REPORT ON TRANSFORMATIVE POLICY DYNAMICS

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DAISY

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List of abbreviations and acronyms used in this document

Acronym	Definition
AGRI	Agriculture and Rural Development
BPI	Biodiversity Policy Integration
CBD	Convention on Biological Diversity
CAP	Common Agricultural Policy
CFP	Common Fisheries Policy
CJEU	Court of Justice of the European Union
COP	Conference of the Parties
CoR	Committee of the Regions
CU	Coventry University
DAISY	DigitAl, technologIcal and Social innovation mixes enabling transformation for biodiversity and equitY
DG	Directorate-General
ECR	European Conservatives and Reformists
EEA	European Environment Agency
EEB	European Environmental Bureau
EESC	European Economic and Social Committee
EIB	European Investment Bank
EPP	European People's Party
EFA	European Free Alliance
ENVI	The European Parliament's Committee on Environment, Public Health and Food Safety
ERDF	European Regional Development Fund
EU	European Union

EUKN	European Urban Knowledge Network
FAO	Food and Agriculture Organisation of the United Nations
GDP	Gross Domestic Product
GF	GreenFormation Kft.
GHG	Greenhouse Gas
ID	Identity and Democracy
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
ICJ	International Court of Justice
IUCN	International Union for Conservation of Nature
KTU	Kaunas University of Technology
LIFE	Programme for the Environment and Climate Action
LULUCF	Land Use, Land Use Change and Forestry
MEP	Member of the European Parliament
MFF	Multiannual Financial Framework
NbS	Nature-based Solutions
NECP	National Energy and Climate Plans
NGO	Non Governmental Organisation
PECH	The Committee on Fisheries
RED	Renewable Energy Directive
SDGs	Sustainable Development Goals
SERE	Society for Ecological Restoration
S&D	Socialists and Democrats
TEU	Treaty on European Union
TIESS	Transdisciplinary Institute for Environmental and Social Studies
UDG	Urban Development Group

UFZ	Helmholtz Centre for Environmental Research
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
WWF	World Wildlife Fund

Background: About DAISY

DAISY - DigitAl, technologIcal and Social innovation mixes enabling transformation for biodiversity and equitY - will advance understanding of how specific mixes of interventions including social-technological innovations can be used to induce transformation for biodiversity and equity.

DAISY's main objectives

- To understand which socio-economic, political and behavioural processes, and their interrelationships shape and enable our personal, political and practical ability to respond to the biodiversity crisis and how they impact on transformative change.
- To collect existing tools, processes, interventions and innovations that are conducive to triggering transformative change with the understanding of what enables them to address biodiversity loss and social inequity.
- To create intervention mixes based on existing tools and innovations and apply them in practice to induce transformation in all three spheres (personal, political, practical) to support biodiversity and equity prioritisation in decision- and policymaking.

Our case studies to test innovations

Innovation mixes will be tested and assessed for effectiveness in five seed innovation intensive case studies, within the domains of agri-food, education, energy and urban and regional development.

Turning on transformation

DAISY will have a special emphasis on amplifying innovation through bridging activities, networking events, wide stakeholder engagement and collection, connection and distribution of innovation seeds to switch on transformation.

Executive summary

Biodiversity in Europe continues to decline despite the EU's international commitments, policy efforts and initiatives. Overall trends across terrestrial, freshwater and marine ecosystems remain negative, while direct drivers such as intensive land and sea use, pollution, and unsustainable extraction persist. Achieving Europe's biodiversity ambitions requires a stronger implementation of existing environmental legislation, a more effective integration of biodiversity into all relevant sectoral policies, and approaches that address the underlying causes of biodiversity loss and nature degradation: the disconnection from and domination over people and nature, the concentration of power and wealth, and the prioritisation of short-term, individual, economic gains (IPBES, 2024).

Seeking to understand why the EU fails to address biodiversity loss despite its policy efforts, in this deliverable, we analyse the integration of biodiversity targets in five major EU policies with relevance to the DAISY domains: the Birds and Habitats Directives, the European Climate Law, the Urban Agenda for the EU, and the Nature Restoration Regulation. Guided by the theoretical framework of the 2024 IPBES Assessment, we identify the *transformative* elements within these policies: those capable of shifting views (ways of seeing, thinking and knowing), structures (ways of organising, regulating and governing), and practices (ways of doing, behaving and relating) toward greater equity and biodiversity outcomes. The policy and legal analysis is complemented by an analysis of the decision-making process of the Nature Restoration Regulation: the exploration and analysis of its legislative evolution helps us understand the influence of major actors in the process and related policy outcomes. We finally provide insights on both the challenges to transformative change and enabling conditions to overcome them.

Across the policies studied, several transformative elements capable of shifting practices and structures towards biodiversity protection are evident. Their design often contains ambitious targets, binding obligations, and several enabling conditions for their implementation, such as monitoring mechanisms and engagement formats. However, these elements are often constrained by weaknesses in operationalisation, vague commitments, limited enforcement, and insufficient engagement with the indirect drivers of biodiversity loss and their underlying causes. Failure to address the indirect drivers of biodiversity loss, in particular, both stems from and results in a failure to address path dependencies defined by short-term economic interests and private profit over public good. Elements aimed at shifting underlying views remain particularly limited, missing an opportunity to transform how society relates to nature: toward more respectful and reciprocal relationships. Moving away from

prevailing patterns of disconnection and domination over both people and nature requires integrating principles of justice, equity, pluralism, and inclusion, which are partly referenced across policies but in a rhetorical manner only, rarely translated into concrete mechanisms.

According to the European Environment Agency (EEA), implementation capacity remains uneven across Member States, and the coherence of sectoral policies — particularly agriculture, energy, spatial planning and trade — at the EU level remains insufficient to drive systemic change. Mechanisms for monitoring and revision are partially operationalised but face significant challenges, including missing indicators, uneven and fragmented data, and limited data accessibility. Shortcomings include missed opportunities to integrate biodiversity considerations into climate policy, and to incorporate diverse perspectives and knowledge systems, which enable adaptive learning and action towards equity in policymaking.

Transformative change in the EU toward biodiversity and equity requires greater attention to how society relates both to one another and to nature as a whole. The disconnection from and the domination over both people and nature is evident throughout many aspects analysed in this study: from policy design to implementation. Across all sectors and levels of governance, we continue to overlook the relational dimension of the problem (IPBES 2024). Ultimately, the impact of these policies on biodiversity and equity will depend on whether EU institutions, Member States and societal actors implement effectively relevant laws and policies, and address — rather than reproduce — the underlying causes of biodiversity loss through coherent, integrative and transformative policymaking.

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1. Introduction

Despite existing EU policies and actions to halt biodiversity decline, including the Birds and Habitats Directives and the EU Biodiversity Strategy for 2030, Europe's terrestrial, freshwater and marine ecosystems are in a declining condition, and the trend has continued to worsen over the past decades (EEA, 2025).

The future trajectory for biodiversity remains unfavourable as drivers of nature degradation persist (including intensive land and sea use, pollution and the unsustainable exploitation of natural resources) (EEA, 2025), and the underlying causes that shape and reinforce these direct and indirect drivers remain unaddressed: the disconnection from and domination over nature and people, the concentration of power and wealth, and the prioritisation of short-term, individual and material gains (Gurung et al,. 2024).

Achieving biodiversity ambitions will start from far stronger implementation of existing environmental policies and depend on a fuller integration of biodiversity goals across all major sectors (EEA 2025; Runhaar et al., 2024; Zinngrebe, 2018). Although many European countries have incorporated biodiversity considerations into major policy frameworks and strategies (Ring et al. 2019), current policies still fall short of meeting global biodiversity targets and the Sustainable Development Goals (SDGs) (Biermann et al. 2022; IPBES 2018; CBD 2020). This highlights the need for deeper scientific inquiry into how biodiversity can be more effectively integrated into EU policies and how policies can be leveraged to address the underlying causes of biodiversity loss.

