevant information, dimensions, and data sources and thereby to set the stage for developing an assessment framework – the overall objective of the multi-part study. Moreover, the comprehensive definitional scope serves the purpose of constructing a knowledge base for the entire study.

[2] Complied for the forthcoming G20 Sustainable Finance Independent Assessment (Cárdenas Monar et al., forthcoming).

this link between – e.g. sectoral policy commitments and finance volumes – is often not specified. This selection approach is consistent with other studies (Whitley et al., 2018).

With this focus the paper does not depart from the definitional scope of Article 2.1(c) as outlined in (Argueta, 2025), which acknowledged that the Article "includes *all policies and measures*, at the national and international level *that promote consistency of finance flows*."(p. 33, emphasis added).

In what follows, this paper uses the terms 'aligned', 'consistent' and 'Paris-aligned' interchangeably and synonymously, each based on the conceptualisation of 'alignment' proposed in (Argueta, 2025). The next section introduces parameters, which are proposed to systematically map the landscape of frameworks.

1.2 Parameters to categorise frameworks

To assess commonalities and divergences among frameworks for evaluating progress on Article 2.1(c), this section introduces a set of parameters designed to enable systematic comparison. These parameters correspond to the columns of the description structure in the annex. The parameters listed here do not aim to be comprehensive, but are designed to capture key characteristics of frameworks and provide a basis for identifying shared features and areas of divergence.

Table 1: Parameters for comparing Article 2.1(c) frameworks

Parameter	Description
Type	This paper reviews different types of frameworks: ▶ **Assessment frameworks:** Frameworks that offer a systemic approach to assess the climate- and resilience-alignment of finance and of actions to support it. These frameworks can be regarded as 'systemic' or 'holistic' because they reference or even operationalise the 'all-encompassing' nature of Article 2.1(c) ▶ **Assessments:** Case studies, applying an assessment framework at a specific level (e.g. entity, sectoral, national, international) ▶ **Databases with quantitative and qualitative data:** Databases may comprise information on, e.g.: • The environmental performance of private and public actors, their portfolios or assets owned • Actions implemented by private and public actors (e.g. adoption of sustainability reporting) and financial outcomes (i.e. volumes of climate-aligned finance) ▶ **Trackers:** Similar to databases, trackers provide, collect and synthesise information from multiple sources. They differ from databases in that they often feature aggregate indices. Trackers often combine databases with public reports. ▶ **Methodologies:** A methodology provides practical, detailed guidance with specific metrics, rules, and benchmarks to carry out concrete steps toward meeting standards, goals, or targets. Methodologies spell out how to measure whether an asset or actor is aligned—or not—with climate objectives, sometimes broken down by sector. (Conceptualisation based on Noels & Jachnik, 2022)

Parameter	Description
	► **Guidance frameworks**: A guidance framework offers broad guidance and sets out general principles to help steer efforts towards alignment goals. It points to a direction but leaves room for interpretation, often allowing different tools, approaches or alignment methodologies to be used for putting it into practice. (Conceptualisation based on Noels & Jachnik, 2022) ► **Recommendations and other discussion contributions:** This rubric includes relevant contributions that inform assessments of Article 2.1(c) and contain relevant insights for the construction of assessment frameworks.
Level of application	The 'level of application' parameter refers to the 'scales' at which a framework is designed to be used. The 'level of application' parameter is shown as horizontal sections in the typology (rather than as a column), making it easier to sort by 'level of application'. The three levels considered are entity, country, and international level. ► **Entity-level frameworks** refer to frameworks that are designed to assess private and public corporations and financial institutions ► **Country-level frameworks** assess the actions of governments and their subordinate (e.g. state-owned enterprises, promotional banks). Frameworks that are focused on specific sectors are also subsumed under this category. ► Lastly, **international-level frameworks** assess the distinctly 'international' component of Article 2.1(c), e.g. international engagement, knowledge building, synergies across different international institutions, and interoperability – all of which should feature as variables to be assessed within country-level frameworks. The 'levels of application' reflect the actors identified in (Argueta, 2025) as relevant to action on Article 2.1(c). The introduction of further levels would be conceivable, notably the asset- and sector-levels. As asset-level and sector-level frameworks are incorporated into entity- and country-level frameworks, respectively, the paper focuses on examining these more aggregate levels.
Dimensions of alignment	The 'dimensions of alignment' refer to the *dimensions and elements* a framework considers relevant for assessing Article 2.1(c) progress. Below is an indicative set of dimensions for the three different levels of applications: ► **Entity-level:** Portfolio composition, corporate level actions (e.g. advocacy, corporate engagement, disclosure, target-setting, involvement in alliances), entity-level volumes of aligned finance ► **Country-level:** Policies, pledges, institution-building/governance, stakeholder relations, international involvement, country-level volumes of aligned finance ► **International-level:** Shared common methodologies, assessments of international organisations (e.g. multilateral development banks, international financial institutions), international-level volumes of aligned finance
Reference temperature pathways and climate resilient	Scenarios refer to model-driven, often narrative depictions of future states of the world. As such, they are the anchoring points for pathways. Pathways, in turn, are concrete trajectories to attain a given scenario. For Article 2.1(c), pathways are more relevant, because they include more specific, sectoral, and time-bound targets, and thus allow comparing companies' or states' actions

Parameter	Description
development pathways used	or performance with those specific milestones. As illustrated in Argueta (2025), and analysed in detail by (Pouille et al., 2023), the choice of pathways underlying assessments is consequential. This is because the very same Article 2.1(c) action – such as an investment strategy or a national sustainable finance strategy – may be aligned with one pathway, but not with another. Pathways may differ from one another depending on various design features, notably: ► The **scenario temperature goal** (e.g. 1.5°C; 'well below 2C°) ► The build-in of overshoot options (e.g. 'no overshoot'; 'no or limited overshoot') built in a scenario ► The approach taken to design a pathway: • **Top-down scientific, model-driven pathways:** e.g. IPCC 1.5°C Special Report (IPCC, 2018), the IEA's Net Zero by 2050 roadmap (IEA, 2021), or the One Earth Climate Model (Teske et al., 2022) • **Bottom-up:** notably Nationally Determined Contributions (Robiou Du Pont & Meinshausen, 2018) • **Fair-share pathways** (Hoffmann et al., 2022) While less commonly referenced in frameworks, pathways and scenarios are equally important for assessing resilience alignment. Since 'climate resilient development' is a multi-dimensional concept, comprising different facets, such as renewable energy generation, social safety nets, sustainable food systems, urban planning and health, the degree of alignment will, once again, depend on which facets are incorporated in a given framework (IPCC, 2022).
Nature of the assessment	Yet another methodological demarcation line can be drawn along the question of whether a framework focuses on actions or on financial outcomes. Typically, frameworks that focus on finance outcomes assess the de facto mobilised and measurable volumes of finance or stocks at a given point in time. They are typically, but not necessarily, quantitative. By contrast, qualitative frameworks have a broader orientation, looking at actions, measures, and policies, which typically albeit not exclusively coincides with a qualitative assessment (Whitley et al., 2018).
Financial stocks and flows	This parameter specifies on which financial flows and stocks a particular framework focuses. Consistent with (Argueta, 2025. p.13), the paper considers to what extent frameworks include "all finance flows and stocks, public, private, domestic, international and transnational that are relevant to different national circumstances, without exceptions" including flows under Article 9 of the Paris Agreement. According to the UNFCCC Standing Committee on Finance's Sixth Biennial Assessment (UNFCCC SCF, 2024) this requires the consideration of different types of asset classes and financial services: listed equity, private equity, corporate debt, infrastructure and real estate investment, insurance services and sovereign bonds. Beyond the distinction of different asset classes, all of which capture an external financing dimension of some sort, Article 2.1(c) should also include both Capex and Opex. Opex is not necessarily reflected in the catalogue of asset classes above, but it is relevant for companies to align their operations with adaptation goals in particular (e.g. resilience in supply chains, water supplies that are reliable even under climate stress). While conceptually, all of these flows and stocks matter for Article 2.1(c), typically existing frameworks only evaluate some flows and stocks in terms of their alignment. For instance, PACTA's methodology can be used for corporate bonds and listed equity only (Rocky Mountain Institute, 2024).

2 Overview of existing Article 2.1(c) frameworks

Having clarified the definitional scope and ambition of this analysis, this part will map existing Article 2.1(c) frameworks. This mapping is carried out along two complementary lines: first, through a *typology* of frameworks provided in A.2 Typology of frameworks. This typology is a comprehensive, parameter-based classification of Article 2.1(c) frameworks. Second, through an explanatory review of frameworks in the main body of the text. Here, the focus is on highlighting noteworthy aspects of frameworks included in the typology, describing notable trends, and providing context as to the relevance of certain design choices. By this means, the running text of Part 2 will contextualise and illustrate the typology by highlighting specific frameworks. This is to equip the reader with a more tangible grasp for the specificities and differences across frameworks. Due to scope limitations, this review in the main part will not cover every framework included in the typology.

The mapping is organised into three sections, structured along the *level of application* parameter (see section 1.2). The 'level of application' parameter is chosen as an overarching, organising parameter for this part because a presentation along entity- (section 2.1), country- (section 2.2), and international levels (section 2.3) is most relevant and actionable from a public policy perspective.

It is worth pointing out that the three levels are not assumed to be mutually exclusive and clearly distinct – frameworks might sensibly be grouped under different levels. This applies in particular to the distinction between national and international levels frameworks: Owing to the global nature of Article 2.1(c), many actions that *Parties* can undertake in support of the Article's ambition transcend national borders. Section 2.3 will discuss frameworks that assess distinctively *international* actions, that is actions that (a) originate from international actors or (b) concern international coordination, knowledge building and exchange, synergies and interoperability, collective-goal setting, and pooling of resources (see, for instance, European Commission, 2021).

2.1 Entity-level frameworks

'Entity-level frameworks' refer to such frameworks that are used to evaluate alignment at the level of (economic) undertakings.[3] Amongst the entity-level frameworks contained in the typology, the majority are such intended for financial institutions, as opposed to real-economy firms. While upon review of relevant sources, no research has discussed this discrepancy, a natural explanation is that for financial institutions, different to real-economy companies, financing is a core business activity. For real-economy companies, financing only comes into play on the liability side of their balance sheet that is, when they engage in raising capital. This is different with financial institutions, which deal with financial flows on both the liability (e.g. raising capital) *and* the asset side of their balance sheets (e.g. allocating capital). A further more politico-genealogical view would stress the role of COP26. COP26 was marked by a strong dynamism for financial sector action on aligning financial flows. This explains why voluntary alliances emerged in the financial sector, yet not to the same degree in the real economy.

Of the various entity-level frameworks, many frameworks have emerged in the context of voluntary financial alliances. These include notably the **Net Zero Investment Framework (NZIF)**, the **UN Race to Zero** (UN Climate Change High-Level Champions, 2023) and the

[3] State-owned enterprises, public development banks and multilateral development banks, while similar in operational terms, are discussed under country-level and international frameworks respectively, to do justice to the fact that they are ultimately subject of the control of governments or, in the case of MDBs, subject to international consensus-building and engagement regarding their management.

Climate Action 100+ (Climate Action 100+, 2023)[4] These initiatives define certain goals or commitments that members should observe. How members can reach these goals (e.g. a certain sustainable financing volume) is specified in methodological guidelines and investment frameworks, developed by alliances like **Glasgow Financial Alliance for Net Zero (GFANZ)** and **Task Force on Climate-Related Financial Disclosures (TCFD).**

Viewed through the prism of Article 2.1(c), voluntary financial alliances have a double function: *Firstly*, as collective coordination mechanisms, they incentivise action towards Article 2.1(c) themselves – through knowledge exchange, as vehicles of collective actions, and commitment mechanisms. *Secondly*, they provide methodological guidance that explains how alliance members are expected to adjust their business practices to align with alliance goals, which typically focus on climate alignment. These methodological guidance documents offer insights into how to operationalise and assess progress on Article 2.1(c). It is important to note that the actions of voluntary financial alliances do not always align with a country's own interpretation of, or efforts to achieve Article 2.1(c) of the Paris Agreement, including paragraph 1(c).

