Interim report

Towards a joint implementation of the 2030 Agenda / SDGs, the Paris Agreement and the Sendai Framework

Discussion paper

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Imprint

Abstract: Towards a joint implementation of the 2030 Agenda / SDGs, the Paris Agreement and the Sendai Framework – Discussion paper

The UN's 2030 Agenda for Sustainable Development, the Paris Agreement on climate change and the Sendai Framework for Disaster Risk Reduction, three international and 'transformative' agendas adopted in 2015, have some overlap and interdependencies. How can their implementation at domestic level be integrated, so as to tap synergies and prevent trade-offs? In this discussion paper, we approach the question of 'integrated implementation' of transformative policy agendas. We first discuss some conceptual questions – how policy agendas interact, how to understand and measure integrated implementation, what we mean by transformative change and how the implementation of transformative agendas can be integrated. These conceptual reflections are contrasted with the empirical results of a document screening of how countries to date deal with overlap, inconsistencies and synergies between different international agendas when implementing these domestically. We discuss the achievements, gaps and deficits with regard to the empirical findings. Observing that integrated implementation to date often fails to achieve deeper levels of integration, we suggest four drivers that may help to overcome the diagnosed gaps and deficits: political leadership, civic participation, science and sustainable finance. In Chapter 5, we conclude that a more integrated implementation of the three 2015 agendas is both possible and expedient. It requires a more determined tackling of trade-offs and development of joint strategies.

Kurzbeschreibung: Auf dem Weg zu einer gemeinsamen Umsetzung der Agenda-2030 / SDGs, des Pariser Abkommens und des Sendai-Rahmenwerks – Diskussionspapier

Die UN Agenda-2030 für nachhaltige Entwicklung, das Pariser Abkommen über den Klimawandel und das Sendai-Rahmenwerk für die Katastrophenvorsorge, die alle 2015 verabschiedet wurden, überschneiden sich teilweise und haben Wechselwirkungen untereinander. Wie kann ihre Umsetzung auf nationaler Ebene integriert werden, um Synergien zu nutzen und Zielkonflikte zu vermeiden? In diesem Diskussionspapier befassen wir uns mit der Frage einer „integrierten Umsetzung" von transformativen politischen Agenden. Zunächst erörtern wir einige konzeptionelle Fragen – wie politische Agenden interagieren, wie die integrierte Umsetzung zu verstehen und zu messen ist, was wir unter transformativem Wandel verstehen und wie die Umsetzung von transformativen Agenden integriert werden kann. Diese konzeptionellen Überlegungen werden den empirischen Ergebnissen eines Dokumentenscreenings gegenübergestellt, bei dem untersucht wurde, wie Länder bisher mit Überschneidungen, Inkonsistenzen und Synergien zwischen verschiedenen internationalen Agenden umgehen, wenn sie diese im eigenen Land umsetzen. Wir diskutieren die Erfolge, Lücken und Defizite, die sich den empirischen Ergebnissen entnehmen lassen. Bei bisherigen Ansätzen einer integrierten Umsetzung ist es häufig nicht gelungen, eine tiefere Integration zu erreichen. Wir schlagen vier Faktoren vor, die zur Überwindung der festgestellten Lücken und Defizite beitragen könnten: politische Führung, Bürgerbeteiligung, Wissenschaft und nachhaltige Finanzierung. In Kapitel 5 kommen wir zu dem Schluss, dass eine integriertere Umsetzung der drei 2015-Agenden sowohl möglich als auch vorteilhaft ist. Dafür müssen Zielkonflikte entschiedener angegangen und gemeinsame Strategien entwickelt werden.

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CBD	Convention on Biological Diversity
CCA	Climate Change Adaptation
CO₂	Carbon dioxide
CPI	Climate Policy Interaction
DRR	Disaster Risk Reduction
EPI	Environmental Policy Integration
GHG	Greenhouse gas
NAP	National Adaptation Plan
NDC	Nationally Determined Contributions (in Paris-Agreement)
NPM	New Public Management
PA	Paris Agreement
SDG	Sustainable Development Goal
SF	Sendai Framework
UNFCCC	United Nations Framework Convention on Climate Change
VNR	Voluntary National Review

Summary

In 2015, three important international agendas were adopted. The **2030 Agenda for Sustainable Development** defines 17 Sustainable Development Goals (SDGs) and 169 targets, ranging from the fight against hunger and poverty to climate protection, nature conservation, peace and justice. The **Paris Agreement** (PA) under the UN Framework Convention on Climate Change commits industrialized and developing countries to climate protection and adaptation to climate change. The **Sendai Framework for Disaster Risk Reduction** (SF) defines objectives and priorities for action to reduce and prevent vulnerabilities to disaster risks and to strengthen resilience to natural or man-made hazards.

The objectives of these agendas are extraordinarily challenging: They cannot be realized by **sectoral** policies alone but are **cross-cutting** tasks. However, cross-cutting agendas meet with differentiated and specialized policies in different policy fields. Each of these is characterised by its own goals, logics of action, actor networks and institutions. From the beginning of modern environmental policy in the 1970s, analysts and practitioners alike have emphasised the importance of integrating environmental concerns and, since the 1990s, sustainability concerns into other policy fields.

The profound, **transformative changes** in the economy and society required to achieve the SDGs, Paris and Sendai commitments can only be initiated and shaped by comprehensive strategies. These need to encompass all policy fields and levels concerned. It has often been stressed that the SDGs can only be achieved *jointly* in a meaningful way, 'cherry-picking' of individual SDGs or targets will not lead to a sustainable development. At the same time, it is necessary to set priorities and take national or local conditions into account when implementing climate policies and sustainability goals.

Core challenges and questions are: How can a comprehensive integration of sustainability, climate mitigation, adaptation and disaster risk reduction policies succeed? How can the transformative goals of the 2015 agendas be pursued in an integrated manner without weakening or delaying the achievement of (actually or allegedly) competing concerns? How can priorities be set without neglecting particularly challenging concerns? How can we go beyond projects and goals that can be achieved with comparatively little effort ('low-hanging fruit') or that are politically opportune for other reasons?

The **discussion paper** at hand – resulting from the project "Joint implementation of the 2030 Agenda / SDGs and the Paris Agreement"[1] – discusses how the implementation of the three agendas can be better integrated. After an introduction (**Chapter 1**), we approach this topic by first discussing conceptual questions (**Chapter 2**). We describe **how policy agendas interact**: they can interact at the level of objectives, implementation measures and resulting impacts; interactions can be positive (synergies) or negative (trade-offs), and the strength of these interactions can be measured on scales (e.g., from -3 to +3). We also elaborate what we mean by "**transformative change**" and that the strategic governance of transformative change requires policy integration. We then discuss how we can understand and measure the integrated

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[1] "Gemeinsame Umsetzung der 2030-Agenda / SDGs und des Pariser Abkommens" (FKZ 3719 18 105 0), commissioned by the German Environment Agency (Umweltbundesamt).

implementation of (transformative) agendas. We suggest using a metric by Metcalfe (1994) which describes the degree of coherence between two policy fields on nine levels:

1. Independent decisions: departments make their decisions completely independently of each other;
2. Exchange of information: departments inform each other about their decisions;
3. Consultations between ministries: Ministries seek the opinion of other ministries on planned decisions;
4. Avoidance of contradictions: for political decisions and their justifications, contradictions are avoided;
5. Searching for consensus: for political decisions, consensus is sought;
6. Mediation of conflicts: in order to resolve conflicts, ministries commit themselves to dispute resolution mechanisms and recognize the decisions of these mechanisms as binding;
7. Establishment of common parameters: departments agree on common goals;
8. Agreement on common priorities: the goals are prioritized together;
9. Common strategies: in order to achieve the goals, joint programmes and processes for their implementation are agreed upon.

We also conceptualise "**entry points**" that can be used for analysing as well as shaping policy-integration (and more specifically: the integrated implementation of international agendas). Such entry points can be: the substantive issues, administrative levels and outputs of integrated implementation, governance mechanisms involved, dimensions of policymaking (policy, politics, polity) and phases of the policy cycle (policy formulation, implementation, monitoring and evaluation) in which integrated implementation may take place. Moreover, we elaborate the **costs and benefits** of integrated implementation. (Transaction) Costs range from the loss of specialisation benefits, longer payback cycles, dissonant planning cycles and budget time horizons to blurred accountability, diluted priorities, administrative overburdening and insufficient stakeholder acceptance. Benefits include the prevention of negative impacts on other policy goals and the promotion of welfare effects and genuine problem-solving. Finally, we look at lessons from environmental policy integration with regard to success factors of integrated implementation, such as normative frameworks to guide integrated implementation, political will to put it on the agenda, cognitive and analytical capacities to enable it and institutional arrangements to implement it.

In **Chapter 3**, we look at the efforts that governments around the world make to account of the requirements of climate change mitigation/adaptation and sustainability in various policy fields. Based on a screening of international policy documents and literature we observe the following policy approaches for an integrative implementation of the 2015 agendas:

► **Creation of cognitive and analytical capacities:** Policymakers promote integrated implementation through creating cognitive and analytical capacities for policy integration. In practice this includes, above all, the (ex-ante and ex-post) analysis of policy coherence and integrated monitoring. These approaches are employed in the context of policy formulation and implementation.

► **Institutional coordination**: Another common way of promoting integrated implementation is institutional coordination, for instance through centralized high-level political processes, cross-ministerial structures, involvement of national parliaments, other administrative levels and non-state actors. Institutional coordination addresses the *process* of policymaking, not its outputs.

► **Development of joint strategies**: Frequently based on the previous approaches (capacity creation, institutional coordination), joint strategies can be developed by

    a. mainstreaming (aligning 'by design') SDG implementation, climate action and disaster risk reduction and

    b. designing policies that have inherent co-benefits for other concerns.

The observed approaches to integrate the implementation of the SDGs and Paris Agreement usually lead (at best) to an **avoidance of contradictions** (level 4 of Metcalfe's metric, cf. above). Interdepartmental sustainability strategies, too, typically do not involve a genuine search for consensus, common parameters or priorities, but are often based rather on the line-up of political projects that were planned. Generally, political entrepreneurs have incentives to tap into co-benefits in order to find majorities for political projects. However, when conflicting goals are involved, decisions in the political process are usually avoided and resolved through '**negative coordination**', i.e. the (mere) avoidance of conflicts with the interests of other actors. In central areas of sustainability policy, such as food, mobility, nitrogen discharges and or biodiversity protection, policy-makers are far from defining common parameters and priorities applying to all policy fields, and it is even difficult to reach a consensus on concrete measures. An example is the recent reform of the European Common Agricultural Policy – which largely followed a sectoral logic rather than considering cross-cutting sustainability goals.

At best, joint strategies can be identified for the field of climate mitigation (not, however, for adaptation or other SDG areas): climate mitigation targets are broken down for the various sectors and departments. However, the example of climate mitigation also shows that once targets have been agreed, they tend to be diluted or called into question during implementation. Integrated policy and cross-cutting tasks require a robust institutionalization going beyond the avoidance of contradictions. The mechanisms for policy integration alone are not sufficient: policy-making must be strengthened by further impulses ('drivers').

In **Chapter 4**, we suggest four **drivers for deepened integration**:

► **Political Leadership:** Literature on environmental policy integration points out the need for environmental and sustainability concerns to be brought into the political process by political leaders. These include the heads of government, the leaders of the political parties that make up the governments or the government factions in the parliaments. These leaders can be expected to set common parameters or priorities, which in turn are implemented in political processes.

► **Self-commitment to citizen participation and deliberative processes:** Deliberative approaches can be expanded and new forms of participation tried out. The Irish Constitutional Convention (2012-2014) is an example that inspires sustainability policy (e.g. the French Citizen Convention for Climate): beyond consultation, participation can be designed in a way that key topics are discussed and deliberated upon in citizen juries. The random selection of their participants contributes to a non-hierarchical discourse.

► **Impulses from science & research:** The climate agenda has been and continues to be driven primarily by science: With the IPCC at international level and corresponding scientific institutions in many countries, reference points have been created against which policy is to be measured. The parameters for climate policy (e.g., 1.5°C target, emission budgets, reduction targets and pathways) are based on insights and advice from science.

► **Sustainable finance**: Financial markets may also drive the demand for integrated policies. If financial market actors want to invest in a climate-friendly and sustainability-oriented way, an integrated policy framework is necessary as it supports a sustainability-oriented investment environment as well as an appropriately predictable business environment.

These drivers are interlinked with each another: political leadership can arise from knowledge-based or deliberative processes and in turn can make them possible. Importantly, the drivers are not intended to replace the integrative approaches sketched above, but rather are supportive to them. While integrative processes seem indispensable for implementation and sustainable institutionalization, they need strong impulses to contribute effectively to implementing climate goals and the sustainability agenda.