According to the 2024 IPBES Assessment, transformative change is characterised by shifts across three interrelated dimensions: views (ways of seeing, thinking and knowing), structures (ways of organising, regulating and governing), and practices (ways of doing, behaving and relating) (Gurung et al., 2024; IPBES 2024). Five main challenges hinder transformative change across these three dimensions and thus need to be addressed: 1) persistent relations of domination over people and nature; 2) economic and political inequalities; 3) misfit policies and institutions 4) unsustainable consumption and production patterns; and 5) limited access to technologies and lack of coordination across knowledge and innovation systems for sustainability (Frantzeskaki et al., 2024). This is illustrated in Figure 1.

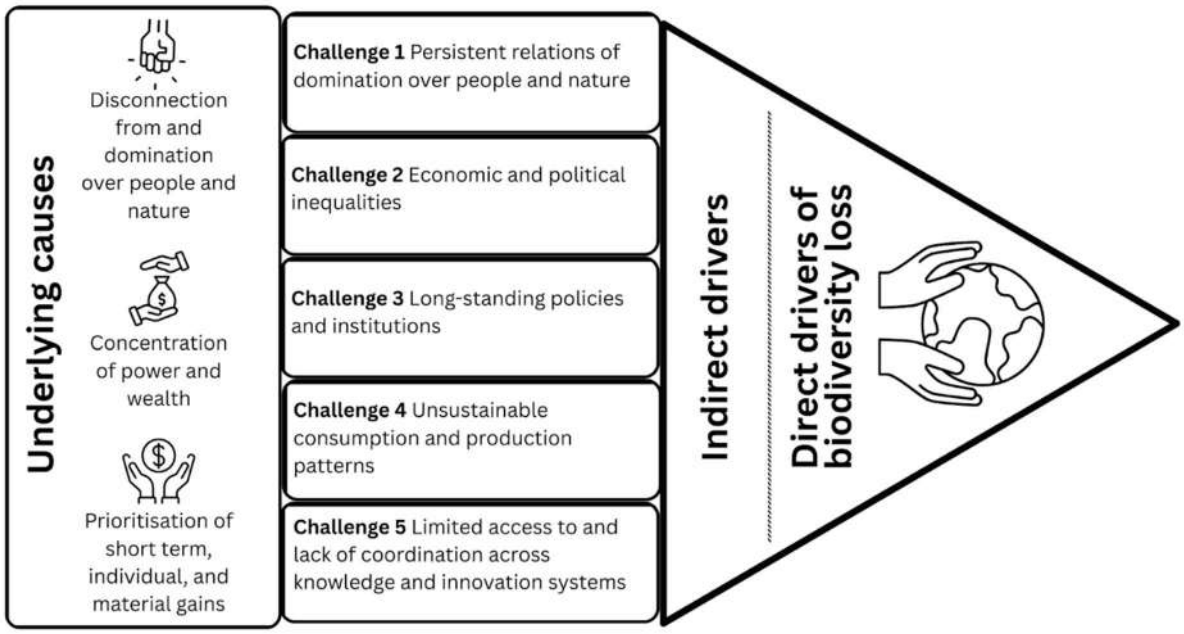

Figure 1: Relationship between the five main challenges to transformative change, the underlying causes and the drivers of biodiversity loss, adapted from Frantzeskaki et al. (2024)

The IPBES Assessment outlines strategies to enable transformative change, including the integration of biodiversity targets into sectors that drive biodiversity loss, and identifies that deliberate transformative change is guided by four principles: equity and justice, pluralism and inclusion, respectful and reciprocal human-nature relationships, and adaptive learning and action (Gurung et al., 2024).

The DAISY project (2025–2027) seeks to advance understanding of how specific combinations of interventions — including social and technological approaches — can drive transformations for biodiversity and equity. This requires an understanding of the complex interplay between agency, power dynamics, socio-economic and political processes, and a range of social-behavioural characteristics that together shape the capacity of individuals, groups, and institutions to respond — or exercise 'response-ability' (Haraway, 2016) — to the biodiversity and equity crisis in transformative ways.

The project's conceptual framework builds on O'Brien's (2018) heuristic of the three spheres of transformation: practical, political, and personal. The practical sphere

encompasses behaviours and technical solutions, while the political sphere includes the social and ecological systems and structures that create the conditions enabling transformations within the practical sphere. The personal sphere refers to the underlying individual and collective beliefs, values, and worldviews that shape how the political sphere is interpreted and what practical measures are seen as feasible. Both conceptual frameworks draw attention to the interactions among beliefs and values, the systems and structures that shape conditions for transformation as well as the practical actions and resulting outcomes that emerge from them. In doing so, they highlight the multiple entry points through which sustainability outcomes can be achieved.

This deliverable is situated within Work Package 1, which maps existing knowledge on social, behavioural, economic, and political processes, as well as transformation projects, to assess economic trajectories and their impacts on biodiversity and society. Specifically, it sits under Task 1.2, which focuses on the political sphere of transformation, recognising political and institutional systems — especially EU-level policies that directly or indirectly affect biodiversity — as major leverage points for driving systemic change.

This deliverable assesses the transformative elements of selected EU policies relevant to the DAISY domains: the Birds and Habitats Directives, the European Climate Law, the Urban Agenda for the EU, and the Nature Restoration Regulation. In this context, 'transformative' refers to the capability of these policies to shift views, practices, and structures to address the underlying drivers of biodiversity loss (IPBES 2024).

The study begins with a systematic analysis of the extent to which biodiversity targets are integrated across these five policies and of their coherence with the EU Biodiversity Strategy for 2030 and the Sustainable Development Goals (SDGs). It also systematically assesses the degree to which these policies reflect the four principles of transformative change. The assessment is complemented by a legal analysis of policy making and implementation, including through the jurisprudence of the Court of Justice of the European Union (CJEU) and landmark decisions of national courts, which have highlighted incoherencies and have provided useful insights for the implementation of vague or open-ended provisions. This deliverable also examines the trialogue negotiations of the Nature Restoration Regulation to

identify the positions and influence of different actor groups to uncover the power constellations, institutional structures, and interests that create opportunities or barriers for transformative dynamics. The methodology is outlined in Section 2, with the results presented in Section 3. Based on this, Section 4 discusses both the challenges that hinder transformative change and the conditions that enable it. Section 5 concludes with an outlook and a set of recommendations.

2. Methodology

2.1. Approach and Research Design

The policy analysis addressed five policy instruments and their related action plans as applicable, due to their relevance to the project domains: the Birds and Habitats Directives, the EU Climate Law, the Urban Agenda for the EU, and the Nature Restoration Regulation. The analytical framework used is depicted in Figure 2.

First, the study applied the Biodiversity Policy Integration (BPI) framework (Runhaar et al., 2024; Zinngrebe, 2018) to consider: how biodiversity or related sustainability issues are reflected in these policies; through which policy instruments or actions these targets are implemented; the capacities (e.g., mechanisms, knowledge, or resources) available to support implementation; and whether policy targets and instruments align with the objectives of the EU Biodiversity Strategy and the SDGs.