Beyond voluntary financial alliances research institutes, private sector entities and civil society organisations have come up with frameworks that operationalise alignment, but do not entail behavioural commitments on the side of organisations, as is the case for the above-cited initiatives. These include, amongst others the **Paris Agreement Capital Transition Assessment (PACTA)** (Rocky Mountain Institute, 2024)**,** the **Net Zero Banking Assessment Framework (NZBAF)** by the Transition Pathway Initiative Centre (TPI) (Dietz et al., 2021), and the **Impact Potential Assessment Framework (IPAF)** (Mangot & Koch, 2023)**.**

These frameworks were conceived for different use cases, and their design reflects this. IPAF's focus is on assessing the contribution to real-world outcomes of sustainable finance products. As such, its use will be particularly relevant for impact investors (see the typology for details). **PACTA's** and **NZBAF's** focus is on evaluating portfolio and institution-level climate-alignment, with PACTA using climate scenario analysis to benchmark alignment, thus applying a purely mitigation focused lens. NZBAF is analogous in structure and content to the NZIF, yet unlike the latter is purely evaluative. NZIF, like other frameworks discussed here under the category *'methodologies and guidance documents' includes* behavioural guidance. These different methodologies are, to a large extent, not stand-alone frameworks, but heavily cross-reference each other. For instance, the NZIF serves as a targeted, action-oriented guide for investors, complementing and building on broader frameworks like the **ICAPs Expectation Ladder** or the **GFANZ 'Financial Institution Net-Zero Transition Plans'** (GFANZ, 2022b).

Across entity-level frameworks, there is a broad consensus on the use of 1.5°C compatible scenarios. Having said this, for scenarios to imply meaningful climate-alignment, two further dimensions have to be considered. The first is that climate alignment must be science-based. For that, the OECD (Pouille et al., 2023) have proposed four criteria next to a 1,5°- temperature goal that scenarios should feature in Paris-aligned pathways: (i.) no or limited overshoot of 1.5 °C, (ii.) well-below 2 °C throughout the century, (iii.) emissions peak in 2025, and (iv.) net-zero emissions before 2100 (Noels et al., 2023). As a related study concludes, when applying these criteria to a catalogue of scenarios used by private sector actors, very few methodologies qualify as Paris-aligned (Noels et al., 2023). The second dimension relates to the question of how to downscale scenarios to the country or entity-level. Here, the UNFCCC mandates the consideration of CBDR-RC and equity considerations, exacting greater efforts by such actors

[4] The relevance and prospects of these alliances as mechanisms to mobilise Article 2.1(c) finance has been put into question by recent waves of departure of member institutions from alliances such as the Net Zero Banking Alliance (NZBA) and the Net Zero Insurer Alliance (NZIA), both of which are sub-initiatives of GFANZ.

with e.g. high historical emissions, capability (e.g. ability to pay), and equality (e.g. per capita emissions).

As explained above, while scenarios provide envisaged target marks, for action on the entity-level pathways are decisive, as they outline concrete actions and interim targets to deliver on the target mark. Pathways are typically operationalised based on the business model of a given entity. For example, the Net-Zero Banking Alliance (NZBA) commits members to align the greenhouse gas emissions from their lending and investment portfolios with pathways to net-zero by 2050 (NZBA, 2024). Having said this, the first half of 2025 has seen voluntary financial sector alliances facing headwinds, with major financial institutions exiting alliances (e.g. Munich Re exiting Net Zero Insurance Alliance (Segal, 2025); JP Morgan, Citigroup, Bank of America, Morgan Stanley, Wells Fargo, and Goldman Sachs leaving the NZBA (Gayle, 2025). Following these waves of departure, Net Zero Insurance Alliance and the Net Zero Banking Alliance ceased their operations in autumn 2025.

2.2 Country-level frameworks

As bearers of formal responsibilities under the UNFCCC, national governments have a central role in implementing Article 2.1(c). As emphasised by the first Global Stocktake (UNFCCC, 2024), governments are called upon to improve enabling environments and to reinforce policy direction, incentives, and regulatory frameworks. This section reviews different country-level frameworks, which are grouped here according to their focus.

To begin with, the Overseas Development Institute (ODI) systematises the policy options at the disposal of governments to influence financial flows (henceforth: **'ODI framework')** (Whitley et al., 2018)**.** As can be gleaned from Figure 2 the ODI teases apart four types of levers – *financial policies and regulations, fiscal policy levers, public finance,* and *information instruments.* Each lever is theorised as being conducive to both climate mitigation and resilience goals.

Figure 2: The ODI Framework

Financial policies and regulations	Fiscal policy levers	Public finance	Information instruments
(primarily influence behaviour through force of law)	(primarily influence behaviour through price)	(primarily influence behaviour by shifting financial risk)	(primarily influence behaviour through awareness)
• lending requirements • accounting systems • mandates of supervisory authorities • standards • plans and strategies • disclosure requirements *(where mandatory and enforced)*	• taxes • levies • royalties • price support or controls • public procurement • budget support *(including for establishment of public funds and finance institutions and state-owned enterprises)*	• grants • debt • equity • guarantees • insurance *(from public pension funds, sovereign wealth funds, and public finance institutions)*	• certification and labelling • transparency initiatives • corporate strategies • awareness campaigns • statistical services • scenario analysis and stress testing • standards • plans and strategies • disclosure requirements *(where voluntary)*

Source: (Whitley et al., 2018)

While the framework's key features are further outlined in the annex, it is helpful to put the four levers at hand into perspective. Drawing on the distinction between *market-led* and *market-shaping* initiatives as spelled out in (Argueta, 2025), three of the four levers *(financial policies and regulations, public finance, and fiscal policy) fall* under the latter category, while information instruments qualify as a market-led tool. The framework further offers metrics with which to assess progress on each of the framework's four levers as well as their sub-dimensions. Examples of metrics that feature in the **ODI framework** include *'the number of policies restricting fossil fuel finance by public institutions' and 'increasing public climate-aligned investment'* – measures that can also be found in the **CAT finance** and the **Public Energy Database**.

The **OMFIF-Sustainable Finance Tracker** (OMFIF, 2025), like the **ODI framework**, covers multiple policy areas (e.g. fiscal policy, monetary policy, prudential regulation) and uses qualitative indicators such as whether a country has implemented climate stress testing, adopted a green bond standard or greened its tax policy, to assess countries' Paris-alignment.

Starting from the level of national transition planning, the **Handbook on Transition Plans** by the Centre for Economic Transition Expertise (CETEx) at the Grantham Research Institute on Climate Change and the Environment (Manning et al., 2024) formulates policy options and options to reform institutions and governance. Despite its cross-sectoral focus, the framework places financial policy, fiscal, and other macro-financial levers at its core (Manning et al., 2024).

A particularity of this framework is that it defines national transition not only as the roll-out of certain policies but as an endeavour, that exacts a change in the style of governing. For example, the authors propose intensified engagement with private and third sector actors to carry out the implementation of Article 2.1(c).

In the area of *monetary and financial policy,* several frameworks provide assessments of progress (Manning et al., 2024; NGFS, 2023). It is important to point out that assessing prudential, supervisory or central bank actions – all of which typically focus on climate risk mitigation – due to their focus on risks, often only grasp one facet of Article 2.1(c). For instance, disclosure or scenario analysis – while offering sustainability-linked information – by themselves do not contribute to shifting investments into more sustainable uses. There are exceptions to this focus on risk, both at the level of *policy levers* available to central banks and regulators, and at the *level of frameworks.* On the first, the use of development mandates by central banks to offer concessional conditions to sectors of economic priority has been highlighted as a lever that moves beyond risk management (Dickau & Volz, 2019).

At the level of frameworks, the **Sustainable Banking and Finance Network's (SBFN) assessment framework** (SBFN, 2024), an institutional set-up which includes ministries, central banks, industry associations, and financial sector regulators – is more comprehensive. While it assesses 'ESG risk-management' and 'climate and nature risk management' it also includes the dimension of 'financing sustainability', which focuses on impact.

The SBFN framework also advances the discussions on frameworks through one of its design features, the so-called 'progression matrix'. The progression matrix determines certain milestones that countries must reach before proceeding with policies of a subsequent step. The progression steps include 'commitment', 'formulating', 'developing', 'advancing', 'consolidating', and 'mainstreaming behavioural changes'. This gives expression to the stepwise and sequential nature in which a climate-aligned financial ecosystem develops, an aspect that is absent in other frameworks. To illustrate, disclosure policies and green market standards should typically precede green fiscal policies, the steering of which is facilitated through sustainability data.

Staying within the set of *monetary and financial policies*, taxonomies and disclosure policies constitute further starting points for assessments. While taxonomies qualify as *policies* rather than *assessment frameworks for policies* in the first place, they also exhibit an assessment dimension. This is because they typify activities according to their nature as 'aligned', 'non-aligned' or 'transitional', albeit the latter category is absent in many taxonomies(OECD, 2024). However, as many sustainable taxonomies only define 'aligned' activities, they neglect climate-negative flows, thus thwarting their usability as comprehensive frameworks. This is different for disclosure regulations like the EU's Corporate Sustainability Reporting Directive (CSRD), the Global Reporting Initiative (GRI) or the International Financial Reporting Standards' (IFRS) sustainability standards S1 und S2. For instance, under the CSRD, companies must specify 'locked-in GHG emissions' (see the application requirement 3, ESRS) and outline how they intend to manage and reduce their use of GHG-intensive and energy-intensive assets (EFRAG, 2023).[5]

Another relevant policy domain is *international climate finance*. International climate finance is grouped with country-level frameworks, based on the two criteria alluded to in the introduction. To recall, the criteria to be grouped with international frameworks are that (a) frameworks originate from international actors or (b) concern international coordination, knowledge

[5] Disclosure regulations belong to the afore-mentioned group of frameworks that cannot be neatly put under one level of application. While their role as a *policy levers* is emphasised here, they could equally well be considered assessment tools at the entity-level. Taxonomies can be considered a policy lever, and thus be grouped with country-level frameworks, since their aim is primarily a macrofinancial one: they aim to re-allocate investments at economy-level, rather then providing guidance or an assessment tool for individual entities.

building and exchange, synergies and interoperability, collective-goal setting, and pooling of resources. As for international climate finance, it is (a) administered by states and (b) does not concern a genuine international component of Article 2.1(c), but rather national action at the international level.

Relevant frameworks for assessing international climate finance include the **Climate Action Tracker's (CAT) sub-framework on finance** (Climate Action Tracker, 2021). In the CAT sub-framework, countries' international climate finance commitments are assessed along four criteria: 'current contributions', 'contribution trend', 'future commitments' and 'fossil fuel finance overseas' using the OECD's DAC database (OECD, 2025a). The CAT compares a country's current contributions in terms of climate mitigation finance against a threshold resulting from the fair share in global mitigation efforts.

Along similar lines, albeit with a focus on the category of 'fossil fuel finance overseas' the **Clean Energy Transition Partnership (CETP)** operates a platform to track alignment of export credit agencies and international public finance institutions. A helpful assessment of the CETP is provided by the International Institute for Sustainable Development (Jones, 2023), which evaluates export credit agencies and public development banks with a 'policy assessment framework' that uses six qualitative factors:

1. Exclusion policy on coal
2. Exclusion policy on upstream oil and gas
3. Exclusion policy on midstream oil and gas
4. Exclusion policy on Downstream oil and gas
5. Timeline (if the timing for exclusions is consistent with CETP, defined as the end of 2022)
6. Exemptions (which considers if any extant exemptions are inconsistent with CETP's policies)

Besides providing quantitative data on public finance institutions' renewable energy and fossil fuel spending, the **Public Finance for Energy Database** (Oil Change International, 2022) goes beyond tracking flows into publicly finance projects by also monitoring public development banks' different exclusion policies.

Going beyond international climate finance contributions, the **iGST assessment framework** (Feyertag et al., 2023) has drawn attention to the centrality of a 'favourable' international policy environment to enable action on Article 2.1(c). More specifically, the iGST framework puts to the fore the idea that developing countries' adoption of Article 2.1(c) policies ('internal consistency makers') is contingent on an international policy environment that is not pitted against them, e.g. as is the case with higher capital costs or trade discrimination ('external consistency makers'). Whilst focused on developing countries, a key corollary that is of more general validity concerns the interlinkage of Article 2.1(c) with other policy areas. This point is echoed by Standing Committee on Finance (SCF) of the United Nation Framework Convention on Climate Change (UNFCCC SFC, 2022), which stresses the role of enabling conditions, such as macroeconomic fundamentals, legal certainty, and long-term policy, for enabling Article 2.1(c) finance (e.g. through NDCs or investment plans, see (Manning et al., 2024)). have further pointed to the fact that the resilience dimension in Article 2.1(c) has been widely neglected[6]. The idea of empowerment of emerging markets and developing economies (EMDEs) has also been emphasised by the G20 Sustainable Finance Working Group (G20 SFWG, 2024).