Chapter 5 concludes that a more integrated implementation of the three 2015 agendas is both possible expedient and possible. It requires overcoming specific obstacles.

This discussion paper builds on and draws from Teebken et al. (2021), a more comprehensive study on integrating the implementation of the 2030 Agenda, the Paris Agreement and the Sendai Framework which includes, among others, country case studies. It is complemented by two texts on "sustainable adaptation pathways" in the context of the three agendas (Bueb et al. 2021; Bueb und Tröltzsch 2021).

Zusammenfassung

Im Jahr 2015 wurden drei wichtige internationale Agenden verabschiedet. Die **2030 Agenda für nachhaltige Entwicklung** definiert 17 Ziele für nachhaltige Entwicklung (Sustainable Development Goals, SDGs) und 169 Unterziele, die von der Bekämpfung von Hunger und Armut bis hin zu Klima- und Naturschutz, Frieden und Gerechtigkeit reichen. Das **Pariser Abkommen** (PA) unter der UN-Klimarahmenkonvention verpflichtet Industrie- und Entwicklungsländer zum Klimaschutz und zur Anpassung an den Klimawandel. Das **Sendai-Rahmenwerk** für Katastrophenvorsorge (SF) definiert Ziele und Prioritäten für Maßnahmen, um die Anfälligkeit für Katastrophenrisiken zu verringern und die Widerstandsfähigkeit gegenüber natürlichen oder menschgemachten Gefahren zu stärken.

Die Ziele dieser Agenden sind außerordentlich anspruchsvoll: Sie können nicht durch **sektorale** Politiken allein verwirklicht werden, sondern sind **Querschnittsaufgaben**. Querschnittsagenden treffen jedoch auf differenzierte und spezialisierte Politiken in verschiedenen Politikfeldern. Jedes dieser Politikfelder ist durch eigene Ziele, Handlungslogiken, Akteursnetzwerke und Institutionen gekennzeichnet. Seit den Anfängen der modernen Umweltpolitik in den 1970er Jahren haben Analysten und Praktiker gleichermaßen betont, wie wichtig es ist, Umweltbelange und – seit den 1990er Jahren – auch Nachhaltigkeitsbelange in andere Politikbereiche zu integrieren.

Der tiefgreifende**, transformative Wandel** von Wirtschaft und Gesellschaft, der zur Erreichung der SDGs sowie der Verpflichtungen von Pariser Abkommen und Sendai Rahmenwerk erforderlich sind, können nur durch umfassende Strategien eingeleitet und gestaltet werden. Diese müssen alle betroffenen Politikfelder und Ebenen einbeziehen. Es wurde oft betont, dass die SDGs nur gemeinsam sinnvoll erreicht werden können – ein „Rosinenpicken" einzelner SDGs oder Ziele wird einer nachhaltigen Entwicklung nicht gerecht. Gleichzeitig ist es notwendig, bei der Umsetzung von Klimapolitik und Nachhaltigkeitszielen Prioritäten zu setzen und nationale oder lokale Gegebenheiten zu berücksichtigen.

Zentrale Herausforderungen und Fragen sind: Wie kann eine umfassende Integration von Nachhaltigkeit, Klimaschutz, Anpassung und Katastrophenvorsorge gelingen? Wie können die transformativen Ziele der 2015-Agenden integriert verfolgt werden, ohne die Erreichung von (tatsächlich oder vermeintlich) konkurrierenden Anliegen zu schwächen oder zu verzögern? Wie können Prioritäten gesetzt werden, ohne besonders problematische Anliegen zu vernachlässigen? Wie kann über Projekte und Ziele hinausgegangen werden, die mit vergleichsweise geringem Aufwand zu erreichen sind („low hanging fruit") oder die aus anderen Gründen politisch opportun sind?

Das vorliegende **Diskussionspapier** – entstanden aus dem Projekt „Gemeinsame Umsetzung der 2030-Agenda / SDGs und des Pariser Abkommens" – diskutiert, wie die Umsetzung der drei Agenden besser integriert werden kann. Nach einer Einführung (**Kapitel 1**) nähern wir uns dem Thema, indem wir zunächst konzeptionelle Fragen erörtern (**Kapitel 2**). Wir beschreiben, **wie politische Agenden** interagieren: Sie können auf der Ebene der Ziele, der Umsetzungsmaßnahmen und der daraus resultierenden Wirkungen interagieren; die Interaktionen können positiv (Synergien) oder negativ (Zielkonflikte) sein, und die Stärke dieser Interaktionen kann auf Skalen gemessen werden (z. B. von -3 bis +3). Wir erläutern auch, was wir unter „**transformativem Wandel**" verstehen und dass die strategische Gestaltung von transformativen Wandel Politikintegration erfordert. Anschließend erörtern wir, wie wir die integrierte Umsetzung von (transformativen) Agenden verstehen und bewerten können. Wir schlagen die Verwendung einer Metrik von Metcalfe (1994) vor, die den Grad der Kohärenz zwischen zwei Politikfeldern auf neun Ebenen beschreibt:

1. Unabhängige Entscheidungen: Ministerien / Verwaltungseinheiten treffen ihre Entscheidungen völlig unabhängig voneinander;
2. Informationsaustausch: Ministerien / Verwaltungseinheiten informieren sich gegenseitig über ihre Entscheidungen;
3. Konsultationen zwischen Ministerien: Die Ministerien holen die Meinung der anderen Ministerien zu geplanten Entscheidungen ein;
4. Vermeidung von Widersprüchen: Bei politischen Entscheidungen und deren Begründungen werden Widersprüche vermieden;
5. Suche nach einem Konsens: Bei politischen Entscheidungen wird ein Konsens angestrebt;
6. Schlichtung von Konflikten: Um Konflikte zu lösen, verpflichten sich die Ministerien zu Streitschlichtungsmechanismen und erkennen die Entscheidungen dieser Mechanismen als verbindlich an;
7. Festlegung gemeinsamer Parameter: Die Ressorts einigen sich auf gemeinsame Ziele;
8. Einigung auf gemeinsame Prioritäten: Die Ziele werden gemeinsam priorisiert;
9. Gemeinsame Strategien: Um die Ziele zu erreichen, werden gemeinsame Programme und Verfahren für deren Umsetzung vereinbart.

Wir konzipieren auch **Ansatzpunkte** für die Analyse und Gestaltung der Politikintegration (und genauer gesagt: der integrierten Umsetzung internationaler Agenden). Solche Ansatzpunkte können sein: die Themen, Verwaltungsebenen und Ergebnisse einer integrierten Umsetzung, die genutzten Governance-Mechanismen, die betroffenen Dimensionen der Politikgestaltung (Policy, Politicy, Polity) und die Phasen des Politikzyklus (Politikformulierung, -umsetzung, -überwachung und -bewertung), in denen die integrierte Umsetzung stattfinden kann. Darüber hinaus werden **Kosten und Nutzen** einer integrierten Umsetzung dargelegt. Die (Transaktions-)Kosten reichen vom Verlust von Spezialisierungsvorteilen, längeren Amortisierungszyklen, dissonanten Planungszyklen und Haushaltszeithorizonten bis hin zu unklaren Verantwortlichkeiten, verwässerten Prioritäten, administrativer Überlastung und unzureichender Stakeholder-Akzeptanz. Zu den Vorteilen gehören die Vermeidung negativer Auswirkungen auf andere politische Ziele sowie die Förderung von Wohlfahrtseffekten und echten Problemlösungen. Schließlich betrachten wir die Lehren aus der Integration der Umweltpolitik im Hinblick auf die **Erfolgsfaktoren** von integrierter Umsetzung, wie z.B. einen normativen Rahmen, der eine integrierte Umsetzung steuert, den politischen Willen, sie auf die Tagesordnung zu setzen, die kognitiven und analytischen Kapazitäten, die sie ermöglichen, und die institutionellen Vorkehrungen für ihre Umsetzung.

In **Kapitel 3** untersuchen wir die Bemühungen, die Regierungen auf der ganzen Welt unternehmen, um den Anforderungen von Klimaschutz und Nachhaltigkeit in verschiedenen Politikbereichen Rechnung zu tragen. Auf der Grundlage eines Screenings von internationalen Politikdokumenten und Literatur lassen sich die folgenden politischen Ansätze für eine integrative Umsetzung der drei Agenden identifizieren:

► **Schaffung von kognitiven und analytischen Kapazitäten**: Politische Entscheidungsträger fördern die integrierte Umsetzung durch die Schaffung von kognitiven und analytischen Kapazitäten für die Politikintegration. In der Praxis umfasst dies vor allem die (Ex-ante- und Ex-post-)Analyse der Politikkohärenz und ein integriertes Monitoring. Diese Ansätze werden im Rahmen der Politikformulierung und -umsetzung angewandt.

► **Institutionelle Koordinierung**: Eine weitere gängige Methode zur Förderung der integrierten Umsetzung ist die institutionelle Koordinierung, z. B. durch zentralisierte Prozesse auf hoher politischer Ebene, ressortübergreifende Strukturen, die Einbeziehung der nationalen Parlamente, anderer Verwaltungsebenen und nichtstaatlicher Akteure. Die

institutionelle Koordinierung bezieht sich auf den Prozess der Politikgestaltung, nicht auf deren Ergebnisse.

► **Entwicklung gemeinsamer Strategien**: Häufig können auf der Grundlage der vorherigen Ansätze (Schaffung von Kapazitäten, institutionelle Koordinierung) gemeinsame Strategien entwickelt werden durch:

- Mainstreaming (Anpassung „by design") von SDGs, Klimaschutz und Katastrophenvorsorge in allen Politikbereichen und

- Nutzung von Politiken, die einen inhärenten Zusatznutzen („Co-Benefits") für andere Belange haben.

Die beobachteten Ansätze zur Integration der Umsetzung von SDGs und Pariser Abkommen führen in der Regel (bestenfalls) zu einer **Vermeidung von Widersprüchen** (Stufe 4 der Metcalfe-Metrik, s.o.). Auch ressortübergreifende Nachhaltigkeitsstrategien beinhalten in der Regel keine echte Suche nach Konsens, gemeinsamen Parametern oder Prioritäten, sondern basieren häufig auf der Umsetzung bereits vorab geplanter politischer Projekte. Generell haben politische Akteure Anreize, Co-Benefits zu nutzen, um Mehrheiten für politische Projekte zu finden. Bei Zielkonflikten werden Entscheidungen im politischen Prozess jedoch in der Regel vermieden und durch „**negative Koordination**" aufgelöst, d.h. durch die (bloße) Vermeidung von Konflikten mit den Interessen anderer Akteure. In zentralen Bereichen der Nachhaltigkeitspolitik, wie z.B. Ernährung, Mobilität, Stickstoffeinträge oder Biodiversitätsschutz, ist die Politik weit davon entfernt, gemeinsame Parameter und Prioritäten für alle Politikbereiche zu definieren, und es ist sogar schwierig, einen Konsens über konkrete Maßnahmen zu erzielen. Dies hat sich erst kürzlich bei der Reform der Gemeinsamen Agrarpolitik der EU gezeigt: Die Reform folgt weitgehend einer sektoralen Logik, anstatt übergreifende Nachhaltigkeitsziele zu berücksichtigen.

Gemeinsame Strategien lassen sich allenfalls für den Bereich des Klimaschutzes erkennen (nicht aber für die Anpassung oder andere SDG-Themenfelder): Klimaschutzziele werden auf die verschiedenen Sektoren und Ressorts heruntergebrochen. Das Beispiel des Klimaschutzes zeigt aber auch, dass einmal vereinbarte Ziele im Laufe der Umsetzung eher verwässert oder in Frage gestellt werden. Integrierte Politik und Querschnittsaufgaben erfordern eine robuste Institutionalisierung, die über die Vermeidung von Widersprüchen hinausgeht. Die Mechanismen zur Politikintegration allein reichen nicht aus: Die Politikgestaltung muss durch weitere Impulse („Triebkräfte") gestärkt werden.

In **Kapitel 4** schlagen wir vier **Triebkräfte** für eine vertiefte Integration vor:

► **Politische Führung**: In der Literatur zur Umweltpolitikintegration wird auf die Notwendigkeit hingewiesen, dass Umwelt- und Nachhaltigkeitsbelange von politischen Führungspersonen in den politischen Prozess eingebracht werden müssen. Dazu gehören die Regierungschefs, die Vorsitzenden der politischen Parteien, die die Regierungen bilden, oder die Regierungsfraktionen in den Parlamenten. Von diesen Führungspersönlichkeiten kann erwartet werden, dass sie gemeinsame Parameter oder Prioritäten setzen, die wiederum in politischen Prozessen umgesetzt werden.