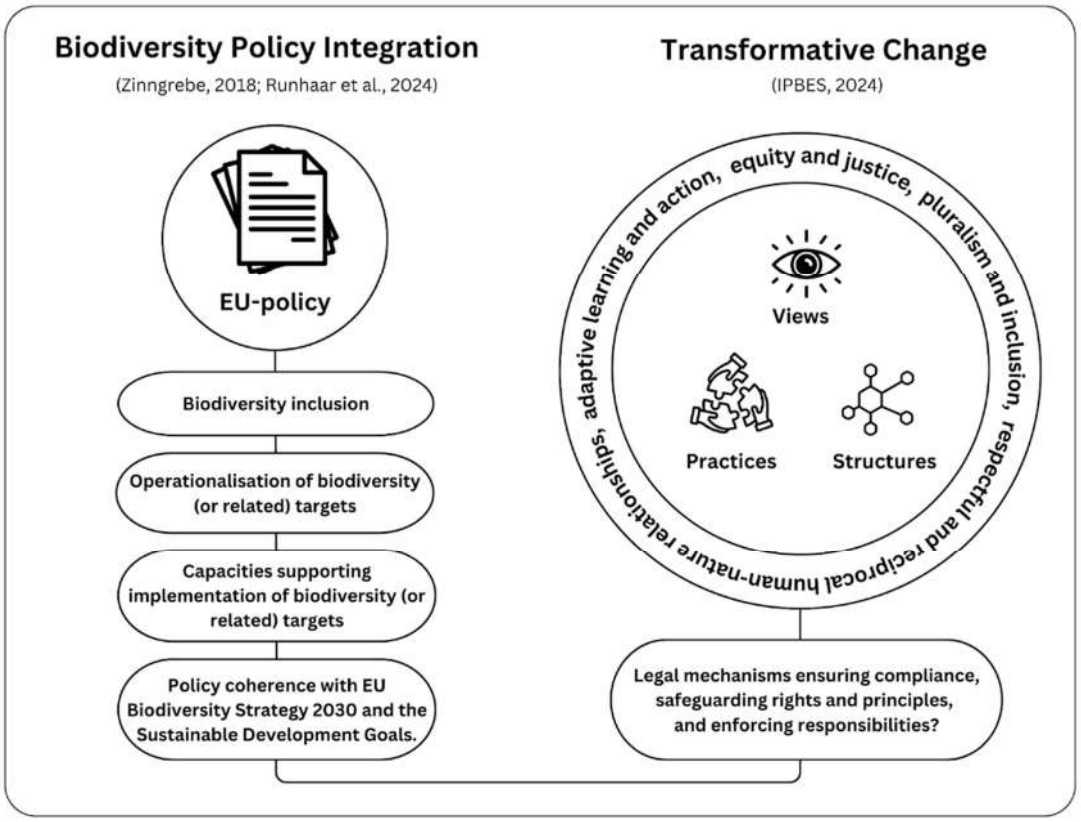

Figure 2 : Analytical Framework

Second, an analysis was conducted based on the 2024 IPBES Theoretical Framework for Transformative Change (IPBES, 2024) to understand how the four principles for transformative change are considered in the policies: equity and justice, pluralism and inclusion, respectful and reciprocal human-nature relationships, and adaptive learning and action.

Third, a doctrinal legal analysis conducted through desk-based research complemented this study. It focused on: examining the legal nature of each policy and implications of such nature for implementation and compliance; its consistency with environmental law principles established in the EU Treaties and the Charter of Fundamental Rights of the EU, as well as international commitments (for example multilateral environmental agreements, human rights treaties, and the Aarhus Convention); enforcement measures and accountability mechanisms; and lessons learnt from the jurisprudence of relevant courts, including the CJEU, the Aarhus Convention compliance committee, and selected national courts; and a discussion of the transformative potential of law, further based on the recent advisory opinion of

the International Court of Justice (ICJ) on States' obligations in respect of climate change. This analysis served to cover potential blindspots of the BPI and IPBES theoretical frameworks, by providing insights on the institutional and legal limitations of each policy and the judicial contribution to the interpretation and implementation of policy provisions.

The policy and legal analysis of the five instruments noted above was based on the final text, as adopted by decision-makers and currently in application. In addition, and to get a better understanding of the decision-making process, including the influence of major institutional actors and stakeholders on the legislative evolution, the study also included an analysis of the evolution of the Nature Restoration Regulation from the initial European Commission proposal (June 2022) through the Council's General Approach (June 2023), the European Parliament's adopted text (July 2023), and the Trialogue Compromise (November 2023). This analysis does not seek to provide a comprehensive examination of all amendments. Rather, it establishes the foundation for analysing the political process through a systematic literature review that enables a comprehensive and unbiased synthesis of the state of the art in research on the interest groups involved, policy dynamics, negotiation processes, and resulting outcomes.

Relevant publications were identified using the advanced document search in Scopus and Web of Science employing the following query search: TITLE-ABS-KEY ('Nature Restoration Regulation' OR 'Nature Restoration Law') AND TITLE-ABS-KEY ('power' OR 'interest group*' OR 'lobby*' OR 'advocacy coalition' OR 'discourse coalition' OR 'storyline' OR 'narrative' OR 'framing*' OR 'coalition' OR 'influence' OR 'stakeholder*' OR 'stakeholder influence' OR 'policy process' OR 'trilogue' OR 'negotiation' OR 'decision-making' OR 'EU governance' OR 'institutional dynamics' OR 'legislative process' OR 'policy conflict'). The search was limited to English-language, peer-reviewed articles and policy-relevant papers published between 2022 and 2025. The resulting publications were screened based on titles, abstracts, and subsequently full texts according to their relevance. In addition, the study conducted backward and forward citation tracking to identify additional relevant sources, including media articles and position papers of key stakeholder groups. This resulted in a total of 64 relevant publications included in the analysis, spanning different disciplines, political science, legal studies, ecology, environmental science,

conservation biology, environmental governance, sustainability science, and related interdisciplinary fields.

2.2 Coding Framework

Firstly, four dimensions were considered to assess Biodiversity Policy Integration, following the approach of Zinngrebe (2018) and Runhaar et al. (2024): biodiversity inclusion, operationalisation, capacities, and coherence with the EU Biodiversity Strategy and the SDGs. Each dimension was assessed across four defined levels: a score of 0 indicates no consideration of the dimension; 1 reflects weak consideration; 2 indicates moderate consideration; and 3, the highest score, represents full and explicit consideration. Biodiversity inclusion was coded and assessed based on whether and how biodiversity (or related sustainability issues) was addressed in the policy, with levels ranging from no mention (0) to the presence of specific, measurable targets with timelines and indicators (3). The operationalisation of biodiversity targets was coded by examining whether biodiversity (or related) goals were translated into concrete policy instruments or actions, ranging from absent (0) to fully defined and actionable instruments that directly support implementation (3). Capacities were coded according to the presence of mechanisms, knowledge, or resources to support implementation, with scores ranging from no provisions (0) to explicit, enforceable financial, institutional, and collaborative capacities (3). Coherence with EU 2030 Biodiversity Targets & SDGs was coded by assessing alignment with these targets and objectives, from no coherence or conflicting aims (0) to explicit integration of SDG and EU biodiversity objectives with monitoring frameworks (3). The Biodiversity Policy Integration criterion 'weighting' was not applied because it depends on factors such as implementation, budgeting, and the political priority assigned to the policy. These elements lie outside the policy itself and therefore cannot be assessed based solely on the policy text.