2.3 International-level Frameworks

International-level frameworks as understood in this paper refer to frameworks that assess a genuinely international or multilateral dimension of Article 2.1(c). Typically, such action occurs

[6] Argueta et al. (2024) have tried to address this shortcoming (see section 3.2.2).

within the context of established international fora, such as the UN, the G20 Sustainable Finance Working Group (SFWG), the OECD, or multilateral institutions, like multilateral development banks (MDBs). Action on climate finance has also led to the emergence of novel institutional set-ups, such as the Coalition of Finance Ministers for Climate Action (CFMCA) or the NGFS, operating outside of conventional multilateral structures (Coalition of Finance Ministers for Climate Action, 2019; NGFS, 2023).

With the assessment-lens taken in this paper, the international level is informative since it adds new variables that a country-level assessment should consider. For instance, a government can support Article 2.1(c) through its international engagement, by fostering coordination, knowledge building, synergies across different international institutions, and interoperability – all of which should feature as variables to be assessed within country-level frameworks.

To zero in on *international synergies* more specifically, the **SFWG 2024 Progress Report** points to the fact that it is essential to strengthen collaboration between Development Finance Institutions (DFIs) and Multilateral Development Banks (MDBs) (G20 SFWG, 2024). This includes ensuring appropriate levels of conditionality and additionality, and channelling finance in a consistent and efficient manner. One key product of the SFWG, the Sustainable Finance Roadmap (SFR), a multi-year document outlining actions countries can take on a voluntary basis. While the Roadmap includes a progress tracker, there is lack of operationalisation and measuring. To date, there are no clear definitions or metrics of progress to drive implementation of the SFR. Currently, countries can selectively publish progress in any one of the areas covered by the SFR (Cárdenas Monar et al., forthcoming). Building on the SFR, the Institute for Climate Economics (I4CE) and the Frankfurt School currently develop an accountability framework to support assessing and tracking progress of sustainable finance in the G20 and beyond (Cárdenas Monar et al., forthcoming).

MDBs are also an important mediating actor in the context of Article 2.1(c). Since 2019, ten MDBs have fostered the development of a joint framework to align their activities with climate and resilience objectives, the **Paris Agreement Alignment (PAA) framework** (African Development Bank et al., 2023)[7]. This framework is based on a dual assessment: whether investments align with national NDCs and whether they are consistent with economy-wide, sectoral, or regional pathways needed to achieve the Paris Agreement's mitigation goals (UNFCCC, 2024) . The framework covers four different operational areas of MDBs: 'direct investment lending operations', 'policy-based lending operations', 'intermediated financing', and 'general corporate purpose finance' (African Development Bank et al., 2023). For each of these, six crosscutting alignment dimensions are defined namely:

1. Mitigation goals
2. Adaptation and climate-resilient operations
3. Contribution to the transition through climate finance
4. Engagement and policy development support
5. Reporting
6. Alignment of internal activities

The joint framework further stipulates a 'universally aligned list of activities', subsuming under its remit such activities that are conducive to climate mitigation, the avoidance of carbon lock-in or have a neutral impact on countries' net-zero trajectories. Inversely, the framework also sets out a universally *non-aligned* list of activities', which consists of four activities (mining of

[7] The PAA differs from the MDB joint climate finance tracking methodology because it looks at whether a project is consistent with the country's low-carbon and climate-resilient pathway, rather than measuring if the project actively contributes to mitigation or adaptation.

thermal coal, coal-based electricity generation, peat extraction, and peat-based electricity generation, see Grimm et al., 2024).

Next to the international cooperation dimension of Article 2.1(c), the international level is also pivotal to obtain a comparative view on the state of progress across countries. The **UNCTAD** World Investment Report (UNCTAD, 2024) is a relevant source in this regard, offering information on the geographical split of the global sustainable finance market. Considering the global ambition spelled out in Article 2.1(c), the assessment on the state of the global sustainable finance market gives important perspective on which geographies have under proportionally developed sustainable finance ecosystems.

Likewise, the **G20 SFWG** has carved out areas in which international cooperation is deemed pivotal (G20 SFWG, 2024). This concerns in particular the need for optimising the operations of international environmental and climate funds. Moreover, the G20 SFWG has championed interoperability and cross-border harmonisation of transition plans, whilst safeguarding their credibility, jurisdiction-specific flexibility, and consistency.

Frameworks like the **E3G Public Banks Climate Tracker**[8] (E3G, 2020) the WWF's **SUSREG Tracker** (Rizkiah et al., 2023) further include instructive normative assessments on the adequacy of measures pertaining to Article 2.1(c), offering a corrective to institutional frameworks like the **SFWG**. For instance, while the **SFWG** counts the adoption of the International Sustainability Standards Board into national law as progress towards Article 2.1(c), the WWF's **SUSREG Tracker** criticises the standard for its lack of integrating double materiality.

The **E3G Public Banks Climate Tracker** (E3G, 2020) offers a qualitative assessment of which specific policies should be considered a priority, if public banks, incl. multilateral development banks, were to act in alignment with science-based targets. These notably include fossil fuel exclusions, greenhouse gas accounting, transparency and the integration of climate in transport, energy, water and urban strategies.

[8] The E3G's Public Banks Climate Tracker doesn't fit neatly into either the country-level or international-level categories, since it covers both national development banks (country-level) and multilateral development banks (international level).

3 Tacking stock of frameworks: trends, blind spots and points of departures in existing frameworks

This part's aim is to step back and take an evaluative perspective on the landscape of frameworks reviewed above and contained in the attached typology. The focus will be on identifying blind spots in existing frameworks and teasing out points of departure for constructing new country-level frameworks.

It is worth pointing out that inferences from entity-level to country-level frameworks have limitations. Entity-level frameworks, by nature, are not designed to capture all relevant aspects of Article 2.1(c), but rather focus on specific elements of it (e.g. focus on climate mitigation, no due consideration of country contexts). Moreover, a significant share of entity-level frameworks are not *evaluative* but *behavioural*: They were designed to guide action on climate alignment, rather than to assess it. Bearing these caveats in mind, the next section is geared towards such aspects that are transferable to country-level frameworks. This exercise is carried out using the same structure as in Part 2: sections 3.1 through 3.3 will respectively carve out blind spots and points of departures, that can be derived from entity- (3.1), country- (3.2), and international-level frameworks (3.3).

3.1 Trends, blind spots and points of departures in entity-level frameworks

3.1.1 Alignment metrics

When building country-level frameworks, entity-level frameworks can be informative as they include information on how to specify, operationalise, and assess alignment. Naturally, for financial institutions, alignment pertains – to a large extent, albeit not exclusively – to changing their financing and investment strategy. Here, entity-level frameworks advance the discussion by specifying relevant alignment metrics and proposing investment approaches – either of which bear relevance for country-level frameworks.

To begin with, many frameworks converge on the view that – to shift a portfolio in alignment with Article 2.1(c) – merely focusing on reducing absolute portfolio-level emissions is insufficient (see section 2.1; Lütkehermöller et al., 2023). This is for three reasons:

- Firstly, financed emissions could be reduced by divesting out of emission-intensive, material or hard-to-abate sectors. This, in turn, would either entail worse financing conditions for the affected emission intensive firms; or, more likely, it would result in another financial institution, lacking net-zero commitments, taking over as a financier for that firm (GFANZ, 2022b). This problem is aggravated by the increasing importance of shadow banks, institutions that offer financial intermediation services outside regulatory oversight. Operating outside of the regulated space, such entities are not subject to sustainability disclosure rules or provisions of ESG risk management. This allows them to profitably undertake investments with high climate risks or act as dealmakers for oil and gas deals that are too unattractive for regulated entities (Schairer et al., 2025).
- Secondly, focusing solely on absolute emissions would further underweigh higher-emission emerging market investments (PAII, 2024).
- Thirdly, it could discourage investors from investing in climate solutions, since such investments typically have higher upfront emissions (e.g. solar parks, windmills) than e.g. immaterial investments services, yet a more positive long-term emissions impact (Suh, 2006).

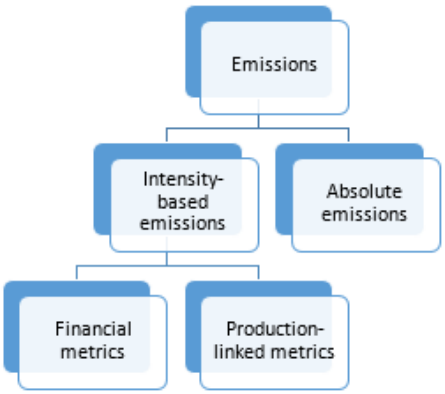
Considering these shortcomings of absolute metrics, there are two frequently used alternatives: *intensity-based metrics* and *relative emissions to a business-as-usual (BAU)* scenario (see Figure 3). Intensity-based metrics look at emissions relative to (a) units per output (e.g. GHG per tons of steel produced) or (b) financial exposure (e.g. GHG per million dollars financed). Here again, whether to use an output-focused or a financial metric changes perspective. Output-linked metrics are best to understand operational decarbonisation. Financial metrics are helpful in understanding a financial institution's exposure to high-GHG revenues. Yet another relevant metric are *relative emissions to a business-as-usual scenario (BAU)*. Relative emission to a BAU benchmark an entity's emissions to a given scenario, thereby offering a direct assessment – in the form of a positive or negative deviation from the BAU scenario (OECD, 2024).

A related but different approach to categorising the emission performance of entities, which often features in entity-level frameworks concerns the question of emission scope, i.e. which emissions to attribute to a given entity.

Scope 1 emissions are such directly related to sources controlled by an undertaking. Scope 2 emissions are caused through energy purchased by an undertaking. Scope 3 emissions are linked to an undertaking's up-stream and down-stream value chain. In the case of financial institutions, these are financed (e.g. investments, loans, insurance services) or facilitated emissions (e.g. underwriting or mergers and acquisitions) and insured emissions (OECD, 2024). Scope 3 emissions are thus instrumental for obtaining an accurate picture of how climate-aligned a financial institution's activities are. Yet, reporting on Scope 3 has been limited amongst financial institutions, according to (CPI, 2024b).

Putting this into the greater context of Article 2.1(c), which according to (Argueta, 2025) suggests a 'whole-of-economy' perspective on finance, understanding the logics of Scope 3 financial sector emissions is decisive to identifying policy levers that take into consideration the various channels through which financial institutions influence outcomes (e.g. ESG-criteria in mergers and acquisitions, green lending quotas).

Figure 3: Emissions metrics used for portfolio re-allocation



Source: own illustration, Germanwatch diagram

While metrics that assess the environmental performance of assets fulfil an important function, their very focus on impacts shifts attention away from such financial flows that might have little *direct* bearing on outcomes but *indirectly* shape financial allocation decisions. Put differently, financial flows with a direct effect on Article 2.1(c) aligned *financial outcomes* are such that are in some way linked to the financing of the real-economy (e.g. loans to real-economy firms), where this is not the case for more indirect financial flows. Indirect financial flows are typically transactions where both counterparts are financials. Examples include interbank loans, bond purchases, and repurchasing agreements. These transactions matter as they enable financial

institutions to access liquidity, thus enabling subsequent transactions with more direct impact (Fichtner et al., 2025). While the reviewed frameworks do not cover such transactions at the level of *financial outcomes*, they nevertheless capture their relevance by assessing if actions, i.e. *regulations and policies* are in place that moderate such intra-financial flows (e.g. central bank green collateral requirements; green capital requirements). Better tracing indirect financial flows and examining how they affect the provision of Article 2.1(c) aligned finance, could thus be an important point of departure for country-level frameworks.

Zooming out again, this subsection has suggested that understanding different design options and use cases – such as that of financial metrics for risk exposure vs. that of production-linked metrics for real-economy decarbonisation – is key when utilising such metrics in country-level frameworks. An important learning of entity-level frameworks also concerns the role of transition finance: Examining the entity-level suggest that assessment frameworks should encapsulate how financiers steer investments, and how this differs depending on if they are subject to sustainability regulation.