► **Selbstbindung an Bürgerbeteiligung und deliberative Prozessen**: Deliberative Ansätze können ausgebaut und neue Formen der Beteiligung erprobt werden. Der irische Verfassungskonvent (2012-2014) ist ein Beispiel, das die Nachhaltigkeitspolitik inspiriert (z.B. der französische Bürgerkonvent für das Klima): Über die Konsultation hinaus kann die Beteiligung so gestaltet werden, dass zentrale Themen in Bürgerjurys diskutiert und beraten

werden. Die zufällige Auswahl ihrer Teilnehmer trägt zu einem nicht-hierarchischen Diskurs
bei.

► **Impulse aus Wissenschaft & Forschung**: Die Klimaschutz-Agenda wurde und wird in
erster Linie von der Wissenschaft vorangetrieben: Mit dem IPCC auf internationaler Ebene
und entsprechenden wissenschaftlichen Einrichtungen in vielen Ländern wurden
Referenzpunkte geschaffen, an denen sich die Politik messen lassen muss. Die Parameter für
die Klimapolitik (z.B. 1,5°C-Ziel, Emissionsbudgets, Reduktionsziele und -pfade) beruhen auf
Erkenntnissen und Ratschlägen der Wissenschaft.

► **Nachhaltige Finanzierung**: Auch die Finanzmärkte können die Nachfrage nach integrierten
Maßnahmen fördern. Wenn Finanzmarktakteure klimafreundlich und
nachhaltigkeitsorientiert investieren wollen, ist ein integrierter politischer Rahmen
notwendig, da er ein nachhaltigkeitsorientiertes Investitionsklima und ein angemessen
berechenbares Geschäftsumfeld unterstützt.

Diese Triebkräfte sind miteinander verknüpft: Politische Führung kann aus wissensbasierten
oder deliberativen Prozessen entstehen und diese wiederum ermöglichen. Wichtig ist, dass die
Triebkräfte die oben skizzierten integrativen Ansätze nicht ersetzen sollen, sondern sie vielmehr
unterstützen. Während integrative Prozesse für die Umsetzung und nachhaltige
Institutionalisierung unverzichtbar erscheinen, brauchen sie starke Impulse, um effektiv zur
Umsetzung der Klimaziele und der Nachhaltigkeitsagenda beizutragen.

Kapitel 5 kommt zu dem Schluss, dass eine stärker integrierte Umsetzung der drei Agenden von
2015 sowohl möglich als auch vorteilhaft. Es erfordert, spezifische Hindernisse zu überwinden.

Dieses Diskussionspapier basiert auf Teebken et al. (2021), einer umfassenderen Studie über die
integrative Umsetzung der 2030-Agenda, des Pariser Abkommens und des Sendai-
Rahmenwerks, die unter anderem Länderfallstudien enthält. Das Papier wird zudem ergänzt
durch zwei Texte über „nachhaltige Anpassungspfade" im Kontext der drei Agenden (Bueb et al.
2021; Bueb und Tröltzsch 2021).

1   Introduction

In 2015, three international agreements and policy agendas relevant for sustainable development were adopted. The **2030 Agenda for Sustainable Development** defines 17 Sustainable Development Goals (SDGs) and 169 targets. All UN member states are to achieve these goals by 2030. The 2030 Agenda encompasses a canon of goals ranging from the fight against hunger and poverty to climate protection, nature conservation, peace and justice. The Agenda's ambition is to 'leave no one behind'. The **Paris Agreement** (PA), adopted under the UN Framework Convention on Climate Change, for the first time commits both industrialized and developing countries to climate protection and adaptation to climate change. In concrete terms, it proposes holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C. Further, the PA aims to increase the ability to adapt to climate change and to make finance flows consistent with low-emission and climate-resilient development. The **Sendai-Framework for Disaster Risk Reduction** (SF) defines seven objectives and four priorities for action to reduce existing vulnerabilities to disaster risks, prevent new ones and strengthen the resilience of the population to natural or man-made hazards. These three 2015 agendas overlap and interact to a significant extent. The purpose of this paper is to discuss the challenges linked to such policy interaction, in particular when it comes to the shaping of transformations towards sustainability.

Further relevant international agreements and agendas promoting sustainable development include the Convention on Biological Diversity (CBD, 1992), the Convention on Combating Desertification (CCD, 1992), the Addis Ababa Action Agenda (AAA, 2015), and the New Urban Agenda (2016). In the following, we focus on interaction between the 2030 Agenda, the Paris Agreement and Sendai Framework all of which necessitate transformative change.

Policy agendas can interact at the level of their objectives; at the level of implementation measures; and at the level of impacts resulting from these measures. Such interactions can have different consequences. In a best-case scenario, the objectives, implementation measures and impacts of one agenda reinforce those of another policy agenda. In the worst case, they weaken or even undermine them. In any case, implementation of parallel and interacting agendas requires political attention and institutional capacities in dealing with the respective interactions and complexities. The 2030 Agenda as an overarching and multi-issue policy agenda which includes a broad set of policy objectives alone requires coordination and coordinated priority-setting within typically 'siloed' administrations that often function largely separately.

To date, **implementation** of these different agendas lags behind. **Goal achievement** is limited and neither compatible with a 1.5°C pathway nor on track in achieving most of the 169 SDG targets. In the areas of inequality, climate change, biodiversity loss and waste generation, the trend is even going into the wrong direction (IGS 2019; UN ESC 2020). With regard to the Paris Agreement, the Emissions Gap Report 2020 shows that global greenhouse gas emissions continue to rise. Even high-level UN events such as the Climate Action Summit 2019 and the SDG Summit 2019 have so far been able to generate only limited increases in ambition, and only few of the Nationally Determined Contributions (NDCs) to the Paris Agreement or the Voluntary National Reviews (VNR) of the SDGs have the potential to trigger transformative change (Climate Action Tracker 2021; Climate Transparency 2020).

While the Sendai Framework is increasingly being translated into national disaster risk reduction strategies, there are enormous further challenges about adequate risk mitigation, response and transfer mechanisms, not least because of severe inequalities between richer and poorer countries and the advance of climate change (UNDRR 2019; Bueb et al. 2021).

Against this backdrop, discussions centre on whether the goal achievement can be improved by **implementing the overlapping policy agendas in a more integrated, better coordinated way**. This could provide opportunities for exploiting the synergies between and mutual "co-benefits" of different policies. There has been a long-standing research interest in integrated policy approaches (for an overview see Teebken et al. 2021) and the linkages of sustainability-relevant policy fields are recognised (e.g., "nexus approaches"). Nevertheless, the practical integration of the different policy processes on sustainable development, climate change mitigation and adaptation within political institutions and strategies is not yet meeting such expectations, among others in Germany (e.g., Terton 2021; Scholz et al. 2016; EEA 2020, p. 44).

The challenges of integrated implementation, however, are interlinked with an additional challenge: the **call for transformative change**. The 2030 Agenda, the Paris Agreement and the Sendai Framework all define a need for transformative change that reaches beyond incremental approaches. This means that policy integration increasingly needs to consider the conditions for transformative change. Shaping transformation is a complex challenge in itself, and particularly societal systems that are being intentionally transformed create path dependencies. Non-integrated approaches bear a high risk of establishing structures that will durably conflict with core goals of one of the 2015 agendas.

Finally, the **Covid-19 pandemic** represents another constraint: the economic effects of the pandemic threaten to weaken financial, societal and institutional capacities for dealing with integrated implementation and transformative change – though they might also help curbing some non-sustainable practices (e.g., air travel) and strengthening some more sustainable practices (e.g., local community support).The Covid Recovery Programme of the EU alone amounts to EUR 806.9 billion [2], an amount that potentially represents both a burden on tomorrow's finances and an opportunity to implement the European Green Deal with vigour. In any case, an integrative implementation of the transformative agendas needs to be linked to the call for "Building back better".

In the following, we first discuss some conceptual questions – how policy agendas interact, how to understand and measure integrated implementation, what we mean by transformative change and how the implementation of transformative agendas can be integrated (Chapter 2). These conceptual reflections are contrasted with the empirical results of a document screening of how countries to date deal with overlap, inconsistencies and synergies between different international agendas when implementing these domestically (Chapter 3). We discuss the achievements, gaps and deficits with regard to the empirical findings. Observing that integrated implementation to date often fails to achieve deeper levels of integration, we suggest four drivers that may help to overcome the diagnosed gaps and deficits (Chapter 4): political leadership, civic participation, science and sustainable finance. In Chapter 5, we conclude that a more integrated implementation of the three 2015 agendas is both expedient and possible but requires a more determined tackling of trade-offs and development of joint strategies.

This discussion paper is an output of the project „Joint implementation of the 2030 Agenda / SDGs and the Paris Agreement"[3]. It builds on and draws from a related analytic and conceptual paper that provides insights on an integrated implementation of the 2030 Agenda, the Paris Agreement and the Sendai Framework in greater depth, including through country case studies (Teebken et al. 2021). The discussion and conceptual papers in turn are complemented by two

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[2] through the "NextGenerationEU" instrument, cf. https://op.europa.eu/en/publication-detail/-/publication/d3e77637-a963-11eb-9585-01aa75ed71a1/language-de

[3] "Gemeinsame Umsetzung der 2030-Agenda / SDGs und des Pariser Abkommens" (FKZ 3719 18 105 0), commissioned by the German Environment Agency (Umweltbundesamt).

further texts resulting from the same project which focus on "sustainable adaptation pathways" in the context of the three agendas (Bueb et al. 2021; Bueb und Tröltzsch 2021).

2   Conceptual aspects

2.1   Interaction between policy agendas

Policy agendas are documents through which policy-makers commit to a multitude of policy goals, rather than to individual goals. The 2030 Agenda with its 17 goals and 169 targets represents a particularly complex multi-issue agenda. The greater amount of issues and policy goals leads to a greater number of interlinkages with goals from other agendas, and even within one agenda, interaction between goals can occur. The interaction of policy agendas is hence a more complex process than the mere integration of, for instance, 'environmental concerns' into agricultural policy ('comprehensive, multi-dimensional vs. 'simple', one-dimensional integration).

Policy agendas can **interact at different levels** – at the level of objectives, implementation measures, and at the level of impacts:

► **Objectives**: The 2030 Agenda includes the objectives of climate mitigation and adaptation (SDG 13) and of disaster risk reduction (SDG 11.b), thus reflecting the goals of the Paris Agreement and the Sendai Framework. The Paris Agreement, in turn, aims to strengthen the response to the threat of climate change "in the context of sustainable development and efforts to eradicate poverty" (Art. 2 PA). It also stipulates how to deal with loss and damage caused by climate change and extreme weather events (Art. 8 PA), thus touching on the objectives of the Sendai Framework. Some of the objectives of the respective agendas may conflict with each other. An example is SDG 8 on sustainable economic growth: measures promoting economic growth are likely to consume energy and resources, thus conflicting with climate mitigation and biodiversity conservation (SDG 13, 15).[4]

► **Implementation measures**: Measures to achieve climate mitigation, climate adaptation and disaster risk reduction can be designed in such a way that they simultaneously promote other (non-climate-related) SDGs, or that they make it more difficult to achieve these. The latter is assumed, for instance, for the approach 'bioenergy with carbon capture and storage' (e.g., Creutzig et al. 2021), the former for reducing deforestation (e.g., Harvey et al. 2010) or introducing agro-forestry (e.g., Verchot et al. 2005). On the other hand, implementing measures (non-climate-related) SDGs may be more or less climate-friendly, biodiversity-conserving and adaptation-promoting (e.g. measures for sustainable economic growth or food security).

► **Impact**: Achieving the objectives of the Paris Agreement is considered simply not possible without taking sustainability aspects (and thus the SDGs) into account (IPCC 2018; UNEP 2019b) – education and peace, for example, are key prerequisites for the success of efforts to protect the climate and biodiversity. Conversely, a progression of climate change and its catastrophic impacts will make it more difficult to achieve SDGs such as the conservation of biodiversity or the fight against hunger and poverty. On the other hand, it is estimated that roughly a third of the net reductions in greenhouse gas emissions that are required to meet the Paris Agreement's goals could come from 'nature-based solutions' which also contribute to biodiversity conservation (SCBD 2020). Building resilience to climate change and climate variability helps ensuring that people remain out of poverty and that basic services are

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[4] For the macroeconomic debate on the relation between growth and environmental degradation (which differs according to emissions / types of environmental degradation), see, for instance, Uddin (2021); Marques et al. (2019); Stern (2017); Özokcu und Özdemir (2017); or Dietz und Adger (2003). While a number of pollutants are reduced when countries achieve higher economic income levels (environmental Kuznets hypothesis), evidence suggests that this does not hold for CO_2 emissions or biodiversity. Resource use and lacking resource efficiency also imply greenhouse gas emissions (IRP (2020)).

stable (SDG Target 1.5) (UN-Water 2016). Built infrastructure like dikes and sea walls can prevent coastal flooding as well as related mortalities and socio-economic impacts but they can also incur high costs in the present and future and fail to provide synergistic benefits which natural infrastructures like coastal mangroves do, such as fish nurseries or recreational opportunities (IPBES 2019).