Secondly, four principles for transformative change were coded based on the work of Gurung et al. (2025): equity and justice, pluralism and inclusion, respectful and reciprocal human-nature relationships, and adaptive learning and action. The principle of equity and justice emphasises that transformative interventions must be fair for all — across present and future generations, as well as for other species and natural entities. This includes the distribution of benefits, costs and risks; access to

resources and power; participation in decision-making processes; and social recognition. It was coded based on whether policies addressed fairness across aspects related to distribution, recognition, and participation, ranging from absent (0) to deeply embedded, systemic approaches (3). The principle of pluralism and inclusion calls for acknowledging the legitimacy of diverse perspectives, voices and experiences, particularly those historically marginalised, and ensuring the meaningful inclusion of diverse actors (human and non-human), worldviews, values and knowledge systems. It was coded based on the extent to which diverse actors, knowledge systems, and worldviews were included, from top-down, closed policymaking (0) to full institutionalisation of inclusive governance (3). The principle of respectful and reciprocal human–nature relationships highlights the importance of nourishing connections between humans and nature — beyond instrumental use — as well as among humans through nature (e.g., spirituality, sense of place). It was coded based on whether policies recognised interdependence with nature, from purely instrumental views (0) to institutionalised recognition of ethical, spiritual and biocultural relationships (3). Finally, adaptive learning and action stresses the need for continuous evaluation and reflection to support learning and adaptive responses, fostering care for emerging impacts and minimising unintended consequences. It was coded according to whether policies included mechanisms for feedback, monitoring and adaptability, from static and prescriptive approaches (0) to reflexive, iterative and participatory governance (3).

The purpose of this system of assessment is to identify areas for improvement and guide the discussion of the results. It is not intended for quantitative comparison of policy outcomes, but rather to provide deeper insights into transformative elements within EU policies. The visual representation of scores through radar charts allows for a quick grasp of patterns, strengths, gaps, and the overall transformative potential of the policies.

2.3. Structure of the Discussion

The discussion is structured around the five interrelated and mutually reinforcing challenges identified in the IPBES Assessment, which hinder the translation of evidence and concern about biodiversity loss into transformative change and perpetuate unsustainable views, practices, and structures: 1) persistent relations of domination over people and nature, 2) economic and political inequalities; 3) long-

standing policies and institutions, 4) unsustainable consumption and production patterns, and 5) limited access to and lack of coordination across knowledge and innovation systems (Frantzeskaki et al., 2024). These five challenges relate to the underlying causes of biodiversity loss; they manifest at the levels of views, structures, and practices, and are interrelated and mutually reinforcing. By centring the discussion of results on these challenges, it becomes possible to identify concrete entry points for catalysing transformative change.

2.4. Limitations

All policies and respective action plans were coded manually using MAXQDA. As text material we used the official, legal texts provided by the EU (see section References). We coded the policy documents according to sections that corresponded to the four BPI dimensions and the four principles for transformative change. Visualisations were generated manually using Canva. To assess inter-coder reliability, all documents were coded by two researchers. Any discrepancies were resolved through collaborative discussion and memo-based review, which improved internal consistency. Nevertheless, the coding process was inevitably influenced by contextual interpretation and the subjectivity inherent in qualitative content analysis. As a result, the identification of indicators reflects not only the textual evidence but also the analytical lens through which it was interpreted.

Further limitations and potential biases arise from the study design. First, the selection of policies was guided by DAISY-relevant domains, narrowing the focus and potentially excluding other EU policies that address critical biodiversity-related or systemic issues. Second, while each policy comprises one or more Action Plans with multiple action areas and measures, our assessment was restricted to biodiversity-relevant dimensions. This means that measures important for inclusion, equity, or social justice without an explicit link to biodiversity were not fully captured. Third, the analysis is based solely on policy documents and does not extend to implementation at the Member State level, omitting insights into practical challenges such as institutional bottlenecks or gaps between ambition and delivery. Our findings thus provide a focused, document-based appraisal rather than a comprehensive evaluation of policy performance in practice.

3. Results and discussion

Analysing EU Policies using the Biodiversity Policy Integration theoretical framework, as well as the 2024 IPBES theoretical framework for Transformative Change provides an overview of both their transformative elements and areas for improvement. Figure 3 illustrates these results, which are not intended for quantitative comparison of these policy documents but rather to guide the discussion. The following section presents the results for each policy document and the corresponding action plans.

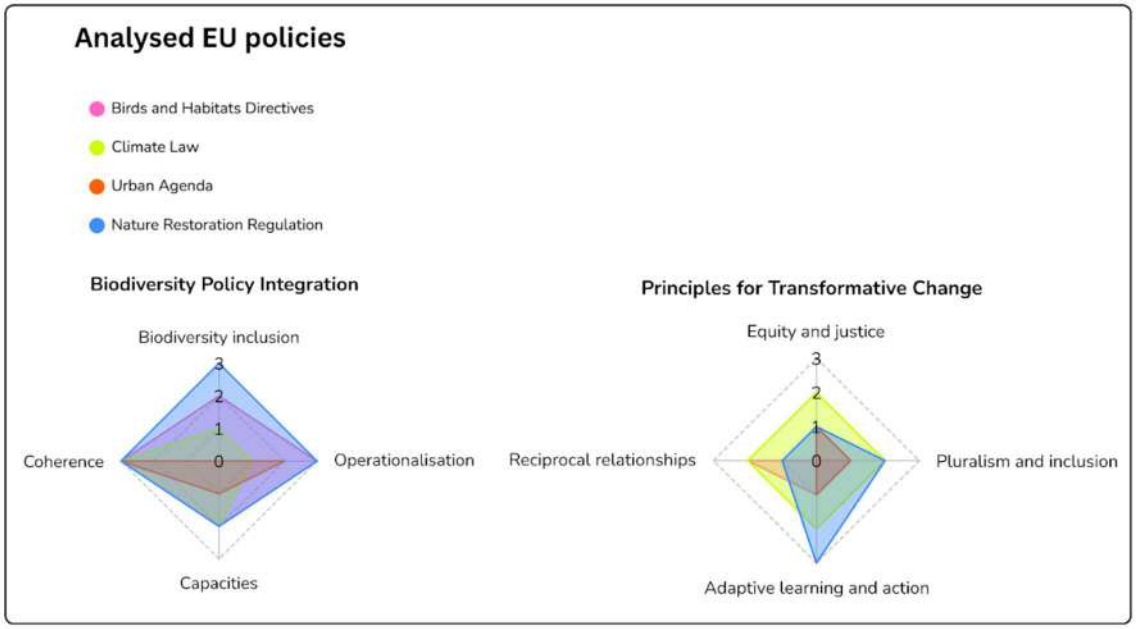

Figure 3 : Results of the analysis of selected EU policies according to the dimensions of Biodiversity Policy Integration and the principles for transformative change. A score of 0 indicates no consideration of the respective dimension; 1 reflects weak consideration; 2 indicates moderate consideration; and 3 represents full and explicit consideration.

3.1 The Birds and Habitats Directives

The Birds Directive was first adopted in 1979; following several substantive amendments, it was consolidated in 2009 (Directive 2009/147/EC). The Habitats Directive (Directive 92/43/EEC) was adopted in 1992. Together, they constitute the cornerstone of nature protection legislation in the EU, including establishment of the Natura network of protected areas. They aim to protect biodiversity through the conservation of natural habitats and of wild fauna and flora. The Habitats Directive

requires designation of sites of Community importance and Special Areas of Conservation, further establishing strict protection for listed species; while the Birds Directive requires establishment of Special Protection Areas for wild bird species. In 2015, the Commission carried out a 'Fitness Check' of the Directives, which led to a 2017 Action Plan aimed at improving their implementation; this Action Plan is also considered in this analysis.

A directive is a legal act adopted by the EU institutions and addressed to the Member States, which is binding as to the result to be achieved (Article 288 of the Treaty of the Functioning of the European Union [TFEU]). The directives create legal obligations for Member States, which are required to implement them through national measures while retaining discretion over the choice of measures. In case of failure to transpose the directive into national law or if the measures do not achieve the directive's objectives, the Commission may initiate infringement proceedings before the CJEU. The CJEU has played a crucial role in the interpretation and implementation of these obligations via two main pathways: preliminary rulings from national courts requesting guidance on interpretation, and infringement proceedings brought by the European Commission to ensure enforcement and compliance (Kramer and Badger, 2024; Lang, 2023). Selected case-law is integrated in the analysis below.