3.1.2 Elements of corporate alignment

Expanding on this, a related insight pertains to the question what sort of changes are deemed necessary for a financial institution to be climate-aligned; or, put differently, how they conceptualise Paris-alignment on an entity-level. The previous section has focused on the changes needed to align financial institutions' investment and financing activities.

Yet, another insight that can be drawn from entity-level frameworks is that the alignment of financial institutions involves more than portfolio alignment. Across entity-level frameworks, e.g. **Net Zero Investment Framework** (PAII, 2024), the **GFANZ Net Zero Transition Plan** (NZTP) guidance (GFANZ, 2022b) or the **ICAP's Expectations Ladder** (ICAP, 2021) there is a consensus that alignment with climate goals requires a multi-pronged strategy that takes into account an undertaking's strategy, goal-setting, changes to governance, engagement with stakeholders, political advocacy, amongst others (see Table 2).

Table 2: Alignment dimensions of selected entity-level frameworks

Framework	Description
NZIF	Governance & strategy; objectives; strategic asset allocation; stakeholder & market engagement
TCFD	Governance; strategy; risk management; disclosure and monitoring
ICAP	Target setting; asset allocation; strategy; asset allocation
GFANZ NZTP	Objectives and priorities ; engagement strategy; metrics and targets ; governance

Source: (Financial Stability Board, 2017; GFANZ, 2022c; ICAP, 2021; PAII, 2024)
Note: Dimension names are ad verbatim to reflect frameworks' characteristics

Frameworks like the **NZIF** have operationalised dimensions spanning, governance and strategy, objectives, asset allocation, and engagement, defining indicators that can be used to assess progress on the respective areas. Notably, the dimensions 'governance', 'strategy', 'risk management' and 'disclosure and monitoring' can also be found in the Basel framework, which indicates that methodologies like the above have been created to dovetail with financial institutions' already existent compliance and operational logics.

Country-level frameworks can be improved if they take into account how policy levers can help deliver progress on each of these dimensions. For instance, an entity's 'lobbying activities' are captured by frameworks as constitutive of their 'stakeholder engagement'. Here, a country-level framework could consider that the European Union's Corporate Sustainability Reporting Directive (CSRD) – a sustainability reporting standard – mandates the disclosure of undertakings' lobbying activities (under the CSRD's European Sustainability Reporting Standards (ESRS) G1-5; see EFRAG, 2023). By contrast, contending sustainability-reporting standards, notably the International Financial Reporting Standards (IFRS) Foundation's S1 and S2 standards, lack such detailed information on political advocacy. Country-level frameworks could account for this relevant dimension of alignment, by assessing in how far disclosure regulations promote stakeholder engagement and other alignment dimensions depicted above.

3.1.3 Economy-wide vs. multi-sector frameworks

Entity-level frameworks further offer insights on how to integrate different sectors in Article 2.1(c) assessments. Arguably, as sectors differ in their impact on emission and resilience outcomes, so does their relevance in Article 2.1(c) assessments. As can be gleaned from Table 3 below and viewed in further detail in A.2 Typology of frameworks, many entity-level frameworks – when assessing portfolio alignment - assess the alignment of financial flows to a selected number of sectors only. The rationale underlying this restriction is to focus on those sectors that are most material to greenhouse gas (GHG) emissions. The table below illustrates which sectors are included as 'relevant to alignment' in different frameworks[9].

Table 3: Sector foci across frameworks

Framework	Description
TPI	High emitting sectors, Airlines, Aluminium, Autos, Basic Materials, Cement, Chemicals, Coal Mining, Consumer Goods, Consumer Services, Diversified Mining, Electricity Utilities, Financials, Food Producers, Health Care, Industrials, Oil & Gas, Oil & Gas (Other)), Oil & Gas Distribution, Paper, Shipping, Steel, Technology, Telecommunications, Utilities.
PACTA	Power, Oil and Gas, Coal, Automotive, Steel, Cement, and Aviation
NZIF	Agriculture, Forestry and Fishing, Mining and Quarrying, Manufacturing, Electricity, Gas, Steam and Air Conditioning Supply, Water Supply, Sewerage, Waste Management and Remediation Activities, Construction, Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles, Transportation and Storage, Information and Communication, Financial and Insurance Activities, Real Estate Activities.
GFANZ	All sectors

Sources: (GFANZ, 2022b; Dietz et al., 2021; Rocky Mountain Institute, 2024; PAII, 2024)

Note: sector names are ad verbatim to reflect frameworks' characteristics

[9] This selection of sectors only considers materiality from a mitigation perspective. If utilised in a country-level framework, this should be complemented by resilience considerations.

For country-level assessments, this begs the question of whether to either focus exclusively on investments and financial flows linked to specific, high-impact sectors or, at the least, to attach the importance to them that they warrant. These could justifiably be sectors deemed material across different entity-level frameworks. Having said this, frameworks would have to balance the trade-off between a more holistic, economy-wide assessment and a more focused, multi-sector assessment.

Conversely, differences across sectors in progress on climate-alignment could fulfil a diagnostic purpose: They could help in identifying sectors that transition at above-average pace or such that are lagging behind and, thereby, offer starting points to examine the role of finance as a catalysing factor or the lack of it as an inhibiting factor.

3.1.4 Reference temperature pathways and climate resilient development pathways used

The use of pathways and scenarios is a common tension at the intersection of entity- and country-level frameworks (see section 2.1). While a more comprehensive exploration of this question can be found in Pouille, et al. (2023), two aspects are particularly relevant in the context of this paper.

The first aspect concerns the heterogeneity of pathways used by private entities (Noels, et al. 2023). This heterogeneity creates a market failure due to non-standardised and non-comparable information. This being the case, a point of departure relates to a stronger consideration within country-level frameworks of how entity-level frameworks affect a country's overall ambition: Mutually incomparable and not criteria-based scenarios lead to greenwashing, investment choices with inadequate environmental outcomes, and a market failure of non-standardised information. Policies that address these pitfalls would form a relevant part of implementing Article 2.1(c), and should thus feature in country-level assessments.

The second aspect relates to the question of how CBDR-RC and national circumstances are reflected in entity-level frameworks. With 'fair share' often being conceived as a concept to describe a jurisdiction's responsibility, companies are left to define how different national fair shares of countries they operate in translate into pathways that adequately capture their responsibility. On this aspect, **NZIF** asks members to disclose how targets represent fair share contributions towards global GHG emissions reduction efforts. **PACTA**, in turn, is scenario-agnostic and allows users to take different scenarios (e.g. those of the International Energy Agency, the Intergovernmental Panel on Climate Change, and Nationally Determined Contribution) as a baseline (Rocky Mountain Institute, 2024). Thus, it is also malleable to include fair-share pathways. As with the first aspect – the heterogeneity of pathways – what matters at country-level is that entities should be encouraged to use pathways that are aligned with key elements of Article 2.1(c) (e.g. the CBDR-RC and national circumstances). Standardisation and practice-oriented research on how entities can use fair-share pathways could help drive alignment with Article 2.1(c). Such considerations should be considered in country-level assessments.

3.2 Trends, blind spots and points of departures in country-level frameworks

Existing country-level frameworks offer a natural starting point for thinking about how a well-constructed country-level framework could look like. This section focuses on two aspects in particular: policy sequencing and the mitigation bias.

3.2.1 Policy sequencing

One important insight that merits more attention in the construction of country-level frameworks is the need to sequence policies adequately, a point made by both the **SFBN** and the **OECD**, albeit the latter study is not geared towards Article 2.1(c) specifically (OECD, 2025b). Sequencing is important because it can render action on Article 2.1(c) more impactful – making it a noteworthy aspect to be considered in country-level frameworks. To illustrate, disclosure policies and green market standards should typically precede green fiscal policies, the steering of which is facilitated through sustainability data. A concrete shape this could take is to make access to public funds by corporations conditional on private sector beneficiaries being able to present a credible transition plan.

Policy sequencing is particularly relevant for linkage or framework policies, i.e. policies on which the functionality of other policies is contingent. Examples of this include sustainable taxonomies or disclosure regulations. For sustainable taxonomies, this is the case because they enable policies like green fiscal incentives, sustainable finance regulations, risk disclosures, as well as fostering private sector use of taxonomies to steer investments. Disclosure regulations, like the CSRD, the Chinese Corporate Sustainability Disclosure Standards or India's Business Responsibility and Sustainability Reporting (BRSR) Framework provide the foundation for enforceability of subsequent regulatory measures, market standards, and investment decisions, geared towards aligning finance flows with sustainability objectives (Kleemann et al., 2025). This being the case, country-level frameworks could consider how policies effectively interact and dovetail, rather than rating the adoption of a policy as advantageous per se.

3.2.2 Mitigation bias

The term 'mitigation bias' describes the primacy of Article 2.1(c) frameworks that focus exclusively or predominantly on mitigation, despite the Article's inclusion of climate-resilient development. The mitigation bias is discussed here as a shortcoming of country-level frameworks in particular, because the bulk of adaptation finance, 98% in 2024 (CPI, 2024b) originated from the public sector. Previous studies have also pinpointed at the mitigation bias (Argueta et al., 2024). Consistent with this Christianson calls on MDBs and development finance institutions to look beyond climate mitigation-focused financing, highlighting the need to include the resilience objectives spelled out in the Paris Agreement (Christianson, 2017).

Having said this, one could argue that the lack of adaptation-sensitive assessments might simply reflect lower volumes of adaptation finance: According to CPI's 2024 evaluations, over 90% of global climate finance in 2021 and 2022 was directed toward mitigation efforts, while less than 5% was earmarked for adaptation, and another 5% supported both mitigation and adaptation objectives (CPI, 2024b). Notwithstanding the lower volumes of adaptation finance, frameworks should not neglect adaptation finance. Amongst the frameworks reviewed, the Grantham Institute on Climate Change and the Environment's **"Handbook to strategic national transition planning"** presents a best-practice example of integrating mitigation and resilience concerns into country-level frameworks (Manning et al., 2024). This is because it calls for setting a national, science-based ambition that includes climate resilience, giving a topic that is often sidelined centre stage in national policymaking. Pillars of this ambition are long-term transition planning, the definition of pathways for major sectors, and an integration of this strategy across government departments and authorities. Moreover, the authors call for countries to engage in cross-border coordination to unleash finance for climate-resilient development, particularly in EMDEs thus enabling action to alleviate the harmful effect of external barriers faced by such countries (Watson et al., 2023).

In addition to advancing progress on adaptation and climate-resilient development, positioning adaptation more centrally in discussions on Article 2.1(c) is also important to better understanding the differences between the distinct natures of mitigation on the one hand, and adaptation finance on the other hand. Research by McKinsey has found that 40% of climate mitigation projects are bankable, while the same figure is only 20% for adaptation projects (McKinsey & Company & Institute International Finance, 2022). Therefore, assessments should make sure to sufficiently integrate resilience and consider which levers are most adequate to address the distinct financing challenges of adaptation and mitigation projects.

3.3 Trends, blind spots and points of departure in international-level frameworks

Factoring in international-level aspects is important because such action can spur dynamism beyond country-borders, doing justice to the global ambition expressed in Article 2.1(c). As has been highlighted in section 2.3, the **SFWG** presents an important body in assessing and monitoring international coordination on climate finance. The SFWG 2024 Progress Report (G20 SFWG, 2024) calls for more substantial coordination between MDBs and DFIs. In particular, the SFWG stresses knowledge-sharing and common diagnostic tools, as well as harmonising procedures where feasible, and supporting country platforms. Progress on these dimensions could thus help deliver on Article 2.1(c).

Yet another international aspect that merits incorporation into country-level frameworks is a nuanced assessment of a country's performance on international climate finance. Such an assessment should be 'nuanced' in that it should (a) integrate evaluative benchmarks (see (Climate Action Tracker, 2021) and (b) incorporate considerations that capture the effectiveness of finance. A best practice example is given by the **CAT**, which – by comparing a country's current contributions in terms of climate mitigation finance against a threshold resulting from the fair share in global mitigation efforts – delivers on (a) through direct evaluation and integrates equity considerations. Regarding (b), country-level frameworks should move beyond aggregate expenditure figures (e.g. climate finance contributions). Such headline figures miss the details (see section 2.3) of how institutions like MDBs or DFIs administer and allocate significant volumes of funds.