What are the **consequences** of such interactions? Interventions to achieve one objective can cause underachievement or failure in achieving others, either in the short term or in the long run. On the other hand, a successful intervention to further one objective can create synergies promoting progress on others and tap co-benefits. A heuristic developed by Nilsson, Greggs & Visbeck (2016) expands on possible consequences **at the level of impacts**. In the case of positive interactions, progress in one objective can create conditions that enable progress on another ("enabling interaction", +1); can make it easier to make progress on another ("reinforcing interaction", +2); or can automatically deliver progress on another ("indivisible interaction", +3). In the case of negative interactions, progress on one objective can constrain the options for how to deliver on another ("constraining interaction", -1); can make it more difficult to make progress on another ("counteracting interaction", -2); or can automatically lead to a negative impact on another ("cancelling interaction", -3). There is also the possibility that there is no significant link between two targets' progress ("consistent interaction", 0). Table 1 provides examples from Nilsson, Griggs & Visbeck (2016, p. 321).

While the heuristic was developed to catch interactions between SDGs (applied, for instance, by Pham-Truffert et al. 2020 as input into the Global Sustainable Development Report 2019), it can also be applied interactions between SDGs and other policy agendas: interactions between a specific SDG and the goals of the Paris Agreement could also be rated as indivisible, reinforcing, constraining etc. (see also Chapter 2.3.5).

Table 1: Scale of positive and negative policy interactions

Interaction		Description	Example
+3	Indivisible	Progress on one target automatically delivers progress on another	Ending all forms of discrimination against women and girls is indivisible from ensuring women's full and effective participation and equal opportunities for leadership.
+2	Reinforcing	Progress on one target makes it easier to make progress on another	Providing access to electricity reinforces water-pumping and irrigation systems. Strengthening the capacity to adapt to climate-related hazards reduces losses caused by disasters.
+1	Enabling	Progress on one target creates conditions that enable progress on another	Providing electricity access in rural homes enables education, because it makes it possible to do homework at night with electric lighting.
0	Consistent	There is no significant link between two targets' progress	Ensuring education for all does not interact significantly with infrastructure development or conservation of ocean ecosystems.
-1	Constraining	Progress on one target constrains the options for how to deliver on another	Improved water efficiency can constrain agricultural irrigation. Reducing climate change can constrain the options for energy access.

	Interaction	Description	Example
-2	Counteracting	Progress on one target makes it more difficult to make progress on another	Boosting consumption for growth can counteract waste reduction and climate mitigation.
-3	Cancelling	Progress on one target automatically leads to a negative impact on another	Fully ensuring public transparency and democratic accountability cannot be combined with national-security goals. Full protection of natural reserves excludes public access for recreation.

Source: Nilsson et al. (2018, p. 1492) combined with Nilsson, Griggs & Visbeck (2016, p. 321)-

It is important to keep in mind that the design of **implementation measures** is crucial for the effect of interactions at the impact level (Wolff et al. 2016). Take the above example of a 'counteracting' (score -2) interaction – 'Boosting consumption for growth can counteract waste reduction and climate mitigation': while promoting growth will likely increase resource use and greenhouse gas emissions,[5] implementation measures could potentially be designed in a way so that they decouple economic growth in absolute terms from resource and energy consumption. Also, if the consumed energy is from renewable sources, the interaction may in fact be 'consistent' (score 0). The goal operationalisation and manner of implementation profoundly affects whether and to what degree specific policy goals/ targets are consistent or synergetic.

2.2 Transformative change

'Transformations' (or 'transitions') describe change beyond 'business as usual' and beyond incremental decision-making which perpetuates economically, socially and environmentally unsustainable policy choices (Brand et al. 2021, p. 108). **'Transformative change'** refers to fundamental shifts in development trajectories (Gibson et al. 2016). More specifically, we mean fundamental change within (smaller and larger) sociotechnical and socio-economic systems. Such systems serve the fulfilment of societal needs (e.g. for food, mobility, or communication) and their functioning has ecological impacts: ,How we eat, travel, or communicate as well as what environmental burdens this entails is influenced by the range of products on offer, existing infrastructures and technologies, market and power relations, societal norms and practices, and time constraints' (Wolff et al. 2020, p. 5; cf. Jacob et al. 2020). Transformative change is systematic change, i.e., the co-evolutionary change of a whole range of 'system elements': products, technologies, markets, financial institutions, practices, norms and values, institutions, regulatory and bureaucratic regimes etc.

There exist two somewhat contrasting views on what are the root causes or **'modes' of transformative change**. One perspective puts emphasis on **bottom-up** change: transformative change starts from small scale (often social) innovation which is gradually scaled up in niches and ultimately challenges established regimes. This perspective stresses the importance of civil society, communities and small business. The other perspective is more **top-down** and strategic: actors try to envisage an alternative system configuration from the very beginning, e.g. organic agriculture, renewable energy, battery electric cars, etc. Transformative change here is conceptualised as a 'Wende'. The focus is more on established structures and actors. The two modes provide different 'performances' such as producing vs. mainstreaming innovation.

While there are some overlaps, and both perspectives can be complementary (and may even "need" each other), the implications for the governance of transformations are different. The

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[5] Cf. Footnote 4.

bottom-up perspective focusses more on enabling (social) innovation, providing time and space for small scale actors and strengthening of societal trends. The Wende-policies emphasise the need for integrated policies across policy domains and levels. This approach is more demanding in terms of capacities.

But how can **transformative change** be **shaped and promoted**? A core characteristic of transformations is that they are complex, uncertain and involve unexpected dynamics. These dynamics result, among others, from co-evolution *within* socio-technical systems (e.g. technologies and habits, markets and societal values) or from the co-evolution *between* socio-technical systems (e.g., the energy and food systems both changed when 'bioenergy' gained ground). Transformations hence cannot be predicted or managed in greater detail; they inevitably include uncertainty, trial and error, misguided development as well as dead ends. New forms of governance can help guide and accelerate change towards desired future states. Participation in the development of long-term visions, goals and transformation paths also help shaping transformative change. Transformations on the one hand require pathways towards these visions and goals – supported, for instance, though participatory and transdisciplinary research (including systemic analyses of transformation challenges); through the greening of existing trends; through experiments as well as technological, societal and institutional innovations (selectively upscaled by means of 'strategic niche management').

However, transformations also require the phase-out of existing, non-sustainable structures ('exnovation'). They hence necessarily include the destabilization and breakdown of former structures and path dependencies, while future pathways and directions may yet be unclear. As a result, they provoke resistance by incumbents of the previous system ('regime actors'). Such resistance may can be overcome by long-term planning (with adaptive adjustments over time) and an only gradual increase of regulatory or economic 'burdens' on such actors; by knowledge exchange and coalition building with new actors ('pioneers') as well as including traditional actors in new ways.

Also, transformations require adjustments and habituation within the whole of society. These can profit from illustrative communication, from the proof that alternatives are possible and desirable, and from civic participation in the governance of transformations (Geels et al. 2016; Berkers und Geels 2011; Kemp; Loorbach 2003; Kemp and Rotmans 2005; Jacob et al. 2020; Wolff et al. 2020; Heyen 2019; Heyen et al. 2020; Leuser und Weiß 2020). The European Environment Agency (EEA 2019) makes a case for integrated and coherent policy making to strategically use these approaches for sustainability transitions. In the following, we stick to this (top-down) understanding and explore the opportunities and constrains of integration for sustainability transformations. (A governance approach which would mainly focus on bottom-up transformation could be more sectoral, even in competition, experimental and incremental. While this is less demanding with regard to administrative capacities for integration, there is a higher risk of having too little momentum for actual transformation.)

The international agendas are not specific in terms of the modes of transformation. However, they all emphasise the need for transformation. In particular, the **2030 Agenda** (itself titled 'Transforming our world') recognises the need for transformative change. According to the 2030 Agenda, governments are 'determined to take the bold and transformative steps which are urgently needed to shift the world on to a sustainable and resilient path.' The Agenda's vision and goals are described as 'transformative', too. While the Paris Agreement and the Sendai Framework do not explicitly mention that 'transformation' is a goal for them, the need for transformative change can be deduced from the two documents' stated objectives.

In the case of the **Paris Agreement**, this is a strengthened 'global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty' (Art. 2.1 PA). Within the UNFCCC, it is recognised that both decarbonisation ('transformation/transition towards low-carbon economies') and adaptation require the transformation of global production structures (across multiple sectors) and of consumption patterns and practices.[6] In its '1,5 ° Report', the IPCC states that 'Sustainable development supports, and often enables, the fundamental societal and systems transitions and transformations that help limit global warming to 1.5°C' (IPCC 2018, p. 22). The IPCC also recognizes that 'Pathways limiting global warming to 1.5°C with no or limited overshoot would require rapid and far-reaching transitions in energy, land, urban and infrastructure (including transport and buildings), and industrial systems (high confidence). These systems transitions are unprecedented in terms of scale, but not necessarily in terms of speed (…) (IPCC 2018, p. 15).

The **Sendai Framework** does not explicitly mention the need for transformation either. However, the Strategic Framework 2022-2025 of the United Nations Office for Disaster Risk Reduction (UNDRR) takes up the notion.[7] Moreover, the goal of the Sendai Framework implies the need for transformation – in the sense of far reaching change in a variety of interwoven system elements: the Framework calls for a 'substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries' (§ 16 SF). While some of the small- and large-scale, sudden and slow-onset, natural and man-made disasters addressed by the Sendai Framework may be preventable by adjustments to current activities and incremental measures, the prevention of other disasters and their underlying drivers require transformative change in the sense described above. Examples include disasters resulting from the impacts of climate change, the slow-onset effects of eroding biodiversity, and the consequences of poverty and inequality. The relation between disaster risk reduction and transformation has increasingly been broached, both politically an academically (IRDR 2014; IPCC 2012; Gibson et al. 2016; Matyas und Pelling 2015; Paton und Buergelt 2019).

2.3   Integrating the implementation of (transformative) policy agendas

In the following, we broach the subject of 'integrated implementation' of policy agendas by discussing the following questions:

► How can we understand and measure integrated implementation of policy agendas?

► What entry points exist for integrated implementation?

► What are the costs and benefits of integrated implementation?

► How can an integrated implementation of multiple & transformative agendas succeed?

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[6] In the words of the UNFCCC Executive Secretary, Patricia Espinosa: 'The Paris Agreement is a bold statement by the international community under the United Nations to transform the global economy. The goals enshrined in the agreement will only be achieved if we limit the impact that our power generation, production methods, agriculture and consumption patterns have on the climate system. (…) This transformation must be achieved over time but also in time. Policies need to be put in place now. Technologies need to be developed, matured, and deployed at scale. The practices and behaviors of all economic actors need to move ever faster toward low-emission and sustainable business and investment models', cf. https://unfccc.int/news/we-need-long-term-strategies-to-meet-the-climate-challenge, 12/04/2018.

[7] "If we persist with a 'business as usual' approach we will not meet the goal and global targets of the Sendai Framework and the interdependent goals of Agenda 2030. … We must commit to accelerating and transforming. … We believe that radical transformation is needed" (UNDRR (2021).

► What level of integrated implementation is required to enable transformative change?

2.3.1 How can we understand and measure integrated implementation of policy agendas?

Integration – more specifically: integrated implementation of different policy agendas – can be seen as "a coordination problem, where various actors must work together to deliver outcomes and eliminate redundancies or gaps in services" (UNFCCC Secretariat 2017).

To better understand and measure integrated implementation, we suggest using a metric developed by Metcalfe (1994) to measure policy co-ordination within governments. It describes the **degree of co-ordination between administrative entities on nine levels** (see also UN DESA und CEPA 2021, p. 8), with the levels not necessarily being achieved in a linear fashion:

► L1 - Independent decisions
Departments make their decisions completely independently of each other;

► L2 - Exchange of information:
Departments inform each other about their decisions (communication);

► L3 - Consultations between ministries:
Ministries seek the opinion of other ministries on planned decisions (feedback);

► L4 - Avoidance of contradictions:
For political decisions and their justifications, contradictions are avoided (speaking with one voice);

► L5 - Searching for consensus:
For political decisions, consensus is sought (conflict management);

► L6 - Mediation of conflicts:
In order to resolve conflicts, ministries commit themselves to dispute resolution mechanisms and recognize the decisions of these mechanisms as binding;

► L7 - Establishment of common parameters:
Departments agree on common goals;

► L8 - Agreement on common priorities:
The goals are prioritized together;

► L9 - Common strategies:
In order to achieve the goals, joint programmes and processes for their implementation are agreed upon.