3.1.1 Biodiversity Policy Integration

Qualitative binding biodiversity targets without specific deadlines. The Birds and Habitats Directives aim 'to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest' (Habitats Directive, Art. 2) and 'to maintain the population of [naturally occurring birds in the wild state in the European territory of the Member States], as well as 'to preserve, maintain or re-establish a sufficient diversity and area of habitats' for these species (Birds Directive, Art. 1,2, and 3). Specific timeframes are only provided for implementing steps such as site designation, transposition into national legislation, and reporting cycles. The Directives clearly assign implementation responsibility to Member States, which must enact appropriate legal and administrative measures. While both directives impose strict conservation obligations, they also allow for derogations under specific conditions. This includes such as public health, safety, and to prevent damage to crops, livestock, forests,

fisheries and water (Birds Directive, Art. 9; Habitats Directive, Art. 16), provided they are justified and reported to the European Commission, ensuring oversight.

Fully operationalised framework of activities, responsibilities and measures, and expected ecological impacts. The Birds Directive mandates the designation of Special Protection Areas for specific species (Art. 4) and requires a system of strict protection for all naturally occurring wild bird species, including the safeguarding of their eggs, nests and habitats. A central mechanism of the Habitats Directive is the creation of the Natura 2000 network, a coherent European ecological network of protected areas. Site selection is based strictly on scientific criteria, ensuring the protection of habitat types and species of Community interest. In addition, Member States are required to adopt further conservation measures to address pressures such as pollution, unsustainable resource use, or habitat degradation, as well as to establish a strict protection regime for certain species both within and beyond Natura 2000 sites. Some species may be subject to hunting or use, provided such activities do not jeopardise conservation objectives and comply with principles of sustainable use (Birds Directive, Art. 7; Habitats Directive, Art. 14). Beyond Natura 2000, Member States are encouraged to conserve and restore habitats for biodiversity, including 'where they consider it necessary, in their land-use planning and development policies' (Habitats Directive; Art. 10).

Projects likely to have a 'significant effect' (Art. 6(3)) on a Natura 2000 site must undergo an assessment and may proceed only if they do not harm the site's integrity, or, if no alternatives exist, compensatory measures must be taken to maintain the network's coherence (Habitats Directive, Art. 6). The CJEU case law has served to interpret and operationalise this article (see judgements in cases: Waddenzee, C-127/02 of 2004; Sweetman and Others, C258/11 of 2013; Briels and Others, C521/12 of 2014; Orleans and Others, C387/15 and C388/15 of 2016; Commission v Germany, C142/16 of 2017, AquaPri, C-278/21 of 2022). A set of criteria are applied with regard to the standard of proof, application of the precautionary principle and the nature and proximity of effects on the Natura site. In particular, significant effects must be ruled out according to the best available knowledge and without reasonable scientific doubt before project authorisation. In accordance with the precautionary principle, in case of scientific uncertainty, authorities must decide against project authorisation to prioritise site protection.

Lack of spatial proximity or direct overlap does not automatically rule out the requirement for a full assessment; while all potential effects must be examined, including direct and indirect ones, as well as their cumulative and synergistic impacts (Möckel, 2017; Garcia-Ureta, 2018). These criteria serve to limit Member State discretion of implementation, making the requirement for an appropriate assessment a decisive factor for the protection of Natura sites. The CJEU has further elaborated on the different measures that the national authorities may need to take to remedy a failure to carry out an assessment in accordance with Article 6(3) provisions. Such measures however ultimately depend on the competence of the relevant national authority and the specific legal and factual circumstances of each specific case, including procedural margins under national law (Braaksma and Haugsted, 2023).

Capacities to support implementation are moderate, including funding, accountability and coordination mechanisms. The directives establish legally binding obligations for species and habitat protection, with compliance monitored by the European Commission. Accountability is reinforced through regular reporting requirements (Art. 11 and 17 of the Habitats Directive and Art. 12 of the Birds Directive) as well as monitoring of conservation status. Both directives also provide mechanisms for cooperation and coordination, for example among Member States and with the European Commission. In addition, Article 8 of the Habitats Directive establishes the legal basis for EU co-financing of conservation measures, particularly for priority habitats and species. Despite these capacities, the 2017 Fitness Check concluded that funding between 2007 and 2013 met only 9–19% of identified needs, with national budgets failing to close the gap. It also highlighted persistent implementation challenges, including insufficient and poorly targeted funding, knowledge gaps, limited stakeholder engagement, inadequate site management, weak policy integration, and human resource constraints. In response, the 2017 Action Plan focused primarily on improving the uptake of existing funding sources, such as LIFE Integrated Projects for Natura 2000 (Action 8), the European Agricultural Fund for Rural Development (Action 9), and the Cohesion Policy Fund (Action 10). Only a few measures aimed at directly increasing resources, including EU co-financing for site management plans (Action 4) and a 10% increase in the LIFE programme's nature and biodiversity budget (Action 8). The Action Plan also sought to strengthen coordination, technical guidance, and structured dialogue

across governance levels - for example through the Environmental Implementation Review, including bilateral meetings and shared roadmaps (Action 5), as well as the Biogeographical Process (Action 6). However, the success of these measures ultimately depends on voluntary uptake, political will, and the capacity of Member States and partners to engage proactively.

Combining policy advocacy and legal mobilisation, civil society organisations and other citizen initiatives have often used the courts as part of their legal rights to promote implementation. In this context, the CJEU has ruled that laws and processes established under the Birds and Habitats Directives on permit procedures, impact assessments, consultations, and remedies, must respect the Charter of Fundamental Rights of the EU and standards established under the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters. Adopted in 1998 under the UN Economic Commission for Europe, the Aarhus Convention guarantees the public key procedural rights on environmental matters. The 'Slovak Bears' case provides an illustration. Dealing with the standing of a Slovak non-governmental organisation in administrative proceedings related to requested derogations in the hunting of the European Brown Bear, the CJEU ruled that national permit procedures affecting Natura 2000 sites and species must respect guarantees on public participation and access to justice under the Charter and the Aarhus Convention (Lesoochranárske, C243/15 of 2016). National laws must thus provide the public with effective procedural rights and remedies throughout permitting and decision-making processes affecting Natura 2000 sites and species (Darpö, 2014; Wolferen van, 2017).

Similarly, the Aarhus Convention Compliance Committee has confirmed that obligations under the Convention, including on public participation and access to justice, cover all decision-making, including processes concerning protected species and sites under the Birds and Habitats Directives. Composed of nine members serving in their personal capacity, nominated by Parties, Signatories and non-governmental organisations (NGOs), and elected by the Meeting of the State Parties to the Convention, the Aarhus Compliance Committee is a quasi-judicial body that considers any submission, referral or communication brought before it by Parties, the Secretariat or the public; and monitors, assesses and facilitates the

implementation of, and compliance with, the reporting requirements under the Convention. Upon its recommendations, the Meeting of the State Parties may decide upon any appropriate measures to bring about full compliance with the Convention, including: providing advice and facilitating assistance to the Party concerned; making recommendations; issuing declarations of non-compliance or cautions; suspending the special rights and privileges of the Party concerned; or taking any other non-confrontation, non-judicial and consultative measures.

The Compliance Committee has put emphasis on the scope of participation, availability of necessary information and appropriate notification to allow for meaningful input, as well as procedural requirements for legal standing which may affect access to justice. Importantly, according to data from the Aarhus Convention Secretariat, more than 95% of the communications to the Compliance Committee are submitted by members of the public, in most cases environmental NGOs (UNECE, August 2025). This shows how the procedural rights enshrined in the Convention have enabled individuals, organisations and communities to play an active role, including through judicial action, in the implementation and monitoring of internationally agreed environmental objectives (Rossi et al., 2024). At the same time, the direct applicability of the Aarhus Convention in the EU has led to broadening the criteria for legal standing of NGOs before the CJEU, initiating a cross-fertilisation between the two bodies (Pallemaerts, 2011).