Rather, country-level frameworks should build on more granular assessments of specific public bodies such as MDBs, DFIs and international climate and environment funds, as presented above (see section 2.3, the joint **MDB PAA framework**). Here, the insights drawn from entity-level frameworks in section 3.1, can be applied when assessing the climate-alignment of public bodies: the need for effective, engagement-centred transition finance, a balanced consideration of emission metrics, and impact-based orientation vis-à-vis different sectors.

Harking back to the issue of engagement with emission-intensive investee firms (see section 2.1), the joint **MDB PAA framework** still allows for significant leeway, considering that its blacklist is limited to the above-mentioned four activities (mining of thermal coal, coal-based electricity generation, peat extraction, and peat-based electricity generation). The PAA includes climate risk and vulnerability considerations, which MDBs have started integrating into project and asset reviews (UNFCCC, 2024). Considering pathway selection, MDBs consider NDCs and national circumstances into their assessment under the joint framework. Integrating these assessment dimensions – e.g. exclusion policies, consideration of climate risk and vulnerability, and pathway specifications – could allow for more granularity in country-level frameworks.

In a similar way, the **E3G Public Banks Climate Tracker** (E3G, 2020) offers a qualitative assessment of which specific policies should be considered a priority, if public banks, including

MDBs, were to act in alignment with science-based targets. These notably include fossil fuel exclusions, greenhouse gas accounting, transparency and the integration of climate in transport, energy, water and urban strategies. Providing such context on ideal-typical policies can be considered best practice in assessment frameworks.

4 An overarching perspective on trends, blind spots and points of departure

4.1 Causality

With many of the frameworks targeting a financial or monetary dimension – be it in the form of considering sustainable finance volumes *(financial outcomes)* or financial or monetary policies *(actions)* – it is worth recalling that Article 2.1(c) posits a link of financial flows to real-world impacts: emission and resilience impacts (see italics):

"making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development" (UNFCCC, 2015)

Yet, a causal operationalisation of this supposed link between a shift in financial flows and positive emission and resilience outcomes is missing in many frameworks, as this section will elaborate on (see also Mullan & Ranger, 2022).

It is noteworthy that entity-level frameworks acknowledge that emission and resilience impacts must be the ultimate goals of any endeavour to shift financial flows:

> *"A focal principle of NZIF is to reduce real economy emissions. Consequently, it is recommended that investors seek to understand which factors are driving the changes in financed emissions attached to their portfolios."* (PAII, 2024, p. 15)

Having said this, while frameworks do suggest ways to operationalise the requirement of real-world impact (see section 2.1), these strategies alone are insufficient to ascertain a causal link between financial outcomes and real-world impact. Therefore, when developing country-level frameworks, it is important to acknowledge the challenges in identifying and attributing causality between outcomes and impacts (OECD, 2024).

Figure 4 visualises the different stages that underlie the notion of aligning finance flows, as expressed in Article 2.1(c) in an ideal-typical and schematic way. This depiction should be seen as an approximation only, since the suggested links between elements may not hold in general terms, or more research is required to substantiate their validity.

Figure 4: Causality in Article 2.1(c) assessment frameworks

Source: own illustration, Germanwatch; based on a framework by I4CE and Frankfurt School of Finance and Management (Cárdenas Monar & Grimm Bertello, forthcoming) and own analysis

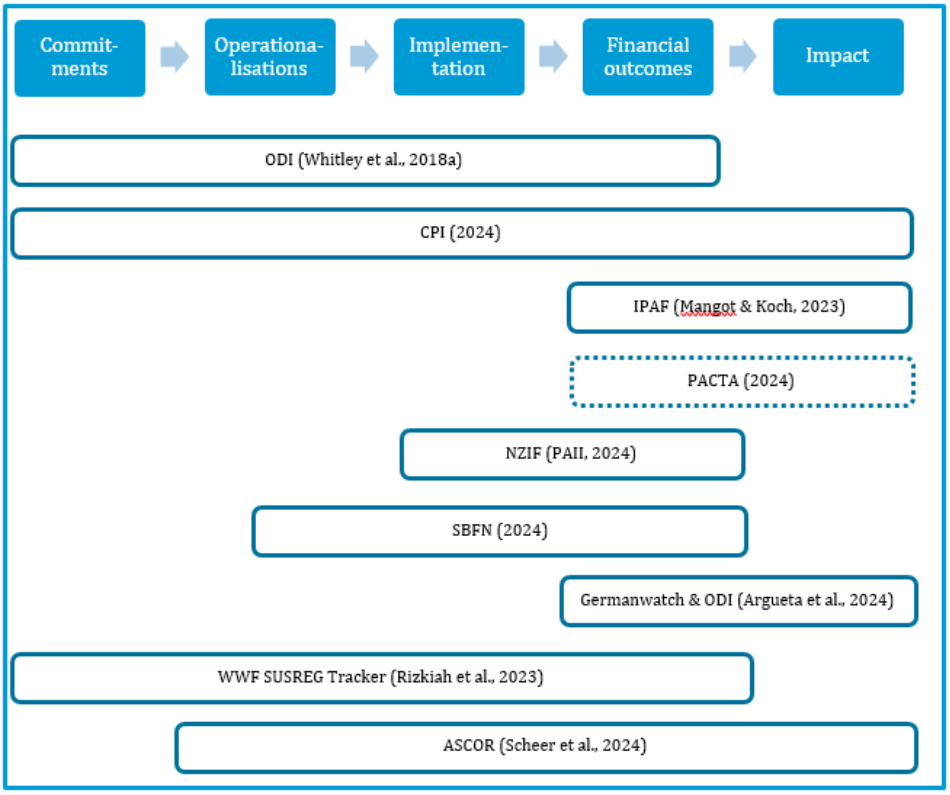
The causal chain for aligning finance with climate goals progresses through five stages. It begins with *commitments* – the pledges, targets, and policy frameworks that signal intent, whether through corporate net-zero goals, national NDCs, National Adaptation Plans, or initiatives like the NGFS or the CFMCA. These commitments are then, in a second step, *operationalised* through concrete actions: internal governance structures, science-based targets, or resource allocation mechanisms.

The third element in the chain, *implementation*, aims at putting these commitments into practice, by creating levers, such as policies, regulations, or pricing mechanisms. These levers ideally precipitate into (financial) *outcomes* evaluated through aggregate public and private financial metrics. These metrics follow either financial flows that can support or work against climate

goals, like how much is lent to renewable energy or patterns of fossil fuel divestment. Outcome indicators can have different layers of granularity. For instance, the existence of a sovereign green bond market could be a first-layer outcome, while taxonomies allow for more detailed assessments of different Paris-aligned activities. The final stage, *impacts*, links financial outcomes to climate mitigation and resilience outcomes. This representation can only be considered schematic - the actual causal web is more complex. For instance, different enabling levers can contribute to one or more outcome indicators.

This causal chain also allows plotting different frameworks contingent on their contribution to different elements of the chain.

Figure 5: Mapping frameworks according to their assessment focus



Source: Own diagram, based on (Argueta et al., 2024; CPI, 2024b; Feyertag et al., 2023; Mangot & Koch, 2023; PAII, 2024; Rizkiah et al., 2023; Rocky Mountain Institute, 2024; SBFN, 2024; Scheer et al., 2024; Whitley et al., 2018)

The above visualisation is intended for illustrative purposes and non-exhaustive in nature. Frameworks on display have been chosen to best reflect the heterogeneity and range of foci across frameworks.

This overview lays bare an important fact: Different frameworks elucidate different parts of this causal process and have different assessment foci. Put differently, many frameworks are partial – they do not allow tracing financial flows along the full causal chain underlying Article 2.1(c). This being so, differences in foci should not be a matter of concern per se. They simply reflect that frameworks fulfil different functions and have been conceived for different users, resulting in different contents: Central banks and supervisors will be interested in climate-related risks, Parties care about their UNFCCC commitments, and financial institutions' actions are motivated by (net-zero oriented) investment decisions and regulatory compliance concerns. The different usages of frameworks should be borne in mind, because they imply that some components

within frameworks are fit-for-purpose in their respective use cases (Argueta et al., 2024), but not for the broader purpose of constructing a country-level assessment framework.

Only a small number frameworks study the essential link between (finance) outcomes on the one hand, and real-world decarbonisation and resilience impact on the other hand. In the diagram above, these are the **IPAF** (Mangot & Koch, 2023) and a contribution by **Germanwatch and ODI** (Argueta et al., 2024), although the latter's focus on small-scale agriculture might make it less transferable to other contexts. The dotted framing indicates that **PACTA** contains some links to impacts (e.g. environmental performance metrics), yet no design feature to ascertain this link. The **ASCOR** framework evaluates a country's climate performance and exposure, by incorporating climate risks and opportunities into the assessment of sovereign debt. Rather than linking climate performance to stated goals, **ASCOR** tries to capture real progress on implementation, thus trying to draw a more direct link between impact and outcome (e.g. using indicators such as the coverage of national GHG emissions by carbon pricing, commitment to a deadline for fossil fuel phase-out).

Furthermore, country-level frameworks tend to focus on one or several of the three first elements of the causal chain. Whilst theoretically, country-level frameworks should try to capture this latter link between outcomes and impact, the cited methodological difficulties complicate such an endeavour. This is even more so because of the presence of confounding factors such as non-financial policies, economic trends, and technology development (OECD, 2024)

4.2 Comparing output and effectiveness-focused assessments

Another shortcoming that is present in a host of frameworks concerns the use of *output-level indicators*, as opposed to *effectiveness-focused assessments*.

Output-level assessments refer to instances where certain actions are considered as progress irrespective of their actual delivery, the adequacy of their content, or their effectiveness. This contrasts with assessments that are actually effective, either due to their positive effect on outcomes or in driving decarbonisation or resilience impact.

Examples of such output-level indicators that are used by frameworks include:

- 'the development of a sustainable finance strategy' (Australian Sustainable Finance Institute, 2024)
- "the set-up of a climate finance focused working group"(SBFN, 2024)
- "NGFS membership" (OMFIF, 2025)

From a methodological standpoint, the use of such indicators is questionable for two reasons.

Firstly, because of *Goodhart's Law*, which requires that targets are robust to any influences that may risk their accuracy as measures. Considering the indicators listed above, NGFS membership is likely to lose its initial suitability as an indicator measuring a central bank's or regulator's involvement in international fora. This is because the indicator 'NGFS membership' – by functioning as a target that governments try to attain – might be hollowed out, as distorting factors, e.g. to gain reputational benefits, might play into governments' considerations to reach this target.

Secondly, positive performance on such indicators is interpreted as progress, without assessing whether the policy is delivering on its stated objective – e.g. to change outcomes or let alone impacts. Framed in the causal chain modelled above, such assessments fully bracket the two rightmost elements, by purely focusing on whether an enabling lever is in place.

These notably include fossil fuel exclusions, greenhouse gas accounting, transparency and the integration of climate in transport, energy, water and urban strategies. Providing such context on ideal-typical policies, as opposed to using mere scores or focusing purely on output, can be considered best practice in assessment frameworks. Having said this, the paper acknowledges that a stronger orientation towards effectiveness comes with its own challenges. Confounding factors – i.e. factors that influence outcomes beyond the policy – pose challenges. For instance, an output like a more rapid decarbonisation in the electricity sector could also be instigated by increased economic dynamism or shifts in investor expectations, rather than by the policy designed to bring this change about, for example concessional lending by a public bank. The more general point here is that public policy does not constitute an environment that is propitious for making clear casual statements between policies and outcomes or impacts (Mueller, 2020). These methodological difficulties do not imply that an orientation towards effectiveness is futile per se. An orientation towards effectiveness still has its role to play in setting the direction for policies. This is ultimately a question of policy design, which is not the subject of this paper. The relevant takeaway for Article 2.1(c) is the need for a qualitative assessment of policies that builds on a clear understanding of the distinction between output versus outcome or impact indicators.

4.3 Internal financing

Beyond the inferences that can be drawn from the causal chain framework, other shortcomings become evident when reviewing the frameworks in the annex.