The scale is ordinal, with the nine levels being qualitative and building cumulatively on each other.

Policy co-ordination in German

The levels suggested by Metcalfe can be applied both for policy evaluation as well as for evaluation of political systems. Analysing the co-ordination capacities of different EU countries, Metcalfe observes that Germany scores low (4) compared to, for instance, the UK or Denmark (8): 'Its combination of coalition government, the constitutional independence of ministries and the greater complexity of co-ordination in a federal system makes it difficult even to ensure speaking with one voice' (Metcalfe 1994, p. 285).

While this analysis is over twenty years old, the identified structural causes for low policy co-ordination have not significantly changed since the study was conducted. It can thus be assumed that the findings remain relevant. The difficulties of policy-coordination in Germany are confirmed by more recent studies looking into German SDG implementation (Scholz et al. 2016), joint implementation of SDGs, climate adaptation and disaster risk management (Terton 2021) as well as our own cursory analysis of joint implementation of the SDGs and climate mitigation (in Teebken et al. 2021).

Based on Metcalfe's metric, we can determine that the integrated implementation of international policy agendas can range from shallow to deep co-ordination, from communication and consultation via joint decision-making to arbitration.

2.3.2   What entry points exist for integrated implementation?

Conceptually, we can differentiate different entry points for analysing as well as shaping the integrated implementation of international policy agendas. Such entry points include:

► the thematic **issues** included into integrated implementation (resulting from the international policy **agendas** in question); we focus on the sustainable development issues resulting from the 2030 Agenda, climate mitigation and adaptation (Paris Agreement) and disaster risk reduction (Sendai Framework)

► the **administrative level** on which the implementation of policy agendas is to be integrated: the international, national or sub-national level

► **outputs** of integrated implementation (e.g., changes to goals, instruments, strategies and legislation, projects, processes, organisational decisions etc.)

► **governance mechanisms** involved in integrated implementation (e.g., knowledge, money, participation, rules, competences, leadership etc.)

► **dimensions** of policymaking – integrated implementation can relate to the material content and goals (**policy**) of policy-making; to strategies, processes and conflicts (**politics**); and to the institutional and organisational infrastructures of policy-making (**polity**)

► phases of the **policy cycle**: the integrated implementation of different policy agendas can take place during policy formulation, policy implementation as well as policy monitoring & evaluation.

The different conceptual entry points are visualised in the below figure.

Figure 1: Entry points for integrated policymaking
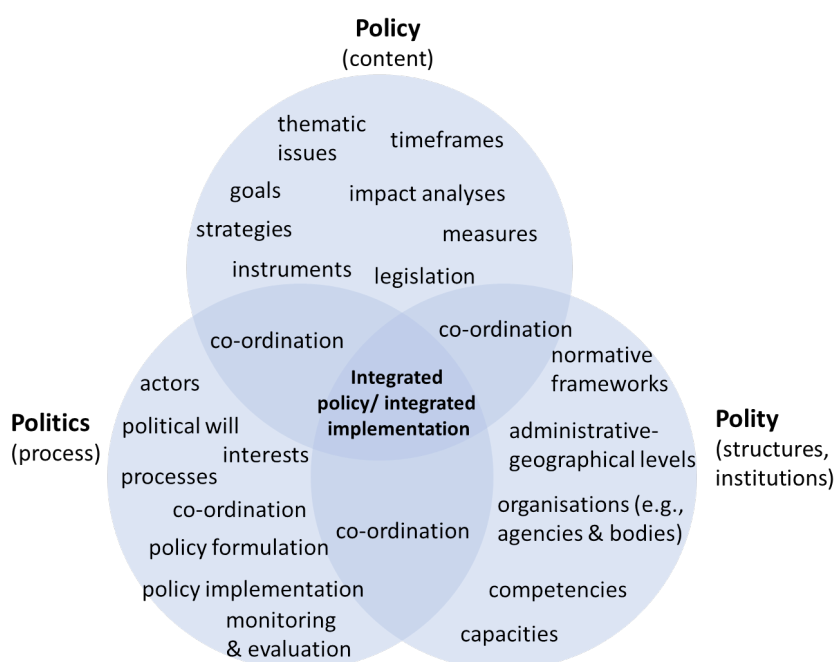
Source: own (Öko-Institut).

How do these **conceptual** entry points relate to **empirical** findings on policy integration? While we will look into this question with regard to the integration of the Paris Agreement, the 2030 Agenda and the Sendai Framework in Chapter 3, we can already cite some empirical insights from existing environmental policy integration. Here, literature points identifies the following factors (or "**pillars**") to be supportive of policy integration: the setting of a normative frame that guides policy integration (which forms part of the "polity"-dimension); political will that drives forward integration (i.e., politics); the creation of cognitive and analytical capacities to process the integration necessities (polity); and the creation of institutional (organizational, procedural) arrangements to actually co-ordinate among policy-makers (again, polity; for an overview, cf. Nilsson & Persson, 2017).

2.3.3   What are the costs and benefits of integrated implementation?

Integrated implementation comes along with benefits, but also with transaction costs. These differ in accordance with the nine levels of co-ordination or integration.

In terms of **benefits**, the co-ordination linked to integrated implementation can prevent that externalities (i.e. costs for others) emerge (in the case of 'negative co-ordination') and ideally enable the creation of welfare effects and genuine problem-solving (in the case of 'positive co-ordination') (Scharpf 1993). To the extent that synergies are exploited, trade-offs are mitigated and duplication is avoided, integrated implementation is more effective and potentially more efficient than non-integrated implementation. Furthermore, integrated implementation makes possible (and requires) priority setting. As a result, co-ordination ,enables the whole to perform better than the sum of the parts (…)' (Metcalfe 1994: 278).

In terms of transaction **costs**, the co-ordination linked to integrated implementation is more time- and conflict intense than not coordinating policy implementation, is more cumbersome to prepare and has longer payback cycles. Integrated implementation often needs to grapple with dissonant political cycles and budget time horizons. Also, it is more difficult to 'sell' to stakeholders, the public, media as well as internal accountability systems (Nilsson und Persson

2017, p. 38), among others because impact and effectiveness are difficult to measure. Finally, existing bureaucratic practices and routines are uprooted and bureaucratic entities lose their previous control, influence or autonomy (UN DESA und CEPA 2021). Accountability gets blurred and priorities may get diluted (ibid). Generally, 'Co-ordination is always precarious because the organizational division of labour, reinforced by professional specialization, political demands and bureaucratic self-interest, engenders centrifugal tendencies' (Metcalfe 1994, p. 278).

2.3.4   How can an integrated implementation of multiple & transformative agendas succeed?

The integrated implementation of complex agendas with other agendas, all of them with transformative claims, requires an integration that is both 'wide' and 'deep':

► **'wide'** with regard to scope: integrating the above list of international policy agendas covers an extremely broad spectrum of sustainability objectives, which again are related to a wide variety of socio-technical systems and their elements that require change.

► **'deep'** with regard to achieving deeper levels of integration and thus being able to address in a transformative way the root causes the environmental and sustainability problems at the core of the international agendas.

There are some lessons that can be learned from environmental policy integration (EPI) research (Nilsson und Persson 2017). Environmental policy integration is commonly held to require a 'normative framework guiding it, the political will to implement it, cognitive and analytical capacities, and the institutional (organizational and procedural) arrangements' (ibid, p. 36). However, unlike in the case of environmental policy integration, integrated implementation of *multiple* (and multiple-issue) agendas requires not 'only' to take up environmental concerns in other sectoral policies but to reciprocally take up concerns relating to other sustainability objectives in all other policy fields. Moreover, implementation of *transformative* policy agendas requires taking into account the lessons from transformation and transition research.

This entails some adjustments to the previous lessons of EPI, both with regard to 'width' and 'depth' of integration. The following suggestions are based on Nilsson and Persson's 2017 (p. 37-38) reflection of **pillars** of (environmental) policy integration, supplemented by own ideas relating to the transformative nature of the policy agendas in question (i.e., 'depth'):

A normative framework to guide policy integration: In EPI, normative frameworks such as constitutional or legal requirements are called for to give environmental concerns 'principled priority' in the formation and implementation of policies (Lafferty und Hovden 2003). In the context of the SDGs – which are to be treated as an 'indivisible whole' (UN 2015)– such a principled priority of environmental concerns is not justified. Rather, different objectives need to be harmonised and treated on equal terms across the government. At a minimum level, this means that contradictory sectoral policies and negative spill-over effects from sectoral policies are avoided (OECD 2017), or that the achievement of (actually or allegedly) competing concerns is weakened or delayed. However, implementing transformative agendas requires more than such negative co-ordination – namely, the search for consensus, the genuinely joint prioritisation of intermediate targets and the joint implementation of the measures for achieving these goals ('positive co-ordination', scale L5-L9 of Metcalfe's metric). This requires addressing trade-offs, such as between existing jobs and the 'exnovation' of unsustainable technologies/ industries (e.g., coal-fired generation) or between welfare policies and the ecological footprints that come with increased welfare. Politically charged decisions relating to 'big points' (Bilharz

2007) of sustainable development need to be addressed, too. It is not enough to focus on 'low-hanging fruit' and on politically opportune goals and measures. Finally, the long-term considerations inherent in the policy agendas need to be taken care of.

Political will to implement policy integration: In EPI, the call for political will is based on the observation that traditionally less-prioritised environmental concerns tend to be fought by powerful incumbents in the sectors in which they should be mainstreamed, and therefore need extra support by policy-makers. Contrary to this, the SDGs at least partly cover policy objectives that have traditionally been prioritised by governments (e.g., economic growth, jobs). The need for political will here refers more to integrating the international objectives into pre-existing domestic policy frameworks, to addressing negative impacts on interlinked goals and to following up lacking implementation. Also, political will is necessary when it comes to finding consensus, to prioritising and dealing with trade-offs as well as attending to long-term considerations.

Cognitive and analytical capacities to allow for integration: To promote integration, EPI calls for systems thinking and tools such as strategic environmental assessments. The integrative implementation of *multiple* agendas requires broader and more complex analyses of the interactions resulting from implementation, e.g. through integrated modelling. As a consequence, other tools are necessary (e.g., coherence analysis across multiple goal dimensions, e.g. ICSU 2017). Moreover, implementing *transformative* agendas includes a more systemic analysis of implementation challenges and the use of transdisciplinary forms of knowledge-generation (Grießhammer und Brohmann 2015).

Institutional arrangements to implement integration: An important part of EPI is the procedural preconditions and organizational forms (e.g. cross-ministerial/departmental consultations, working groups etc.) for co-ordinating the parallel policy claims of multiple agendas. When discussing policy integration beyond the realm of environmental policy, as in the case of multiple-issue agendas, another ministry (beyond the environmental ministry), a group of key ministries or even a centralised entity such as the Prime Minister's or President's Office may be more adequate to co-ordinate processes. National Parliaments should be involved, too, and public budgets and spending should come under scrutiny as well. Lessons from transformation research further tell us that co-operation with non-state actors at all levels are indispensable (Weiland et al. 2021) for gaining legitimacy and acceptance as well as tapping actor knowledge and implementation resources. Such cooperation can also cover deliberative approaches in which citizens are included in the prioritisation and localisation related to the integrated implementation of policy agendas.

The above listed requirements for integrated approaches are not only relevant for the coordination of policies, but for taking decisions on trade-offs and possible conflicts: implementation of transformative agendas implies not only conflict with prevailing structures, but also between and within the agendas. For achieving the required high level of co-ordination (going beyond the exploitation of win-win situations), conflict resolution is required.

2.3.5 What level of integrated implementation is required to enable transformative change?

Another conceptually relevant question is what level of policy co-ordination is necessary to meet the transformative demands of the above agendas. Co-ordination is understood as 'a response to interdependence', and it 'provides the means of managing interdependence'. That is, when policy domains or issues are highly interlinked, there is a higher need for co-ordination between the responsible administrations than in case of low interdependence (Metcalfe 1994, p. 279).