Coherence with EU biodiversity targets and SDGs. The Birds and Habitats Directives form the legal backbone of the EU's biodiversity policy and are explicitly referred to in the EU Biodiversity Strategy 2030. Their objectives are directly aligned with the EU Biodiversity Strategy's goals to halt biodiversity loss, restore ecosystems, and enhance protected areas. Alongside, the Directives and Action Plan support multiple SDGs, most notably goals 14 (Life Below Water) and 15 (Life on Land). Goal 13 (Climate Action) is supported through the protection of ecosystems that provide carbon sinks.

3.1.2 Integration of the Principles for Transformative Change

Equity and justice remain unaddressed. Measures under the Habitats Directive must consider 'economic, social and cultural requirements and regional and local characteristics' (Art. 2) and under the Birds Directive 'economic and recreational

requirements' (Art. 2), however, they do not specify what that means in concrete terms. The legal frameworks prioritise ecological outcomes and regulatory compliance without addressing who benefits from or bears the costs of conservation. The Directives and their Action Plan do not outline participation in decision-making processes, for example in relation to who defines conservation priorities (governments informed by scientific expertise), as this falls under the competence of Member States. The Action Plan encourages broader engagement, without proposing structural reforms or safeguards to ensure equity and justice.

Limited capacity to ensure pluralism and inclusion. Provisions for stakeholder engagement are presented, however without concrete steps or binding mechanisms for effective knowledge uptake. For example, Action 4 encourages Member States to involve all relevant stakeholders in designating sites and implementing conservation measures, and Action 6 promotes participation by national and regional authorities and stakeholders in the Natura 2000 Biogeographical Process. The governance model embedded in the Directives and reinforced by the Action Plan remains top-down, science-driven and state-centred, concentrating decision-making power within institutional authorities. As noted above, the CJEU case law has broadened the participation requirements, also on the basis of EU obligations under the Aarhus Convention, without however affecting the nature of the governance model as top-down.

Reciprocal and respectful human-nature relationships are only partially addressed. While the Directives emphasise shared responsibility for biodiversity, transcending national borders (Recital 4) and promote ecosystem services and nature-based solutions (Actions 1 and 12), the overall framing remains science-based and utilitarian, focusing on species and habitat conservation through expert-driven approaches. There is no explicit reference to relational ethics, rights of nature, or stewardship models that would support a deeper, more transformative shift in how humans relate to nature. Any connection to local attachment or respect for nature emerges indirectly, rather than as a core guiding principle.

Cyclical mechanisms for monitoring, evaluation, and reporting enable moderate adaptive learning and action. Although ecological data feeds into EU-level assessments, there is no comprehensive adaptive governance framework with formal feedback loops that require policy or management adjustments based on

monitoring outcomes. This can be linked to the cumbersome nature of EU decision-making. The Action Plan promotes best practice exchange among Member States and biogeographical goal-setting (Action 4), as well as structured dialogue via the Environmental Implementation Review (Action 5). It mentions follow-up on agreed roadmaps but lacks concrete steps beyond 2019. Knowledge exchange with local and regional authorities is encouraged through events like conferences and workshops (Action 13). It is thus expected that monitoring and adjustment as needed will proceed at the national level according to national and local priorities. However, while there are steps to support dialogue and potential adjustments, they remain mostly voluntary and informal, lacking strong institutionalised mechanisms for responsive change.

3.2 European Climate Law

The European Climate Law (Regulation 2021/1119) entered into force in 2021, setting out a binding objective of climate neutrality in the Union by 2050 (Art.1) to achieve negative emissions thereafter (Art. 2). It provides a framework for the Union's contribution to the Paris Agreement. It does not contain any specific reduction obligations for Member States. In 2023, the EU adopted a communication known as the 'Fit for 55' package (COM(2021) 550 final), which proposed revising all relevant policy instruments necessary to achieve the 2030 climate target. Since then, key legislation included in the 'Fit for 55' package has been adopted that is relevant for biodiversity and equity, including on the Social Climate Fund, the revised Land Use Land Use Change and Forestry (LULUCF) Regulation, and the Energy Efficiency Directive.

Regulations have general application, are binding in their entirety and are directly applicable in all EU Member States (Article 288 TFEU). In contrast to directives, they do not need to be transposed into national law. They create obligations for Member States, as well as rights and obligations for individuals. In line with the CJEU's jurisprudence, they can be directly invoked before national courts, as long as the rules are sufficiently clear, precise and relevant to the situation of the individual litigant (Politi v Ministero delle finanze, C-43-71).

3.2.1 Biodiversity Policy Integration

Acknowledgment of climate–biodiversity links without explicit biodiversity targets. The Climate Law refers to climate change as a driver of biodiversity loss (Recital 3) and highlights synergies between climate and biodiversity protection, such as the restoration of natural carbon sinks (Recital 23) and the role of nature-based solutions in benefiting biodiversity (Recital 32). The law sets the intermediate target of reducing net greenhouse gas (GHG) emissions by at least 55% by 2030, compared to 1990 levels, enhancing 'removals by natural sinks' (Art. 4). It is doubtful however whether the references to 'natural sinks' capture all the multiple values of biodiversity, risking thus to make biodiversity an afterthought to climate change. Article 4 outlines the establishment of a specific climate target for the year 2040, considering 'the need to maintain, manage and enhance natural sinks in the long term and protect and restore biodiversity' (Art. 5 (j)). The European Commission's communication for the 'Fit for 55' package states that '[t]he twin climate and biodiversity crises cannot be treated separately' (para 2.3). Legally binding targets and some (limited) references to synergies between climate mitigation and biodiversity were introduced under the revised LULUCF Regulation 2023/839 (Arts 4 and 13d).

Low operationalisation of biodiversity-related targets with specific responsibilities assigned to European Union institutions and Member States (Art. 2(2)). Member States must adopt and implement national adaptation strategies and plans promoting nature-based solutions (NbS) and ecosystem-based adaptation (Art. 5(4)). The 'Fit for 55' package introduces new measures across climate, energy and fuels, transport, buildings, and land use/forestry. It combines pricing, targets, standards, and support measures, raising ambitions for natural carbon removals under the updated LULUCF Regulation and incentivising sustainable biomass production in line with biodiversity restoration goals under the revised Renewable Energy Directive 2023/2413.

The umbrella concept of NbS has been increasingly used to integrate biodiversity considerations into policy action on mitigation of, and adaptation to, climate change. It has evolved from concepts such as the ecosystem approach and ecosystem-based adaptation and mitigation. Critics point to dangers of over-simplification and potential misuse of the concept (Nesshöver et al., 2017), further noting it 'reinvents

the wheel' by renaming well-known approaches to biodiversity conservation and sustainable use of natural resources. Nevertheless, it has gained traction recently, particularly following adoption of the UN Environment Assembly Resolution on NbS in 2022. With this resolution, the international community reached consensus on the definition of NbS as *actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems, which address social, economic and environmental challenges effectively and adaptively, while simultaneously providing human wellbeing, ecosystem services and resilience and biodiversity benefits* (para 1). There are thus clear elements to support broad biodiversity and equity objectives as part of climate action, against a narrow focus on the carbon sequestration benefits of biodiversity. There is broad consensus in the literature that the concept of NbS overlaps with other approaches, such as the ecosystem approach developed under the CBD, but that it can be used as an umbrella term to create momentum for action and increase visibility of the linkages between and shared root causes of biodiversity loss and climate change (Terton, 2022).