Notably, there is a lack of frameworks assessing investments by the non-financial private sector, notably such investments that are realised through internal financing. There are some notable exceptions to this: the **World Economic Forum's First Mover Coalition, Transition Arc** (Climate Arc, 2025) and the **UN's Race to Zero** (UN Climate Change High-Level Champions, 2023) campaign, albeit the latter's focus is not exclusively on corporates, but also e.g. cities, local government, regions, or academic institutions. This apparent lacuna matters because, while *external* financing of the corporate sector is reflected through existing financial sector assessments, this does not hold true for *internal* corporate financing.

With many country-level frameworks focused on Article 2.1(c) relevant economic and financial policies or financial sector alignment, tracing internal corporate financing is important because it is often through internal finance sources – e.g. retained earnings and cash holdings – that firms finance projects that deliver on emission reduction and resilience. According to a study by the ECB, retained earnings accounted for approximately 40% of the funding firms mobilised to finance green investment projects[10] in the EU, notably more than through other funding sources (e.g. bank loans ca. 26% or loans with public support ca. 35%) (Andersson et al., 2025). This holds true even more so when considering the assertion (see section 2.2) that assessments could give heightened importance to certain 'material' or high-impact sectors. Assessing how internal finance in such sectors develops thus seems highly relevant for Article 2.1(c). Furthermore, because adaptation at firm level often involves making operations climate-resilient, and is typically financed internally, internal financing plays a key role for companies' Opex on adaptation finance.

It is important to acknowledge that data limitations might pose difficulties with regard to elucidating internal financing within a country-level assessment. Nevertheless, future attempts to develop country-level frameworks should explore the possibility to incorporate internal more strongly.

[10] It is worth pointing out that the ECB's definition of green as used in the cited paper is not equivalent to Article 2.1(c)-aligned finance, amongst others for its lack of consideration of resilience, CBDR-RC and national circumstances.

5 Conclusion

This paper embarked on a review of existing assessment frameworks for Article 2.1(c). Thereby, the paper sought to take stock of available frameworks and obtain a better overview of their foci, characteristics, transferability to different context, and limitations. By reviewing frameworks of different sorts, notably entity-, country- and international level frameworks, the analysis discussed interlinkages and differences between frameworks of different types. This focus of the paper was aimed at informing the construction of a country-level framework, on which the subsequent papers of this multi-part study centre.

The paper elaborates several contributions to the debate on Article 2.1(c). As a first contribution, the paper has compiled a set of parameters that can be used to categorise frameworks, namely: *type, level of application, dimensions of alignment, reference temperature pathways and climate resilient development pathways used, nature of the assessment,* and *stocks and flows covered.* The paper motivates each of these parameters and explains how they matter for evaluating a framework's effectiveness in assessing Article 2.1(c)-finance. The parameters serve a clear purpose in the paper and for the research community: they enable classification and structured comparisons of assessment frameworks. The paper makes a first attempt in compiling a set of relevant Article 2.1(c) frameworks, which can be found as a typology in its annex.

Building on this methodological groundwork, the paper makes further contributions in analysing the landscape of frameworks as to existing trends, blind spots, and conceptual and methodological gaps in frameworks – conducive to the paper's overall goal to blaze the trail for the construction of country-level frameworks. By bringing together the extensive methodological work undertaken by other stakeholders, notably the OECD and the Standing Committee on Finance (OECD, 2024; UNFCCC SFC, 2022), the paper unpacks these extensive publications and highlights relevant methodological and conceptual fault lines. Such insights, "blind spots", and "points of departure" - emerge on three levels:

a) insights from entity-levels frameworks for country-level frameworks

b) insights from existing country-level frameworks for future country-level frameworks

c) insights from international level frameworks for country-level frameworks

Insights

- **Intensity-based metrics and comparisons against business-as-usual (BAU) scenarios** were highlighted as useful, since they allow putting emissions into perspective with sector emission averages and identifying the impact of corporate emission reduction measures. (a)
- Entity-level frameworks offer insights on **how corporate-level institutional change can be engineered.** Alignment is understood not only as a shift in financial operations, but occurring across different operational areas: governance, strategy, target-setting, engagement, political advocacy, disclosure and asset management. Assessments should evaluate policies that target financial corporations accordingly (a)
- **The materiality approach** used in entity-level frameworks, i.e. their focus on certain sectors considered most relevant for emission or transition risk—such as energy, heavy industry, or transport. The transferability of such a materiality approach for country-level frameworks could be explored, bearing in mind potential trade-offs such a departure from an all-encompassing approach might take. (a)

- The paper stresses that **governments' engagement in international fora and coordination through multilateral institutions** matters for country's progress on Article 2.1(c). As part of the international level analysis, the paper reviews options to assess MDB's Paris-alignment and highlights the use of 'fair share' benchmarks as the most adequate option to operationalise the goals spelled out in Article 2.1(c). (c)
- On a methodological level, the paper highlights the general **difficulty inherent in Article 2.1(c) to establish a link between mobilised finance volumes and real world mitigation and resilience outcomes.** Some frameworks, focused on actions (policy levers), bracket this link, while others seek to capture real world impact through correlating a change in environmental performance with related finance volumes. The analysis cautions that determining a causal link between outcomes and impacts posited in Article 2.1(c) might be analytically challenging. (a/b/c)

Blind spots

- The paper identifies the **tendency within entity-level frameworks to overlook financial flows that circulate within the financial sector**, particularly such transactions that are effected outside regulatory oversight (shadow banking). (a)
- **Internal financing**, such as companies' retained earnings, is a major source of investment in both mitigation and adaptation, particularly in emissions-intensive and vulnerable sectors, yet addressed insufficiently by current frameworks. (a/b)
- **A lack of consistency regarding pathways** in entity-level frameworks is documented: This pertains to the choice of reference temperature goals, assumptions built into scenarios (such as whether overshoot is allowed, or what level of detail is used), and the degree to which considerations of 'fair share' and common but differentiated responsibilities are integrated. Country-level frameworks could capitalise on this observation in two ways. Firstly, they could assess as part of their analysis in how far such inconsistencies could promote greenwashing and market inefficiencies through lack of standardisation. Put differently, frameworks can assess standardised and credible data as a policy lever. Secondly, frameworks themselves should build on credible pathways. (a)
- Despite the explicit inclusion of resilience and adaptation in Article 2.1(c), most frameworks devote **little attention to resilience-building.** The paper traces this back to the predominance of mitigation-oriented flows among both private and public investors, which means that fewer Article 2.1(c) frameworks address adaptation. (b)
- The paper also recommends scrutinising in how far frameworks rely **on effectiveness-oriented indicators** – that is indicators that are actually associated with real-world impact, as opposed to merely reflecting the number of adopted policies, regulations and measures. (b)

Points of Departure

- Country-level frameworks should do justice to the **multi-pronged alignment approach used by entity-level frameworks**, when reviewing the effectiveness of Article 2.1(c) policies that target financial corporations. (a)
- **The transferability of materiality approaches** from entity-level to country-level frameworks could be explored further, bearing in mind potential trade-offs of departing from an all-encompassing approach. (a)

- Greater attention to **policy sequencing** is needed in country-level assessment frameworks, as sequencing is relevant for policies' effectiveness (b)
- The paper recommends that **in-detail assessments of MDBs**, instead of aggregate spending volumes, should feature in country-level frameworks. (c)

In conclusion, the universe of existing frameworks offers many starting points for developing country level-frameworks. On the one hand, this paper has cautioned as to the transferability, and usefulness of framework design features to the country-level and has outlined avoidable shortcomings to this effect. On the other hand, best practices, synergies, and interconnections were highlighted across different levels.

The insights gained in this paper will serve as direct inputs to the subsequent papers published as part of this multi-part study.

Going forward, the study will draw on the mapping conducted in this paper, to develop a country-level assessment framework. It is hoped that findings derived in this paper provide actionable starting points to this purpose, as well as for subsequent Article 2.1(c) assessments more generally.

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A Appendix

A.1 A working definition of Article 2.1(c)

Table 4: A working definition of Article 2.1(c)

Key terms of the definition and their proposed conceptualisations		
Action	"**Making** …"	▶ Includes all policies and measures, at the national and international level that promote consistency of finance flows. ▶ Includes actions to ensure consistency of finance flows, implemented by public and private sector actors, at the local, national and international levels; and supported by civil society and academia. ▶ Includes actions that result from cooperation between public, private and a mix of public, private and other actors, in different forums nationally and internationally, including those aimed at addressing challenges to implementation (e.g. cost of capital, debt). ▶ Includes the evolution of mandates and business-models of relevant actors, to integrate the potential for transformation of Article 2.1(c). ▶ Includes consideration of the complexity of causal relations, leading to holistic strategies.
Flows	**"… finance flows…"**	▶ Includes all finance flows and stocks, public, private, domestic, international and transnational that are relevant to different national circumstances, without exceptions.
Effects	**"… consistent …"**	▶ Actions implemented under Article 2.1(c) aim to ensure that in the end, all finance flows and stocks either support the goals of the Paris Agreement or remain neutral to them. This requires reducing or re-aligning those flows that undermine these goals; as well as increasing those that support them, including finance under Article 9, in a just manner.
Trajectory	**"… with a pathway towards…"**	▶ Pathways are those nationally determined. ▶ Nationally determined pathways are critically assessed against their "fair" contributions to global mitigation and adaptation goals, thus requiring an operational understanding of equity and CBDR-RC (for example, through differentiated timelines).

Key terms of the definition and their proposed conceptualisations		
Goal	**"… low-greenhouse gas emissions and climate resilient development."**	► Integrates mitigation, adaptation and resilience targets (nationally determined and global), with sustainable development objectives. ► Assesses and addresses potential trade-offs between adaptation, mitigation and sustainable development priorities, to ensure proper consideration of potentially negative socio-economics impacts of actions and just transition, at the national level, as well as unintended consequences across jurisdictions.

A.2 Typology of frameworks

Table 5: Typology of entity-level frameworks

Entity-level Frameworks	Type	Dimensions of Alignment	Pathway/Scenario	Nature of the assessment	Stocks/flows covered
Net-Zero Asset Owner Alliance (NZAOA) (UN-Convened Net-Zero Asset Owner Alliance) (NZAOA, 2024)	Methodologies and Guidance Frameworks	Asset-owner framework: Engagement targets: engage 20 top emitters (~65% of portfolio), join alliance/internal engagements, contribute to publications, and participate in sector/value chain work; sector targets: set intensity/absolute reduction KPIs, include Scope 3 where possible, align with sectoral decarbonisation pathways; sub-portfolio emission targets: cut CO_2e 22–32% by 2025 and 40–60% by 2030 (IPCC/CRREM), cover Scope 1 & 2 (track Scope 3), apply absolute or intensity KPIs; climate solution investments: report to alliance, show increasing trend, optional public targets, support transition financing initiatives.	Portfolio targets aligned with 1.5°C pathways using SBTi sectoral decarbonisation approaches (steel, cement, etc.).	Actions and outcomes	Portfolio emissions (stocks), sectoral targets
Net Zero Investment Frameworks (NZIF) (Paris Aligned Investing Initiative) (PAII, 2024)	Methodologies and Guidance Frameworks	Investor toolkit: (1) Governance & strategy – set net-zero objectives, portfolio structure, and internal direction over a 10-year horizon. (2) Asset-level assessment & targets – assess and align assets with net-zero goals through measurable targets. (3) Strategic asset allocation – integrate net-zero objectives into allocation decisions alongside risk/return goals. (4) Stakeholder & market engagement – enable alignment by improving data, mandates, and investment advice. (5) Policy advocacy – address barriers and influence the policy/regulatory environment to support net-zero alignment. (6) Objectives – define long-term net-zero goals and performance metrics to guide overall strategy.	IPCC/NGFS; Enhanced scenario analysis using IEA Net Zero and NGFS scenarios; More granular sector pathways.	Actions and outcomes	Financed emissions (stocks), enhanced scenario analysis