With regard to our international policy agendas, this implies: where interlinkages are stronger, 'deeper' policy co-ordination and more integrated implementation is required to achieve satisfying outcomes. The level of integrated implementation (based on Metcalfe's metric) can thus be linked with the scales for policy interactions as developed by Nilsson et al. (2018) and as laid out in Table 1 above. The scale ranges from +3 ("indivisible interaction", where achievement of one objective automatically delivers progress on another), via +2, +1, 0, -1, -2 to -3 ("cancelling interaction", achievement of one objective automatically leads to a negative impact on another). In particular, the higher the negative value – i.e., the higher the potential for severe trade-offs –, the higher the need for deep co-ordination. The same can, but need not necessarily, hold true for positive values / synergies. When objectives and specifically their implementation policies are synergetic anyway, no deep co-ordination is required.

3 Identified approaches for an integrative implementation of sustainability agendas

In the following, we present approaches and examples identified in the document and literature review we conducted. We analysed documents from meetings of the High-Level Political Forum (HLPF) in July 2019 and July 2020, from the 'SDG Summit' and the 'Climate Action Summit' (September 2019). This included documents from the UN, UN regions and key stakeholders from academia and civil society as well as Voluntary National Reviews (VNRs).[8] In addition, we screened global assessments such as the 'Global Assessment Report on Disaster Risk Reduction' (UNDRR 2019), the 'Global Sustainable Development Report' (IGS 2019) and the 'Global Environmental Outlook 6' (UNEP 2019). Finally, we covered documents relating to the 'UN Climate and SDGs Synergy Conference' (April 2019, Copenhagen) (UN DESA; United Nations Climate Change 2019) and thematically relevant reports from UN agencies (e.g., the 'Climate Promise Progress Report', UNDP 2020; UNFCCC Secretariat 2017; UN DESA und CEPA 2021), development cooperation organisations (Bouyé et al. 2018; SIDA 2017b), collections of so called ‚nexus tools‘ (SDG Climate Action Nexus tool[9], SCAN-tool[10], NDC-SDG Connections overview[11]) and scholarly literature.

The most integrative approaches we could identify relate to integrating the implementation of the 2030 Agenda and the Paris Agreement. Some of the approaches, however, can be applied to other overlapping policy agendas, too.

The following description of identified approaches is a short version of the elaborations in Teebken et al. (2021). Note that the list of examples is non-exclusive – there may be further relevant examples of the approaches. Also, based on our analysis, we cannot be certain that we have captured 'good practice' and whether the implementation is actually effective. We therefore present *potentially relevant* cases.

We structure the approaches partly in accordance with the "pillars" of environmental policy integration identified in the empirical literature ('capacity creation', 'institutional coordination', cf. Chapter 2), but add an additional approach which we identified empirically but did not see sufficiently captured in the literature ('joint strategies'). On the basis of the screened documents, we could find no evidence on the other pillars of (environmental) policy integration, namely normative frameworks and political will[12]:

1. **Creation of cognitive and analytical capacities:** Policymakers promote integrated implementation through creating cognitive and analytical capacities for policy integration. In practice this includes, above all, the (ex ante and ex post) analysis of policy coherence and integrated monitoring. These approaches are employed in the context of policy formulation and implementation.

2. **Institutional coordination**: Another common way of promoting integrated implementation is institutional coordination, for instance through centralized high-level processes, cross-ministerial structures, involvement of national parliaments, other administrative levels and non-state actors. Institutional coordination addresses the *process* of policymaking, not its

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[8] We only analysed VNRs that were submitted in English language.

[9] https://ambitiontoaction.net/scan_tool/

[10] https://www.transparency-partnership.net/documents-tools/sdg-climate-action-nexus-tool-scan-tool

[11] https://klimalog.die-gdi.de/ndc-sdg/

[12] This does not necessarily mean that countries do not use such normative frameworks (which may be at a relatively abstract level) or that policy-makers do not have political will, but only that we could not identity them through the methods we employed.

outputs. The depth of institutional coordination can be assessed along the nine levels described by Metcalfe (1994) (cf. Chapter 2.3).

3. **Development of joint strategies**: Frequently based on the previous approaches (capacity creation, institutional coordination), two different types of joint strategies can be developed by

   a. mainstreaming (aligning 'by design') SDG implementation, climate action and disaster risk reduction;

   b. designing policies that have inherent co-benefits for other concerns (e.g., "nature-based solutions" for mitigating climate change that are inherently beneficial for both the climate and biodiversity).

3.1 Creation of cognitive and analytical capacities

Our data shows that policymakers promote the creation (or strengthening) of cognitive and analytic capacities for dealing with policy interactions, above all, through coherence analysis and integrated monitoring. In an early stage of policy-making, the '**ex ante' assessment of policy coherence** can help identify where actual or potential trade-offs and synergies exist between the national level plans for implementing two or more international agendas (prior to their implementation). Such assessments typically take the form of reviews of policy alignment[13] and of budgetary alignment which can form the basis for deciding which trade-offs should be tackled or which synergies will be tapped. This analysis then needs to form the basis for deciding which trade-offs should be tackled or which synergies will be tapped. When at least one of the agendas has already been implemented at national level, an 'accompanying' or ex post **evaluation** can give indications where the implementation efforts should be re-adjusted. Finally, **integrated monitoring** is the indicator-based collection of data related to the implementation of policy agendas and which pays attention to different thematic areas and their interlinkages. Monitoring enables to react flexibly if the implementation of complex agendas has created adjustments in the behavior of target groups or other non-expected effects that impede the agendas' implementation.

In our analysis, we found evidence on the following more specific measures:

► review of policy alignment;

► review of financial alignment;

► and integrated monitoring and evaluation.

3.1.1 Review of policy alignment

Coherence between different policies can be analysed through reviews of policy alignment. The reviews we identified in our screening were mostly directed at assessing the alignment between national sustainability targets and national climate targets (Nationally Determined Contributions, or NDCs, under the Paris Agreement). In some cases, they also included other (cross-cutting, sectoral) policies at national or subnational level. A number of technical guidelines and 'nexus tools' has been developed that support respective analyses (cf. box).

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[13] This includes a review of policy alignment with fiscal policies (which we separate from state budgets, cf. Chapter 3.2.2).

Examples:

► Impact assessment of NDCs/ planned climate action on SDG implementation (e.g., Mexico, Indonesia, Kenia)

► Multicriteria analysis to prioritize NDC measures that also have SDG co-benefits (e.g., Mexico)

► Mapping of SDG goals and targets against national/subnational priorities, i.a. in line with the "Rapid Integrated Assessment" (RIA) method (e.g., Liberia, Iraq, Guyana, Bosnia and Herzegovina, Kazakhstan, Kenia etc.)

► Sustainability impact assessments of draft legislation (e.g., Germany – reviewed by Parliamentary Advisory Council on Sustainable Development)

Guidelines and tools supporting coherence analysis

► Examples of **technical guidelines**: CEPA strategy guidance note on Promotion of coherent policymaking (UN DESA und CEPA 2021); OECD 2017/18/19: "Policy Coherence for Sustainable Development"; NAP-SDG iFrame of the UNFCCC, Sustainable Development Guidance, SDG Accelerator and Bottleneck Assessment Tool (ABA), Rapid Integration Assessment (RIA), E-Handbook on Sustainable Development Goals, NAMA Sustainable Development Evaluation Tool, Guidance for NAMA Design in the context of NDCs: A Tool to Realize GHG Mitigation Under NDCs, Mainstreaming, Acceleration, Policy Support (MAPS) Practical; UNDP/UNEP (2020) guidance on "Enhancing NDCs through Circular Economy"; chapter on SDG alignment in UNEP DTU / UNFCCC (2020): Implementing nationally determined contributions (NDCs); WWF, UNEP, EAT & Climate Focus (2020), Enhancing Nationally Determined Contributions (NDCs) for Food Systems

► Tools for **integrated modelling**: ICES (Inter-temporal Computable Equilibrium System), SDG Local and Urban Governance Dashboard (LOGOD), DesInventar (Disaster Information Management System) Sendai, Integrated Sustainable Development Goals (iSDGs) Model, UNDP Climate Action Impact (CLIP) Tool

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3.1.2   Review of financial alignment

Coherence analyses can also take the form of reviewing the alignment of national budgets with international policy agendas.[14]

Examples:

► The 'Climate Public Expenditure and Institutions Review' (CPEIR) in Fiji examines how expenditures related to climate change and disaster risk reduction are integrated into national budgetary processes

► 'Sustainable development budgeting': In Finland, ministries have to report on resources allocated for national SDG priorities as well as taxes and harmful subsidies potentially harming SDG achievement

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[14] From a perspective of integrated implementation, such a review ideally captures the integration into national budgets of more than one international policy agenda. The examples we identified, however, reviewed financial alignment only in relation to one policy agenda each.

3.1.3   Integrated monitoring, reporting & evaluation

Monitoring, reporting and evaluation of the SDG implementation across its diverse thematic fields is a first step; the next (much rarer) is the integration of monitoring, reporting and evaluation of SDG implementation with other agendas.

Examples:

► The Finnish National Audit Office has integrated the 2030 Agenda into its audit programmes, assessing how effectively sustainable development has been promoted in strategies and activities of ministries

► In Bangladesh, ministries are required to incorporate SDGs in annual business plans and budgets and demonstrate how they are meeting agreed indicators. The Prime Minister's Office tracks progress in line with a Monitoring and Evaluation Framework for the SDGs (under development)

► Some countries coordinate their national SDG and climate change reviews and development planning cycles (e.g., Togo and Kenya have used data collected for their VNRs in preparing new national development plans; Bouyé et al. 2018).

3.2   Institutional coordination

There are diverse forms of institutional coordination in the domestic implementation of international agendas. They range from high-level entities overseeing and coordinating implementation processes, cross-ministerial structures (e.g., inter-departmental and inter-administration committees, collaborative units, task forces) to the involvement of national parliaments, other levels of administration (vertical coordination) and non-state actors.

Note that institutional coordination addresses the *process* of policymaking, not its outputs (policies). It is assumed, however, that coordinating the process indirectly helps integrate its outputs (here: the implementation of international agendas).

3.2.1   High-level entity overseeing & coordinating implementation processes

A common form of institutional coordination is to centralise responsibility for overseeing and coordinating the parallel implementation processes in a high-level entity (e.g., prime minister's office, chancellery), rather than giving it to individual or several ministries.

► In Bangladesh, an inter-ministerial SDG Monitoring and Implementation Committee is hosted by the Prime Minister's Office, involving 21 ministries, with outreach to civil society

► In Japan, the SDG implementation process overseen by the Global Warming Prevention Headquarters (a cabinet formation involving all ministers), led by the Prime Minister

► Other examples of a high-level entity overseeing and coordinating the implementation of the SDGs include Colombia, Finland, Germany, Mexico, Sierra Leone and Uganda.

► In some countries, the oversight for climate policy was also shifted to a central high-level entity (e.g., in Kenya to the president as chair of the country's National Climate Change Council; in Honduras, a climate change unit was created in the president's office, cf. Bouyé et al. 2018).

3.2.2   Cross-ministerial structures coordinating ministries across SDGs

A more decentral form of institutional coordination is cross-ministerial structures serving to coordinate ministries across diverse sustainability areas (e.g., SDGs).

Examples:

► Line ministry responsibility: A number of countries have SDG or green economy focal points in all ministries which address SDGs and climate actions (e.g., Kenya, Finland, Ethiopia). In Germany, all government departments have a primary responsibility for their own contributions to implement the 2030 Agenda in their respective policy fields. Each ministry has a high-level coordinator for sustainable development, and each ministry publishes a departmental report once per legislative period outlining how the ministry's policies contribute to the implementation of the 2030 Agenda.

► Inter-ministerial coordination: Inter-ministerial coordination structures include an SDG working group coordinated by the Ministry of Finance (e.g., Denmark) or the Ministry of Planning (e.g., Kenya). In Germany, the Federal Ministry for Economic Cooperation and Development and the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety share the responsibility for accompanying the 2030 Agenda at international level. The State Secretaries' Committee (SSC) for Sustainable Development (in which state secretaries from all ministries participate and which is chaired by the Head of the Federal Chancellery) steers the implementation. At the level of ministers, the 'Climate Cabinet' was established to coordinate the work of the government on climate protection. The committee includes the Federal Chancellor, six federal ministers (Environment, Finance, Economy, Construction, Transport, Agriculture), the head of the Chancellor's Office and the Government Spokesman. An interministerial Working Group on Adaptation to Climate Change coordinates adaptation-related work.

3.2.3   Involvement of other administrative levels (vertical coordination)

Integrated implementation is also promoted through improved ('vertical') coordination between different geographic-administrative levels, notably federal, state/regional and municipal levels.