Litigation is one avenue aiming to close the accountability gap between commitments and action (Rodríguez-Garavito and Boyd, 2023). Climate litigation is already extensively used as a lever to influence climate policy before national, as well as regional and international tribunals. According to the Climate Litigation Database of the Sabin Centre for Climate Change Law, there have been over 2,000 cases brought in courts across the world, most of them in the USA, with cases increasing in Europe and around the globe. Most of the cases involve judicial review of government decisions and statutory interpretation, with an increasing number of them targeting corporations directly (Rodríguez-Garavito and Boyd, 2023). The cases with explicit reference to biodiversity, ecosystems or NbS are, however, limited.

Despite the recognition in theory of the interlinkages between climate change and biodiversity loss, including by the Advisory Opinion of the International Court of Justice (ICJ), which is discussed in section 4.2., in practice policy goals may be contradictory, or even in conflict (Armarego-Marriott, 2020). The EU Climate Law recognises the interlinkages, although no legally-binding obligations support synergetic law and policy action for the achievement of both biodiversity and

climate objectives. Current judicial practice shows that cases brought before the courts: a) either align biodiversity and climate goals - using climate-related arguments to support biodiversity goals and vice versa; or in their majority, b) contest climate legislation for violating biodiversity- or equity-related objectives, including regarding the rights of Indigenous Peoples and local communities (Nollkaemper, 2025).

A case currently pending before the CJEU offers an illustration of alignment between biodiversity and climate objectives. Beginning in 2011, the European Commission sent Ireland a formal notice under the Habitats Directive citing failures to protect special areas of conservation designated for raised bog and blanket bog habitats. The European Commission argued that turf cutting on these bogs, combined with drainage activities, was degrading priority habitats that are critical for biodiversity and serve as significant carbon sinks, contributing to climate change mitigation. Due to the continued degradation of bog habitats and lack of effective regulatory regime, the case was referred to the CJEU in March 2025 (Case INFR(2010)2161).

It is expected that climate litigation will increase and intensify in the EU following adoption of the EU Climate Law and flagship decarbonisation measures under the 'Fit for 55' package (Higham et al., 2023), including on the interlinkages between biodiversity and climate goals. It is expected that cases contesting climate legislation for biodiversity- and equity-related purposes will increasingly concern policies related to just transition - including mining for critical minerals (Sonter et al., 2020; Aska et al., 2024) and the creation of social climate plans to access the Social Climate Fund; renewable energy, including bioenergy; and corporate due diligence obligations, including on disclosure of information and greenwashing (Higham et al., 2023). When it comes to just transition in particular, the Just Transition Litigation Tracking Tool has started monitoring lawsuits against governments and companies undertaking transition mineral mining or renewable energy projects in violation of communities' and individual rights, with 95 lawsuits on the portal at the time of writing.

Strong capacities supporting implementation include review mechanisms and funding. Articles 3 and 12 of the Climate Law establish a 15-member independent scientific Advisory Board to provide advice on targets and measures, evaluate policy

coherence with climate goals, raise awareness, and stimulate climate-related dialogue, complementing the work of the European Environment Agency (EEA). Its mandate does not include interactions with biodiversity goals, although it is required to be guided by the best available scientific evidence which includes IPBES reports. Article 3.4 invites Member States to establish national advisory bodies to provide independent scientific advice at the national level. Articles 6 and 7 mandate regular assessments of progress and measures and Article 11 sets out a formal review mechanism linking the EU's climate governance with the global stocktake process under the Paris Agreement. At least 30% of the EU budget and Recovery Instrument is earmarked for climate-related funding (Recital 28), and the Commission must propose measures to mobilise sufficient resources (Art. 4(2)). The Climate Law recognises the EU Emissions Trading System (which has been reformed and expanded as part of the 'Fit for 55' package) as a key tool for cost-effective emission reductions (Recital 13). The Social Climate Fund, established as part of the 'Fit for 55' package, aims to alleviate the social and economic impacts arising from the new Emissions Trading System and ensure a fair transition to climate neutrality. To achieve this, the SCF will provide EU Member States with dedicated funding to directly support the most affected vulnerable groups, notably households in energy or transport poverty. Member States may use it, on the basis of Social Climate Plans, to support structural measures and investments in energy efficiency and renovation of buildings, clean heating and cooling and integration of renewable energy, as well as for zero- and low-emission mobility solutions. To finance these measures, the Social Climate Fund will pool revenues from the new, as well as the existing Emissions Trading System, together with a mandatory 25% contribution of the Member States to their Social Climate Plans. According to the European Commission, the Social Climate Fund should mobilise at least EUR 86.7 billion of public funding over the 2026-2032 period. The measures funded through it could include NbS - however, the Commission's Guidance on the Social Climate Plans (C(2025) 881 final) does not integrate biodiversity and climate policy solutions and includes only marginal reference to NbS.

Coherence with EU biodiversity targets and SDGs. The European Climate Law does not explicitly mention the EU Biodiversity Strategy. It supports ecosystem restoration and promotes synergies with biodiversity protection, albeit in a limited manner and mainly in provisions and with formulations that do not require legally-

binding action, either from the part of the EU or from the part of Member States. It links the EU's climate neutrality goal to the SDGs in a generic manner, stating that a '*fixed long-term objective is crucial to contribute to [...] the achievement of the United Nations Sustainable Development Goals*' (Recital 4).

3.2.2 Integration of the Principles for Transformative Change

Moderate potential to ensure equity and justice. The Law embeds principles of a just, socially fair, and inclusive transition, including on public participation (Recital 2; Art. 9), and requires the Commission to weigh social, economic and environmental impacts alongside the costs of inaction when setting the 2040 target (Art. 4.5b–c). Operationalisation of these principles will be pursued through the mechanisms established under the 'Fit for 55' package, including the Social Climate Fund, as well as the judicial toolbox of the EU and its Member States. Without targeted redistribution measures, enforceable protections for affected communities, or explicit provisions for recognitional justice — such as safeguarding cultural identities or acknowledging historical marginalisation — its ability to deliver equitable outcomes is limited. In addition to the Social Climate Fund, the revised Effort Sharing Regulation adjusts national targets among Member States according to GDP per capita and national circumstances.

Moderate potential to ensure pluralism and inclusion despite call for public engagement. Article 9 of the Climate Law calls for engagement across all levels of society, including social partners, academia, civil society and citizens, tasking the Commission with facilitating inclusive, accessible dialogue at multiple governance levels. It promotes best-practice exchange and dissemination of science-based information, including on social and gender aspects of climate change. Amendments to Article 11 add national dialogues involving diverse actors in implementing climate plans (Art. 13(5)). However, the law lacks mechanisms to ensure participation of marginalised groups and does not clarify how dialogue inputs will influence structural decision-making.

Moderate potential to support adaptive learning and action through a framework of regular monitoring, review, and science-based decision-making. Articles 6 and 7 require periodic assessments of Member States' progress and Article 8 of the requires the European Commission, when it evaluates progress

toward climate goals, to base its analysis on the National Energy and Climate Plans (NECP), EU bodies such as the European Environment Agency, the Advisory Board, and the Joint Research Centre, global systems like Copernicus, and the latest IPCC and IPBES findings. If collective progress is lacking, the European Commission must act (Recital 36) and report to the European Parliament and Council, potentially with legislative proposals (Art. 13(9)). Article 4(2) mandates reviewing and revising legislation to meet 2030 and 2050 targets, while Member States' long-term strategies, submitted every ten years and updated every five (Art. 13(6)), sustain a continuous learning cycle. The 'Fit for 55' package strengthens these processes through impact assessments and iterative NECP updates. However, the absence of clear provisions for incorporating stakeholder input into these feedback loops limits the Climate Law's potential for inclusive learning.