Entity-level Frameworks	Type	Dimensions of Alignment	Pathway/Scenario	Nature of the assessment	Stocks/flows covered
Paris Agreement Capital Transition Assessment (PACTA) (Rocky Mountain Institute) (Rocky Mountain Institute, 2024)	Methodologies and Guidance Frameworks	Corporate transition metrics: (1) Technology investment ratios (renewables vs fossils), (2) production volume ceilings (science-based limits), (3) emissions intensity pathways (SBTi validation).	IEA Net Zero 2050	Outcomes	Production plans (stocks), technology mix, emissions intensity
Transition Pathway Initiative (TPI) Management Quality and Carbon Performance (Transition Pathway Initiative (TPI), London School of Economics) (Dietz et al., 2021)	Assessment framework	The TPI Centre assesses companies through two lenses: (1) management quality – evaluates how well companies govern and manage GHG emissions and transition-related risks and opportunities. (2) Carbon performance – compares company emissions in high-emitting sectors against peers and Paris-aligned sector benchmarks	Paris-aligned; Governance and emissions pathway scoring; Assesses companies against sectoral decarbonization pathways (1.5°C and 2°C benchmarks).	Actions and outcome	Corporate emissions pathways (stocks & flows)
Net Zero Banking Assessment Framework (Transition Pathway Initiative (TPI), London School of Economics) (TPI, 2023)	Methodologies and Guidance Frameworks	Ten assessment areas: (1) Net-zero commitments, (2) sectoral targets, (3) exposure and emissions disclosure, (4) historical emissions performance, (5) decarbonisation strategy, (6) climate solutions, (7) climate policy engagement, (8) climate governance, (9) just transition, (10) annual reporting, accounting, and audits.	1.5°C; Evaluates banks against 1.5°C pathways with sector-specific metrics (power, oil & gas, etc.).	Actions and outcome	Financed emissions (stocks), banking activities

Entity-level Frameworks	Type	Dimensions of Alignment	Pathway/Scenario	Nature of the assessment	Stocks/flows covered
Climate Resilience Investment Framework (Institutional Investors Group on Climate Change) (IIGCC, 2025)	Methodologies and Guidance Frameworks	Behavioural guidance, defines actions: (1) Develop hazard scenarios, impact pathways, and financial sensitivities, (2) identify options: evaluate hard (capex) and soft (operational) adaptation measures and costs, (3) develop pathways: create adaptive pathways and conduct a cost/benefit analysis, (4) optimise & transfer risk: identify resilience metrics, compare IRR, and secure insurability.	Multiple climate scenarios and pathways for physical climate risk appraisal, including: RCPs and SSPs	Actions and outcome	Covers opex, capex, yet also further non-financial alignment dimensions
Climate Action 100, Net Zero Company Benchmark (Climate Action 100+ Steering Committee) (Climate Action 100+, 2023)	Methodologies and Guidance Frameworks	Eleven assessment dimensions: (1) Net-zero GHG emissions by 2050 (or sooner) ambition, (2) long-term (2036–2050) GHG reduction target(s), (3) medium-term (2028–2035) GHG reduction target(s), (4) short-term (up to 2027) GHG reduction target, (5) decarbonisation strategy, (6) capital allocation, (7) climate policy engagement, (8) climate governance, (9) just transition, (10) climate-related disclosures, (11) historical GHG emissions reductions.	Net Zero Company Benchmark	Actions and outcomes	Corporate CapEx plans (flows), emissions pathways
Partnership for Carbon Accounting Financials (PCAF) (Partnership for Carbon Accounting Financials) (PCAF, 2022)	Methodologies and Guidance Frameworks	Consists of three parts: part A covers financed emissions from seven asset classes and emission removals; part B addresses emissions linked to capital market activities; and part C focuses on emissions from re/insurance underwriting.	GHG accounting standard but doesn't prescribe pathways. Used in conjunction with SBTi targets.	Outcomes	GHG accounting (stocks & flows)

Entity-level Frameworks	Type	Dimensions of Alignment	Pathway/Scenario	Nature of the assessment	Stocks/flows covered
Science Based Targets Initiative – Financial Institutions (SBTi-FI) (Science Based Targets Initiative - Financial Institutions) (SBTi-FI, 2020)	Methodologies and Guidance Frameworks	Enables assessment of climate-related risks, setting science-based targets, and reporting transparently to stakeholders.	SBTi sectoral; Under development for FI target-setting	Actions and outcomes	Financed emissions (stocks)
Impact Potential Assessment Framework (IPAF) (2° Investing Initiative) (Mangot & Koch, 2023)	Assessment framework	Science-based targeting: (1) Portfolio coverage thresholds (at least 67% of the portfolio must be covered by SBTi), (2) sectoral decarbonisation (decarbonisation according to Paris-aligned sectoral emission trajectories), (3) solution investment (climate finance ratios).	References scenario of impact-oriented investment pathways, evaluating minimum criteria for impactful investments, not explicitly tied to 1.5°C or net-zero decarbonisation scenarios.	Actions	Impact strategies (qualitative flows)

Entity-level Frameworks	Type	Dimensions of Alignment	Pathway/Scenario	Nature of the assessment	Stocks/flows covered
World Economic Forum First Mover Coalition (World Economic Forum First Movers Coalition) (World Economic Forum First Movers Coalition, 2024)	Recommendations	Defines six channels through which financial institutions can unleash impact transparency: grow new/undersupplied markets; provide flexible capital; engage and vote; provide non-financial support; send market signals; send non-market signals.	Industrial decarbonisation pathway, near-zero emission commitments for all covered sectors (e.g. steel, shipping, cement), by 2030 to enable net-zero by 2050.	Actions	Corporate commitments (flows)
Race to Zero (UN Climate Change High-Level Champions) (UN Climate Change High-Level Champions, 2023)	Methodologies and Guidance Frameworks	Recommendations for alignment of real-economy firms: (1) Create credible demand signals through corporate purchasing commitments for near-zero emission technologies, (2) enhance cross-value-chain collaboration among buyers, suppliers, financiers, and policymakers, (3) build enabling ecosystems through government partnerships, finance mobilisation, in-country workshops, and initiatives like the First Suppliers Hub to support innovation, reduce risk, and align policies with decarbonisation goals.	Science-based decarbonisation pathways aligned with 1.5°C and well-below 2°C global trajectories under the Paris Agreement.	Actions and outcomes	Multi-stakeholder pledges (flows)
CPI Net Zero Tracker (Climate Policy Initiative) (CPI, 2024a)	Methodologies and Guidance Frameworks	Defines four corporate action areas: (1) Pledge: commit at the leadership level to reach net zero by the 2040s or mid-century, aligned with limiting warming to 1.5°C. (2) Plan: before COP26, outline short- to medium-term steps and set a 2030 interim target reflecting a fair share of the 50% global CO_2 reduction. (3) Proceed: take immediate action toward net zero, consistent with interim targets. (4) Publish: report progress annually, publicly, and through platforms feeding into the UNFCCC Global Climate Action Portal.	Net-zero by 2050 pathways aligned with Paris Agreement targets, tracking financial institution commitments, interim milestones, and implementation progress.	Actions and outcomes	Financial flows (mixed)

Entity-level Frameworks	Type	Dimensions of Alignment	Pathway/Scenario	Nature of the assessment	Stocks/flows covered
UNEP Finance Initiative Sustainability Risk Tool Dashboard (UNEP Finance Initiative) (UNEP-FI, 2025)	Database	Assessment of alignment across three areas: (1) Targets: adoption of a mitigation target, (2) implementation: adoption of a climate investment target, (3) impact: adoption of fossil fuel phase-out and exclusion.	N/A	Outcomes	All financial transactions
Transition Arc (Climate Arc) (Climate Arc, 2025)	Methodologies and Guidance Frameworks	Compiles 123 risk tools for use of financial institutions, covering climate, nature, pollution and social risks.	N/A	Actions and outcomes	Real-economy capital allocation (flows) Non-flow or stock variables (e.g. corporate governance, policy engagement)
Financial Institution Net-zero Transition Plans' (Glasgow Financial Alliance For Net-zero) (GFANZ, 2022c)	Recommendations	Climate solution focus, assessed on four dimensions: (1) relative progress across GHG performance, (2) climate targets, (3) capital allocation, (4) governance and policy engagement (paid tool, limited information available).	References IEA NZE and IPCC 1.5°C scenarios for sectoral transition planning.	Actions and outcomes	Transition finance strategies (flows)

Table 6: Typology of country-level frameworks

Entity-level Frameworks	Type	Dimensions of Alignment	Pathway/Scenario	Nature of the assessment	Stocks/flows covered
Climate Action Tracker Finance (New Climate Institute & Climate Analytics) (Climate Action Tracker, 2021)	Tracker	Whole-of-government framework tracking four key metrics: (1) International climate finance flows post-Paris Agreement (verified against OECD DAC reporting), (2) contribution trend analysis using 5-year moving averages, (3) implementation status of NDC pledges (categorised as committed/planned/operational), (4) fossil fuel finance phase-out progress (aligned with IEA net zero milestones).	1.5°C (IPCC SR1.5); Evaluates 2030 NDC targets against fair-share allocations	Actions and outcomes	International climate finance contributions (flows)
A handbook to strategic national transition planning: supplementary guidance and examples (Centre for Economic Transition Expertise (CETEx), London School of Economics) (Manning et al., 2024)	Recommendations	Government transition planning guide with seven interlinked components: (1) Science-based policy signals (referencing IPCC SR1.5), (2) sectoral investment roadmaps (prioritising energy/transport/industry), (3) capital mobilisation mechanisms (blended finance instruments), (4) financial regulatory alignment (stress testing & disclosure), (5) real-time monitoring systems, (6) multi-stakeholder platforms (private sector participation metrics), (7) international climate finance coordination (GCF access rates).	IPCC 1.5°C, IEA Net Zero 2050;	Actions and outcomes	All encompassing (taxes, procurement - both stocks & flows)
Sustainable Finance Index GFLAC (Climate Finance Group of Latin America and the Caribbean) (GFLAC, 2024)	Tracker	Economic transformation metrics across four fiscal dimensions: (1) Sustainable income (OECD-defined green budget tagging), (2) fossil fuel revenue dependence (as % GDP), (3) climate-positive expenditure ratios (min 30% by 2030), (4) carbon budget compliance (production vs consumption emissions).	N/A	Outcomes	Public finance policies (flows)

Entity-level Frameworks	Type	Dimensions of Alignment	Pathway/Scenario	Nature of the assessment	Stocks/flows covered
Public Finance for Energy Database (Oil Change International) (Oil Change International, 2022)	Tracker	Database assessing public finance, along four indicators: (1) Fossil fuel subsidy phase-out schedule (aligned with COP26 commitments), (2) clean energy investment incentives (tax credits per MW renewable capacity), (3) carbon pricing mechanisms (ETS coverage thresholds), (4) just transition funding (per-worker allocation).	IEA 1.5°C	Actions and outcomes	Fossil fuel vs clean energy investments (flows)
Climate Risk Scorecard (Ceres) (Ceres, 2024)	Assessment framework	Financial supervisory framework with nine mandatory requirements: (1) Affirm climate as a systemic risk, (2) expand internal capacity with staff, expertise, technology, and resources, (3) increase transparency by publishing activities and making data public, (4) assess and address climate risks for financially vulnerable communities, (5) produce and standardise research and data on climate risk, (6) conduct climate-related scenario analyses and stress tests, (7) improve disclosure requirements, including TCFD alignment and GHG reporting, (8) enhance supervisory guidance on climate risk management, (9) integrate climate risk expectations into regulatory frameworks.	NGFS scenarios	Actions and outcomes	Climate risk exposures (not a stock/flow)

Entity-level Frameworks	Type	Dimensions of Alignment	Pathway/Scenario	Nature of the assessment	Stocks/flows covered
Fossil fuel Subsidy Tracker (International Institute for Sustainable Development, OECD) (International Institute for Sustainable Development & Organisation for Economic Cooperation and Development, n.d.)	Tracker	Subsidy reform tracking covering: (1) Exploration phase-outs (pre-2030 for OECD), (2) production tax breaks (per barrel equivalent), (3) consumption subsidies (household vs industrial), (4) indirect supports (state-owned enterprise capital injections).	N/A	Actions and outcomes	Subsidy amounts (flows)
SBFN Measurement Framework (Sustainable Banking and Finance Network) (SBFN, 2024)	Assessment framework	Market-level assessment with three pillars: (1) ESG integration, (2) climate and nature-related risk management, (3) financing sustainability. These three pillars are complemented by three cross-cutting pillars: sub-pillar 1: national framework – align national sustainable finance frameworks with international/national goals, identify framework features, define expectations for financial institutions. Sub-pillar 2: regulator & industry association actions – capture regulatory measures and voluntary industry initiatives (e.g. banking associations). Sub-pillar 3: financial sector implementation – measure implementation depth using quantitative market data, collect good practice case studies, allow alternative data, publish country-level data only with member approval.	N/A	Actions and outcomes	Financial sector activities (flows)