Examples:

► The government coordinates with local authorities to integrate SDGs and climate agenda into local planning and budgeting (i.a., Colombia)

► Regional networks facilitate NDC implementation (i.a., Colombia)

► A national body for social dialogue involves local authorities (i.a., France)

► Federal structures: In Germany, a large share of legislation is jointly decided on by the federal Parliament (Bundestag, with its Committee on the Environment, Nature Conservation and Nuclear Safety) and the federal states (organised in the Parliament's second chamber, Bundesrat). Preparing legislation, the federal government and state governments coordinate in federal/state working groups. For instance, the Working Group on Climate, Energy, Mobility - Sustainability - BLAG KliNa – accompanies both the implementation of the sustainable development strategy and the national and European policies on climate mitigation and adaptation.

3.2.4   Involvement of national parliaments

National parliaments have important legislative, budgetary, electoral/representative and control functions. In the implementation of international policy agendas, their role is limited though: sustainable development strategies, NDCs, National Adaptation Plans are generally formulated by governments and their administration rather than by parliaments. However, in some countries, national parliaments are nevertheless included in the cross-thematic coordination structures serving to implement the SDGs.

Examples:

► In some countries, the national parliament is recognised in the institutional framework to implement sustainable development (e.g., Germany's Parliamentary Advisory Council on Sustainable Development; Finland; Egypt's parliament monitors the implementation of the country's sustainable development strategy's objectives, targets, programs and projects against a set of key performance indicators).

► In Finland and Sweden obligations have been introduced that the government reports to the parliament on SDG-NDC policy alignment (2015 Finnish Climate Change Act, Sweden's Policy for Global Development)

► In some countries, parliamentary committees cover sustainable development, environment and/ or climate change and follow the respective implementation processes (e.g., South Korea's National Assembly UN SDG Forum)

3.2.5   Involvement of non-state actors

Various examples exist where non-state actors (stakeholders) are involved in the implementation of the SDG and/ or (ideally: combined) of the Paris Agreement. This involvement is typically of a consultative nature.

Examples:

► The Government consults with stakeholders on SDG implementation in various formats and processes (i.a., Bangladesh, Norway, Germany)

► A multi-stakeholder advisory body deliberates on an integrated policy agenda which includes climate, energy, sustainable development, biodiversity, and corporate responsibility issues (i.a., France – French National Council for the Ecological Transition)

► A particular form of stakeholder involvement is the involvement of science. In Germany, three advisory councils exist that advise the government on different aspects of sustainable development and/ or communicate sustainability concerns into the wider society; in addition, the broader science-policy network „Science Platform 2030" provides inputs into the implementation of the national sustainability strategy.

3.3   Development of joint strategies

By the "joint strategy development" we mean that in the development of a strategy or policy, concerns from other policy fields are taken up. Unlike institutional coordination, the development of joint strategies directly addresses *substantive outcomes*, not the process of politics. In the following subsections, we differentiate two approaches to joint strategy development:

► mainstreaming (integration 'by design') of sustainable development, climate or DRR concerns into different policy fields, including finance and budget programmes

► the use of (inter-/sectoral) policies which have inherent co-benefits for each other.[15]

3.3.1   Mainstreaming (integrating 'by design') sustainable development, climate and DRR concerns into different policy fields and finance

The alignment of climate action and SDG implementation can be more encompassing / holistic or more specific/ targeted. In the first case, the aim is to integrate political agendas (SDGs, climate) in their entirety; in the second case, only parts of these agendas are attempted to be integrated (e.g., flanking environmental policies by social balancing measures or gender-mainstreaming climate policies).

Holistic climate-SDG alignment

The alignment of climate action and SDG implementation can be more encompassing / holistic or more specific/ targeted (cf. Chapter 3.3.2).

Examples:

► NDC implementation takes place under the SDG framework (e.g., Indonesia, Bangladesh; cf. Bouyé et al. 2018)

► SDGs are recognised in the development of NDCs as well as in long-term low-carbon strategies and adaptation plans; mitigation or adaptation action with SDG co-benefits is prioritised (e.g., Mexico, Colombia)

► Climate and social priorities are aligned within wider integrative policy frameworks and strategies (e.g., Sweden's goal of becoming the 'world's first fossil-free welfare state'; Mongolia's Green Growth policy; Wales' 'Well-being of Future Generations Act' 2015)

► SDG concerns are mainstreamed in ministries' annual business plans and budgets (i.a., Bangladesh, Finland, Ghana)

► SDGs and NDC alignment is registered in a certificate of compliance for the annual budgets, as the certificates assess consistency with the national development plan which in turn serves to implement SDGs and the NDC (Uganda)

► SDGs are mainstreamed into ministries' annual business plans & budgets, i.e. the ministries need to account for how their future budgets addresses priorities of the national SDG implementation (e.g., Bangladesh, Indonesia)

► A political objective is defined on required budget shares for climate action (EU)

Targeted social flanking & gender mainstreaming of climate action, biodiversity conservation or disaster risk reduction

Rather than trying to align policy agendas in their entirety with each other, climate action, biodiversity conservation, or disaster risk reduction can be socially flanked or gender-

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[15] In addition to these, there are examples of the targeted mainstreaming of environmental or DRR concerns into the implementation of other policies such as agricultural or planning policies. We will not elaborate on these forms of integration since they represent 'simple' (one-dimensional) integration rather than the more comprehensive integration efforts we are concerned with (cf. Chapter 2.1).

mainstreamed. This helps implementing social SDGs like reduced poverty (SDG 1), reduced inequality (SDG 10) and greater gender equality (SDG 5).

Examples:

► Financial bonuses are introduced for energy efficiency retrofitting and energy cheques buffer carbon tax expenses (France)

► Gender considerations are mainstreamed in climate finance (e.g., Kenya)

► Legislation on climate action provides for the assessment of gender and human rights (e.g., Uganda)

► An action plan is developed on gender and climate (e.g., Peru)

3.3.2   Designing (inter-/sectoral) policies with inherent co-benefits

While sectoral policies can be intentionally designed to integrate other policy concerns ('mainstreaming', cf. Chapter 3.3.1), a number of policies have been identified that *inherently* include co-benefits for such other concerns. As the design of the respective measures can still make a difference regarding the strength of co-benefits, it is difficult to draw a clear distinction towards 'integration by design'.

In 2017, an analysis of 148 developing country NDCs revealed many co-benefit policies between NDC mitigation and adaptation actions and the SDGs. This concerned, notably, clean energy (99% of developing country NDCs), land use, land use change and forestry (65.5%), transport (60%), waste management (66%) and the mitigation aspects of agriculture (65%) (SIDA 2017a, quoting UN EOSG & UNFCCC 2017).

Examples (e.g., IPCC 2019, B.1.1):

► 'Nature based solutions' can restore natural landscapes (SDG 15) while helping to store carbon (SDG 13); in many cases, they are also pro-poor (SDG 1)

► Ecosystem-based approaches in agriculture can promote food security (SDG 2), preserve soils (SDG 15.3) and biodiversity (SDG 15, CBD), watercourses (SDG 6.3) and biodiversity (SDG 15, 16), close nitrogen and carbon cycles while increasing productivity (SDG 2) and reducing impacts on human health (SDG 3.9). An example are sustainable soil management practices (e.g. agroecology, agroforestry, organic and conservation agriculture, landscape management, etc.) which foster food security (SDG 2) as well as soil carbon storage (Art. 13.2).

► Urban farming increases access to food in cities (SDG 12.3), strengthens cities' resilience (SDG 11) and contributes to sustainably using underutilized lands.

► Ecosystem-based adaptation policies have co-benefits for climate adaptation (SDG 13.1), biodiversity (SDG 15, CBD implementation) and health (SDG 3)

► Reducing food loss and waste enhances food security (SDG 12.3) and reduces greenhouse gas emissions (SDG 13)

► The allocation of land-rights to indigenous communities and enforcement of such rights reduces poverty (SDG 1), reduces inequalities (SDG 10), supports sustainable forest management (SDG 15) as well as climate mitigation and adaptation (SDG 13)

► Just Transition policies buffer the phasing out of emission-intensive industries (SDG 13) through creation of decent and quality jobs ideally in green industries (SDG 8), education and vocational training (SDG 4), and social protection (SDG 1)

► Improving public transport reduces GHG emissions (SDG 13) as well as pollution and road accidents (SDG 3), supports vulnerable groups (SDG 11.2) and ultimately makes cities more inclusive and sustainable (SDG 11)

► Climate adaptation measures (SDG 13.1) aimed at reducing flood, weather, and drought risks equal measures enacted for wider disaster risk reduction (SDG 11.B)

► Measures for climate adaptation (SDG 13.1) and wider disaster risk reduction (SDG 11.B) support healthy lives (SDG 3), reduce the number of deaths and of people affected by disasters (SDG 11.5), protect the world's cultural and natural heritage (SDG 11.4) and protect terrestrial ecosystems (SDG 15)

► Improving resource efficiency & circular economy (SDG 11.4) reduces pollution (SDG 3.9, 6.3) and in many cases energy consumption, thus contributing to climate change mitigation (SDG 13.2). It also reduces land-degradation (SDG 153, 2.4) and helps conserving biodiversity (SDG 14, 15). It can create new jobs, thus contributing to the achievement of full and productive employment (SDG 8.5)

3.4   Discussion

What conclusions can we draw from our analysis – what has been achieved, where are gaps and deficits with regard to an integrated implementation of the 2030 Agenda, the Paris Agreement and the Sendai Framework? In a first step, we look into the different **entry points** as laid out above (Chapter 2.3.2).

► Thematically, i.e. with regard to **issues**, the documents we screened mostly pointed to integrative mechanisms for implementing the 2030 Agenda's sustainability issues across governmental departments and levels. In a number of cases, SDG implementation was coupled with implementing climate mitigation action as part of the Paris Agreement obligations. Implementing climate adaptation and the Sendai Framework are less integrated both with SDG implementation and with other policies in general. Disaster risk reduction is clearly the issue area that is least integrated with other (implementation) policies, and that should be addressed more in the future.

► In terms of **administrative levels**, most identified cases related to the national level (which was abetted by the selection of data sources). Only few of the identified examples related to regional or municipal implementation. To a certain extent this may be related to our choice of documents (e.g., national-level VNRs), but it also seems a gap. The documents we screened did not propose any *international*-level mechanisms for integrating the agendas' implementation. However, it might be worth to explore international options of integrating the three agendas to a greater extent. One idea might be the provision of a voluntary reporting format for NDCs which provide a matrix which relates the NDC's components to the SDGs, with potentially positive and negative interactions; cf. Table 1 in Colombia's updated NDC, Gobierno de Colombia 2020, pp. 13-21).

► In terms of **outputs** of policy integration, we find as diverse products as impact assessment and evaluation studies, annual policy or budget reports, horizontal and vertical coordination structures, coordinator positions, inclusion of non-governmental actors, (comprehensively

or partially) integrated strategies/policies and budgets, and policies with inherent co-benefits.

► With regard to **governance mechanism** used in integrated implementation, a number of approaches draw on knowledge (e.g., coherence analysis, monitoring, reporting, evaluation; consultative forms of stakeholder involvement etc.); others on participation and competences (cross-ministerial coordination; involvement of other administrative levels and national parliaments). Only few approaches draw on leadership (high-level entities overseeing/coordinating implementation) or money (mainstreaming sustainability concerns into budgets, setting climate/SDG targets for budgets). Promoting these mechanisms provides an opportunity to improve policy integration,

► Along the dimensions of **policy, politics and polity**, our sample of identified practices exhibits a focus on approaches related to **policy** (in the form of joint strategy development) and **polity** (in the shape of capacity building and institutional coordination). **Politics**-related aspects of integrated implementation are implicit in approaches to institutional coordination, though they may depend more on the actual practices and cultures of coordination than the institutional forms themselves. These practices and administrative cultures are important for actually facilitating coordination and should be considered more both in policy research and practice.

► Along the **policy cycle,** most of the identified approaches relate to **policy formulation** and **policy implementation**. Few approaches relate to the phase of evaluation and monitoring. This gap should be addressed in future, too.

In a second step, and cutting across some of the entry points, we look at the **approaches** identified earlier in this chapter (creation of capacities, institutional coordination, development of joint strategies). Among these, probably most efforts are aimed at **institutional coordination.** Institutional coordination is partly equipped with a centralised process steering, partly with cross-ministerial structures, and partly with both. Vertical coordination structures seem still rare, as does the involvement of national parliaments. The creation of **cognitive and analytical capacities** for policy integration was dominated by ex-ante coherence analyses and integrated monitoring, with less evidence of ex post evaluations and integrated reporting. For the **development of joint strategies** a number of different mechanisms could be observed – from the prioritisation of SDGs in climate policies via their mainstreaming in ministries' business plans and budgets, explicit budget targets for SDGs and climate action, the alignment of respective concerns within wider integrative policy frameworks, the targeted social flanking or gender mainstreaming of environmental policies or employment of policies with inherent co-benefits.