Entity-level Frameworks	Type	Dimensions of Alignment	Pathway/Scenario	Nature of the assessment	Stocks/flows covered
OMFIF Sustainable Finance Policy Tracker (Official Monetary and Financial Institutions Forum Sustainable Policy Institute) (OMFIF, 2025)	Tracker	Policy implementation dashboard, evaluating countries along (1) climate stress testing, (2) climate risk management guidelines, (3) green prudential policies, (4) NGFS membership, (5) mandatory reporting of climate-related disclosures, (6) other sustainability-related disclosures, (7) sustainable taxonomies, (8) net zero commitment, (9) carbon pricing, (10) nature-related financial policy, (11) tax, tariffs and incentives, (12) COVID-19 relief and recovery, (13) sovereign sustainable bonds, (14) green bond framework.	Pathways for national net-zero pledges are used as a baseline,	Actions	Policy levers
Australian Sustainable Finance Report (Australian Sustainable Finance Institute) (Australian Sustainable Finance Institute, 2024)	Assessment	Identifies four dimensions for a national sustainable finance strategy: (1) Embedding sustainability into leadership – integrating sustainability into purpose, governance, strategy, risk management, remuneration, culture, and leadership accountability; (2) building sustainable finance skills and capabilities – equipping the financial system and broader economy with the knowledge, training, and frameworks needed for sustainable finance; (3) elevating First Nations voices and rights – embedding Aboriginal and Torres Strait Islander perspectives, rights, and free, prior and informed consent into financial decision-making; (4) strengthening international sustainable finance partnerships – deepening Australia's role and collaboration in global sustainable finance, including taxonomy alignment and COP31 preparations.	Net Zero by 2050, no pathway specified	Actions	Market activities (flows) and policy levers

Entity-level Frameworks	Type	Dimensions of Alignment	Pathway/Scenario	Nature of the assessment	Stocks/flows covered
METI Transition Finance Report 2022 (Japanese Ministry of Economy, Trade and Industry (METI)) (METI, 2022)	Assessment	Evaluation of a transition program focusing on: (1) Sectoral taxonomy (1.5°C-aligned technologies), (2) transition bond standards (use-of-proceeds verification), (3) hard-to-abate pathways (hydrogen/CCUS investment ratios).	Commitment to Paris Agreement; no scenario or pathway specification	Actions	Transition bonds (flows), taxonomy aligned activities, investment volumes in specific sectors
iGST Framework for Operationalising Article 2.1c (ODI, Germanwatch, Independent Global Stocktake (iGST)) (Feyertag et al., 2023)	Assessment framework	Country-scale assessment, considering five categories of policy levers: (1) Overall strategies and target, (2) financial policy and regulation, (3) fiscal policy mechanisms, (4) public and private finance flows, and (5) voluntary initiatives.	IPCC 1.5°C; 4-lever approach (financial, fiscal, public finance, information)	Actions and outcomes	Policy levers
Making finance consistent with climate goals (ODI) (Whitley et al., 2018)	Assessment framework	Country-scale assessment, considering four categories of policy levers: (1) Financial policy and regulation, (2) fiscal policy, (3) public finance, (4) information instruments.	Reference to Article 2.1(c), yet no pathway or scenario specified	Actions	Real-economy alignment metrics (mixed)

Entity-level Frameworks	Type	Dimensions of Alignment	Pathway/Scenario	Nature of the assessment	Stocks/flows covered
GFANZ Call to Action: One Year On (Glasgow Financial Alliance for Net-zero) (GFANZ, 2022a)	Recommendations	Country-scale recommendations for transition planning: (1) Net-zero target validation (SBTi-FI criteria), (2) reform of the international financial architecture (risk weighting changes), (3) carbon pricing, (4) just transition safeguards, (5) EMDE capital mobilisation (e.g. ensure MDB target setting).	NGFS, IPCC	Actions and outcomes	Financed emissions (stocks), investment flows
Energy Policy Tracker (International Institute for Sustainable Development) (International Institute for Sustainable Development, n.d.)	Tracker	Energy finance tracking: (1) Clean fossil investment ratio (min 4:1 by 2025), (2) project-level alignment (do-no-harm screens), (3) technology readiness.	IEA Net Zero	Actions and outcomes	Energy investments (flows)
F4CS Assessment Programme (Financial Centres for Sustainability) (FC4S, 2021)	Assessment framework	Based on three pillars: (1) The institutional foundations – explores the key institutions and objectives that drive the growth of sustainable finance in financial centres, (2) the enabling environment pillar – outlines the environment that promotes sustainable finance through the provision of rules and incentives and the development of capabilities, (3) the market infrastructure pillar – describes how market participant capital mobilisation is stimulated by commitments, strategies, and incentives.	N/A	Actions	City-level financial activities (flows)

Table 7: Typology of international-level frameworks

Entity-level Frameworks	Type	Dimensions of Alignment	Pathway/Scenario	Nature of the assessment	Stocks/flows covered
G20 Sustainable Finance Roadmap progress tracking (G20) (G20 Sustainable Finance Working Group) (G20 SFWG, 2024)	Tracker	Global coordination priorities: (1) Improving the operations of the international environmental and climate funds, (2) advancing credible, robust and just transition plans, (3) analysing implementation challenges related to sustainability reporting standards including for SMEs and in EMDEs, (4) financing nature-based solutions.	References Paris-alignment, doesn't prescribe pathway	Actions	N/A
G20 score card on fossil fuel funding (International Institute for Sustainable Development, Overseas Development Institute, Oil Change International) (IISD et al., 2020)	Assessment framework	MDB alignment metrics: (1) Fossil exclusion compliance (2023 deadline), (2) clean energy ratios (4:1 minimum), (3) adaptation finance (50% target), (4) just transition (safeguards 2.0).	References Paris-alignment, doesn't prescribe pathway	Actions and outcomes	Fossil subsidy amounts (flows)
Climate Disclosure Project (CDP) Open Data Portal (Climate Disclosure Project) (CDP, n.d.)	Database	Corporate disclosure system: (1) Emissions inventory (Scope 1–3 coverage), (2) transition plan elements (12 key indicators), (3) climate risk exposure (asset-level mapping).	References Paris-alignment, doesn't prescribe pathway	Actions and outcomes	Corporate emissions/disclosures (stocks & flows)

Entity-level Frameworks	Type	Dimensions of Alignment	Pathway/Scenario	Nature of the assessment	Stocks/flows covered
E3G Public Bank Climate Tracker Matrix (E3G) (E3G, 2020)	Tracker	Public finance standards for public banks: (1) Mitigation screening (1.5°C alignment), (2) adaptation metrics (resilience dividends), (3) policy support (NDC implementation), (4) reporting integrity (independent verification).	Assesses MDBs against 1.5°C pathways with sectoral exclusion policies.	Actions and outcomes	MDB finance ratios (flows), policy metrics
Taskforce for Climate-related Disclosures (TCFD) (Financial Stability Board) (Financial Stability Board, 2017)	Database	Disclosure methodology: (1) Disclosure governance of climate-related risks and opportunities, (2) describe the actual and potential impacts of climate-related risks and opportunities on the organisation's business, strategy, and financial planning, (3) explain how climate-related risks are identified, assessed, and managed, (4) report the metrics and targets used to monitor and manage these risks and opportunities.	References NGFS scenarios for risk assessment but doesn't prescribe pathways.	Actions and outcomes	Capital market flows, policy enablers
Sustainable finance chapter in World Investment Report 2024 (UNCTAD) (UNCTAD, 2024)	Recommendations	Capital market transformation: (1) Green bond standards (use-of-proceeds), (2) sovereign ESG frameworks (SDG linkages), (3) policy coherence (taxonomy alignment).	N/A	Actions and outcomes	Fiscal policies, budget alignment (actions and flows)

Entity-level Frameworks	Type	Dimensions of Alignment	Pathway/Scenario	Nature of the assessment	Stocks/flows covered
Helsinki Principles (Coalition of Finance Ministers for Climate Action) (Coalition of Finance Ministers for Climate Action, 2019)	Recommendations	Principles for action for ministries of finance: (1) Align policies and practices with the Paris Agreement commitments, (2) share experiences and expertise to promote mutual learning and collective climate action, (3) work towards effective carbon pricing measures, (4) integrate climate considerations into macroeconomic policy, fiscal planning, budgeting, investment, and procurement, (5) mobilise private climate finance and build a financial sector that supports mitigation and adaptation, (6) actively engage in preparing and implementing Nationally Determined Contributions (NDCs).	References Paris-aligned budgeting pathways and NDC implementation	Actions	N/A
Making finance flow to adaptation in small-scale agrifood systems: The role of the third long-term goal of the Paris Agreement (Article 2.1 (c)) (Germanwatch & ODI) (Argueta et al., 2024)	Assessment	Discussion contribution: Uses small-scale agrifood systems as a case study for the framework of 'consistency makers'. The focus is on climate-resilient development. Consistency makers are actions that governments can pursue either themselves ('internal') or through international cooperation ('external') to scale financial flows.	IPCC 1.5°C; Links finance to smallholder resilience outcomes	Actions	Smallholder resilience investments (flows)

Entity-level Frameworks	Type	Dimensions of Alignment	Pathway/Scenario	Nature of the assessment	Stocks/flows covered
Network for Greening the Financial System (NGFS) Conceptual Framework (Network for Greening the Financial System) (Network for Greening the Financial System, 2023)	Recommendations	A framework for assessing nature-related financial risks, establishing: (1) A common science-based understanding and language for nature-related financial risks among central banks and supervisors, (2) integration of the assessment of climate-related and broader environmental risks under the concept of nature-related financial risks, (3) offering a principle-based risk assessment framework to help institutions identify, assess, and manage material nature-related financial risks considering their jurisdictional context, (4) emphasising the importance of planetary boundaries, ecosystem services, and scenario narratives for assessing financial risks and supporting the development of nature-related scenarios for forward-looking risk management.	Provides multiple possible scenarios, without specifying a particular one (e.g. Net Zero 2050, 2°C Scenario, delayed transition, current policies and fragmented world)	Actions	Conceptually all regulated financial flows
Carbon Pricing Dashboard (World Bank) (World Bank, 2025)	Database	Covers adoption, design, coverage, prices and revenues of carbon pricing instruments (carbon taxes, ETS) internationally.	N/A	Actions	Revenues from carbon pricing (flows)
Joint MDB Methodological Principles for Assessment of Paris Agreement Alignment (African Development Bank and other MDBs) (African Development Bank et al., 2023)	Recommendations	Measured along mitigation and adaptation goals, differentiated assessment principles for different kinds of financial flows: (1) Direct investment, (2) policy-based lending, (3) intermediate finance, and (4) general corporate purpose finance.	Commitment to Paris Agreement; no scenario or pathway specification	Actions	MDB financial flows

Entity-level Frameworks	Type	Dimensions of Alignment	Pathway/Scenario	Nature of the assessment	Stocks/flows covered
Towards a framework to monitor finance for green investment (Joint Research Centre, European Commission) (Becker et al., 2024)	Assessment Framework	Covers five different dimensions at EU level: (1) Economy-wide investment, (2) public investment, (3) corporate sustainability, (4) flows and stocks by market segments, (5) flows and stocks by market actors.	Commitment to Paris Agreement and recital of Article 2.1c No scenario or pathway specification	Actions and outcomes	Economy-wide investment (GFCF); public investment (e.g. Subsidies); corporate –level alignment; flows and stocks by market segments (except insurance)
Platform on Sustainable Finance report: Monitoring capital flows to sustainable investments (Platform on Sustainable Finance) (Platform on Sustainable Finance, 2025)	Assessment Framework	Assessment of market development: Assesses sustainable finance volumes, differentiating between taxonomy-aligned and transition-linked; conducted on a sectoral basis, looking into sustainable investment volumes per sector.	IEA NZ scenarios	Outcomes	Taxonomy-aligned CapEx (volume & share); Taxonomy-aligned Revenues (volume & share); Transition-supporting CapEx (beyond Taxonomy) amongst others