What has been achieved with regard to the **depth of integration**? This question is difficult to answer with the available data. We can, however, make some informed assumptions:

► Methods to **create cognitive and analytical capacities** typically support avoiding contradictions (level L4 of Metcafe's metric); achieving higher levels of integration will thus profit from an application of respective methods.

► Forms of **institutional coordination** can support a broad variety of integration levels, from level L2 through to level L9. Much depends on the actual practices and cultures of cooperation, beyond the institutional forms proper. The observed approaches to integrate the implementation of the SDGs and Paris Agreement usually lead (at best) to an avoidance of contradictions (level 4 of Metcalfe's metric, cf. above). Interdepartmental sustainability

strategies, too, typically do not involve a genuine search for consensus, common parameters or priorities, but are often based rather on the line-up of political projects that were planned. Generally, political actors have incentives to tap into co-benefits in order to find majorities for political projects. However, when conflicting goals are involved, decisions in the political process are usually avoided and resolved through 'negative coordination'. Negative coordination describes the (mere) avoidance of conflicts with the interests of other actors and is differentiated from positive coordination as the maximisation of joint welfare with other actors (Scharpf 1993). In central areas of sustainability policy, such as food, mobility, nitrogen discharges and or biodiversity protection, policy-makers are far from defining common parameters and priorities applying to all policy fields, and it is even difficult to reach a consensus on concrete measures. Only recently, this has been exemplified in the reform of the European Common Agricultural Policy – which largely followed a sectoral logic rather than considering cross-cutting sustainability goals.

► **Joint strategy development** requires integration level L4 or higher. To date, however, joint strategies can at best be identified for the field of climate mitigation (not, however, for adaptation or other SDG areas): climate mitigation targets are broken down for the various sectors and departments. However, the example of climate mitigation also shows that once targets have been agreed, they tend to be diluted or called into question during implementation. Integrated policy and cross-cutting tasks require a robust institutionalization going beyond the avoidance of contradictions.

While the achievement of Level L4 or – at most – L5 seems possible for many instances of integrated implementation, it is not yet sufficient to promote genuinely transformative change. In the following chapter, we therefore explore how the achievement of deeper policy integration (levels L5 and higher) could be promoted through impulses from beyond the mechanisms for policy integration.

4   Potential drivers for deepened policy integration

Based on the analysis that the implementation of international agendas in many cases does not yet reach 'deeper' levels of policy integration, we consulted different bodies of literature, looking for potential drivers of policy integration. In the following, we present four approaches ('drivers') that could help to remedy the gaps and deficits in the integrated implementation of our policy agendas.

4.1   Political leadership: Commitment to integrative implementation and courage to address political trade-offs

Literature on environmental policy integration points out the need for environmental and sustainability concerns to be brought into the political process by political leaders applying political commitment and will to it (Jordan und Lenschow 2010; Dupont und Oberthür 2012).

Relevant political actors include the heads of government, the leaders of the political parties that make up the governments or the government factions in the parliaments. These leaders can be expected to set common parameters or priorities, which in turn are implemented in political processes. The environmental policy integration literature has pointed to the role of the political composition of the ruling party (or parties) in government – with centre-left governments often putting more efforts into environmental policy integration than conservative and right-wing governments – and to visions and projects of individual political leaders (Jordan und Lenschow 2010). In addition, central entities coordinating implementation processes play a significant role for integrated implementation (Breuer et al. 2019). Since environmental ministries in many countries belong to the "weaker" ministries, guaranteeing high-level political leadership from Prime Minister' Offices or from a team of ministries can drive integrated implementation (Breuer et al. 2019; GIZ 2018).

Political leadership, however, should not be limited to promoting institutional mechanisms and coordination instruments. Rather, it should extend to addressing political conflicts and trade-offs. Such trade-offs to date hamper the setting and achieving of deeper sustainability targets for implementation. In industrialised countries, examples range from making mobility and food consumption more environmentally sustainable to ensuring affordable but climate-friendly housing.

4.2   Self-commitment to citizen participation and deliberative processes

The integration of sustainability concerns into climate policy and vice versa can also benefit from citizen participation and deliberation, in particular if deliberative approaches are expanded and new forms of participation tried out.

Procedures for integrating citizens into policy-making were introduced and tested at the municipal level in the past decades. Increasingly, national governments are also using civic participation and deliberation to generate momentum in political processes. Deliberative formats differ quite distinctively from each other in terms of length, resources that went into the planning, implementation and evaluation, degree of high-level political support, range of people involved and ultimately: outcomes. Whereas some formats seek to co-creatively develop policy through a wide range of different actors, other approaches can be considered alibi events, seeking to legitimize ready-made political decisions. Citizen juries or citizen dialogues have flourished in the past years and are considered "one of the most innovative methods of fostering citizen participation in government" (OECD 2020: 116). The Irish Constitutional Convention (2012-2014) is an example that inspires sustainability policy (e.g. the French Citizen Convention

for Climate): beyond consultation, participation can be designed in a way that key topics are discussed politically prepared in citizen juries. The random selection of their participants contributes to a non-hierarchical discourse.

Civic participation and deliberation can contribute to policy integration in that the concerns of a broader group of people are introduced to policy-making. A precondition for this to succeed is broad societal inclusion and the granting of equal and fair access of all major stakeholders, actively engaging them in all phases of the policy cycle (OECD 2017; 2020; House and Howe 2000). This includes, among others, encouragement and support through the provision of, for instance, remuneration of expenses and child-/eldercare (OECD 2020).

4.3   Strong impulses from science and research

Policy integration can also be driven by strong impulses from science and research. Most notably, the climate policy agenda has been and continues to be driven by science: With the IPCC at international level and corresponding scientific institutions in many countries, reference points have been created against which policy is to be measured. The parameters for climate policy (e.g., 1.5°C target, emission budgets, reduction targets and pathways) are based on findings and suggestions by science. A similarly effective dynamic has been observable in the international politics on the ozone hole (Litfin 1995).

Governments regularly bind themselves to the findings and advice of science. This taps into a key source of legitimacy. For science to play an appropriate role, processes and institutions are developed and mandated. There is a long tradition of setting up advisory bodies or ad hoc Commissions on more specific issues. Assessment processes which compile the state of knowledge and assess it with regard to a policy agenda exist at international, regional (EU, OECD) or national level. National science academies are used in many countries to assess the state of knowledge on specific issues and to derive policy recommendations. All these bodies generate resonance in the public and thus put topics on the agenda. To the extent that they address cross-cutting issues such as sustainable development, pressure is created on governmental departments to act on these issues and to develop integrated policies (an example for cross-cutting science-policy contributions in Germany are SDNS 2020; WPN2030 2019; Leopoldina 2017).

4.4   Sustainable finance

Financial markets may also drive the demand for integrated policies. If financial market actors want to invest in a climate-friendly and sustainability-oriented way, they depend on a policy framework that supports this and provides a fair investment as well as business environment. This includes long-term and reliable policy targets and measures to direct investment by private financial market actors towards more sustainable activities; as well as adjustments to public lending and investment (or divestment) policies. A sustainability orientation of investors, in turn, is an essential lever to motivate companies to become active in more sustainable, climate-friendly business fields and to account for risks related to climate change and disasters. From the point of view of financial market actors wishing to invest in relevant fields, and from the perspective of 'real economy' companies wishing to accordingly adjust their operations, an integrated policy is desirable.

With the "EU taxonomy", the EU has developed an evaluation system that is intended to steer finance in this direction (European Commission 2020). The Taxonomy so far provides detailed assessment criteria for climate mitigation and climate adaptation. However, following an integrative approach, criteria for four other environmental issue areas included in the 2030

Agenda are being or will be developed in the future, namely for the sustainable management of water (SDG 6) and marine resources (SDG 14), the transition to a circular economy (SDG 11.6, 12), pollution prevention and control (SDG 3.9, 6.3), the protection and restoration of biodiversity and ecosystems (SDG 14, 15). While the Taxonomy does not explicitly cover disaster risk reduction and considers social aspects (e.g., related to SDG 1, 3, 5) only in the form of minimum safeguards, it does provide a lever for an integrated implementation of the Paris Agreement, 2030 Agenda and potentially (in the future) further agendas such as the Sendai Framework. Other measures and instruments to promote sustainable finance envisaged by or suggested to policy-makers (Bundesregierung 2021; SFB 2021) can also be used to promote the compatibility of finance and investment flows with the three agendas, taking into account the need of investors and companies for integrated frameworks rather than juxtaposed agendas. At the same time, integrating the three agendas into sustainable finance requirements will also promote transformative change, which requires changes to the systems of production and consumption and hence massive investment flows.

5   Conclusions

In this discussion paper, we have approached the question of how three transformative international policy agendas adopted in 2015 – the 2030 Agenda on sustainable development, the Paris Agreement on climate change and the Sendai Framework on disaster risk reduction – can be implemented in a more integrated way. There exists some overlap between the objectives of these agendas, and measures to implement the objectives can lead to synergies or trade-offs (Pham-Truffert et al. 2020; Nilsson et al. 2018). Better understanding how the agendas interact helps prioritising implementation policies that maximise synergies between them and navigate trade-offs. The paper shows that **integrated implementation is possible**. The rich evidence summarised in this paper shows that ample options are already in use to jointly implement the three agendas as well as to integrate the implementation of the multi-issue 2030 Agenda with its 17 goals. Cognitive and analytical capacities assessing interlinkages and trade-offs can be strengthened, both with regard to ex ante and ex post evaluations; processes and institutions be better coordinated; and, based on this, joint strategies be developed. Joint strategy development includes the mainstreaming of specific policy concerns into other policies (by design) and the use of policy options that provide co-benefits for the other agendas.

Integrated implementation is also expedient: it can prevent that implementation of one agenda (partly) undermines the achievement of the others – for instance, that climate mitigation options (e.g., bioenergy policies) or adaptation options (e.g. dam building) are chosen that damage biodiversity (SDG 15) or negatively affect agricultural land use and food supply (SDG 2). Moreover, integrated implementation can explicitly foster synergies and help to avoid administrative duplication (e.g., parallel processes, multiple reporting), thus strengthening both the effectiveness and efficiency of implementation. In addition to already employed approaches, vertical integration, the involvement of national parliaments and non-governmental stakeholders, promoting administrative cultures for cooperation are some promising pathways for 'widening' integrated implementation.

However, it transpired that, in many cases, the **integrated implementation of the agendas is not yet 'deep'**. The achievement of 'avoiding contradictions' (Level L4) and – at most – 'searching for consensus' (L5) seem realistic for many instances of integrated implementation. Examples of joint strategies are well-known in the field of climate mitigation where reduction targets are broken down for various sectors and departments. We do not find comparable examples in the realm of climate adaptation or the other SDG areas. Frequently, the focus is on political projects that can be attained without major resistance or costs ('low-hanging fruit') while in the case of goal conflicts, political decisions tend to be avoided. Policy-makers shy away from defining common parameters and priorities, and it is often difficult to reach a consensus even on concrete measures. On this basis, genuinely transformative change towards sustainability cannot be achieved.

We have suggested four potential **drivers to deepen policy integration** and promote transformative change: political leadership, citizen participation and deliberative processes, impulses from science and research, as well as sustainable finance. These drivers are interlinked with each another: political leadership can arise from knowledge-based or deliberative processes and in turn can make them possible. Importantly, the drivers are not intended to replace the integrative approaches sketched above, but rather are supportive to them. While integrative processes seem indispensable for implementation of overlapping agendas as well as for transformative change, they need strong impulses to contribute effectively to implementing climate goals and the sustainability agenda.

To live up to the **transformative claims** of the three 2015 agendas, they need to become the guiding principles of policy making instead of being treated as separate agendas. This implies a consideration of synergies, but also of trade-offs between their goals. In Germany, for instance, crucial trade-offs relate to environmentally-friendly but affordable food, mobility and housing. A more determined tackling of these trade-offs and development of genuinely joint strategies is necessary. While using co-benefit approaches is a way to exploit synergies (e.g., energy efficiency or food waste policies that help people save energy and money at the same time), mainstreaming approaches can help to deal with trade-offs. A case in point is the flanking of stringent environmental policies with social compensation measures, to mitigate the distributive effects of climate policies or even turn them from regressive to progressive effects. Such strategies reflect how relevant the concrete design of implementation measures is and that differing designs can make a difference with regard to the synergetic or conflictive nature of policy goal interactions.

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