Moderate potential to ensure reciprocal and respectful human–nature relationships. While the importance of nature, ecosystem restoration and natural carbon sinks in achieving climate objectives is acknowledged, nature is framed primarily as an instrumental resource for carbon sequestration, rather than as a rights-bearing or relational entity. Climate-related legislation does not engage with the multiple values of biodiversity, let alone with concepts of stewardship or the agency of nature — key to fostering mutual and respectful relationships between humans and the natural world. Ethical responsibilities are limited to human-centred well-being, with no recognition of the intrinsic value of non-human life.

3.3 Urban Agenda for the EU

The Urban Agenda of the EU - based primarily on the Pact of Amsterdam - was agreed in 2016, seeking to better involve Urban Authorities in achieving EU goals by promoting cooperation between cities, national governments, the European Commission and other stakeholders. It is a cooperation arrangement focused on improving regulation, funding access and knowledge exchange. As strictly a cooperation arrangement however, it does not initiate new regulation, nor create new funding allocations.

The principal implementation instruments of the Urban Agenda are Partnerships, intended to operationalise its goals across specific priority themes through a multilevel and cross-sectoral governance framework. To date, a total of 21

partnerships have been established, each resulting in an Action Plan. Based on the official document of the Urban Agenda of the EU - including its Working Programme – twelve Action Plans have been concluded and considered in this analysis: Partnership for Culture and Cultural Heritage; Security in Public Spaces; Partnership for Sustainable Use of Land and Nature-Based Solutions; Energy Transition Partnership; Climate Adaptation Partnership Partnership for Urban Mobility; Partnership for Digital Transition; Partnership for Circular Economy; Jobs and Skills in the Local Economy; Urban Poverty Partnership; Housing Partnership; Partnership for Air Quality. These Action Plans remain non-binding, relying solely on voluntary participation.

3.3.1 Biodiversity Policy Integration

While the environmental impact of urban development is addressed, biodiversity is not explicitly mentioned. The Urban Agenda addresses climate adaptation, green infrastructure, sustainable land use, and NbS. References to biodiversity appear only indirectly within some partnerships. The Partnership for Circular Economy acknowledges threats from biodiversity loss (p. 65) and commits to sustainable resource management, waste minimisation, and ecosystem conservation, regeneration, restoration and resilience (p. 66). The Partnership for Culture and Cultural Heritage calls for preserving natural heritage and frames culture and landscape as ecological resources in tackling biodiversity loss (p. 6). The Partnership for Sustainable Use of Land and Nature-Based Solutions promotes the liveable compact city model and seeks to mainstream NbS to create sustainable, resilient, and liveable urban spaces, problematising urban sprawl (p. 7).

Moderate operationalisation of biodiversity-related targets with Action Plans remaining non-binding and dependent on voluntary participation as per their legal nature. Concrete actions to improve regulation, funding, and knowledge are set out in the Action Plans developed within each partnership. Some of these specify clear responsibilities (for example, for European institutions, urban authorities, regional governments, universities, research institutes, or local partners) alongside implementation timelines and monitoring arrangements.

The Action Plan for Sustainable Use of Land and NbS is the most directly linked to biodiversity. It calls for incorporating land take and soil properties into impact

assessments at all governance levels, supported by dissemination events to reduce land take (Action 1); defining net land take indicators that reflect soil type, urban greening, soil sealing/de-sealing, and re-naturalisation (Action 4); recognising urban sprawl as a direct driver of biodiversity loss, and promoting cooperation with Functional Urban Areas to improve cross-boundary coordination and share good practices on sustainable land use (Action 5); integrating NbS into EU directives and local regulations (Action 6); raising awareness of available NbS funding (Action 7); addressing uneven knowledge distribution on NbS (Action 8); and establishing common targets and indicators for NbS, green infrastructure, and urban biodiversity and ecosystem services, usable by citizens, policymakers and administrations (Action 9). Progress is tracked through structured reporting templates and semi-annual reports from Action Leaders, which help identify support needs and barriers to implementation (p. 68).

The capacities supporting implementation are limited by reliance on voluntary cooperation, urban authorities' limited competence at both the national and the EU settings, and the absence of enforceable measures. The Urban Agenda establishes an informal multilevel cooperation model involving Member States, regions, urban authorities, the European Commission, Parliament, advisory bodies (Committee of the Regions (CoR), European Economic and Social Committee (EESC), the European Investment Bank (EIB), and other stakeholders). Thematic Partnerships promote horizontal and vertical coordination, with the DG Meeting on Urban Matters ensuring transparency, monitoring, review and ministerial dialogue. Action Plans encourage cooperation across levels, such as public-private partnerships and local stakeholder engagement in the Action Plan for Sustainable Land Use and NbS. By contrast, the Climate Adaptation Action Plan highlights a key challenge: '*Cities do not have competence over [the] biosphere [...] Its competence is on the regional and national level [...] [and] the biosphere is not high on the agenda of cities*' (p. 80), questioning vertical coherence in biodiversity integration.

The Pact of Amsterdam prescribes a bottom-up approach: '*Partnerships should [...] analyse, inter alia, concrete cases in Urban Areas which exemplify bottlenecks and potentials*' (p. 10). Implementation must involve all levels of government while respecting competences and subsidiarity. Urban authorities are encouraged to work with regional actors, businesses, communities, knowledge institutions and civil

society (p. 12). Civil society's '*potential [...] to co-create innovative solutions*' is explicitly recognised (p. 16), and the EESC is invited to contribute alongside other advisory partners.

Funding remains limited. The Pact of Amsterdam acknowledges that access to existing instruments is '*sometimes administratively burdensome*' (p. 3). One of the Agenda's three aims is therefore to improve accessibility, coordination and simplification without creating new EU funds. Partnerships identify sources, coordinate with funders and monitor programmes (Horizon, LIFE, COSME, Urban Innovative Actions). The EIB plays a central role through grant-loan blending and advisory support, incorporating Agenda outcomes into lending. For example, Action 7 of the Action Plan for Sustainable Land Use and NbS promotes the use of EU funds (Horizon 2020, LIFE, European Regional Development Fund (ERDF), Cohesion Fund) for NBS, calls for a dedicated funding guide, and seeks better integration of financing across governance levels.

To address fragmented data and underused practices, the Agenda emphasises knowledge exchange and better use of existing infrastructures under EU data and open-data rules. It promotes evidence-based policymaking via platforms such as Cohesion Policy, URBACT, and the European Innovation Partnership on Smart Cities. The Commission and EIB mainly facilitate by providing expertise and support. Partnerships promote peer learning, guides, manuals and hubs, through the European Observation Network for Territorial Development and Cohesion (ESPON) and the European Urban Knowledge Network (EUKN). Action 8 of the Action Plan for Sustainable Land Use and NbS focuses on awareness and knowledge-sharing on NbS (p. 56), while the Climate Adaptation Action Plan strengthens Climate-ADAPT (p. 21).

Review mechanisms are equally soft. Partnerships report annually to the Urban Development Group (UDG), which compiles summaries with the EU Presidency and Commission and shares results with Ministers, Parliament, CoR, and EESC. Activities are evaluated after three years (p. WPiii–vi). The Action Plan for Sustainable Land Use and NBS proposes an iterative review process with stakeholder groups (p. 9), including indicators, targets and feedback loops. Yet commitments often remain vague: the Culture and Cultural Heritage Action Plan, for example, merely suggests actors 'if possible, [...] be aware' of harmonised indicators

and 'use them accordingly' (p. 154), underlining the main actors' lack of competence to enforce review mechanisms.

Coherence with the SDGs and EU Biodiversity Strategy, with uncertain implications for biodiversity. The Urban Agenda for the EU shows formal coherence with the global sustainability framework: the Pact of Amsterdam explicitly references the SDGs, and each Action Plan links its actions to the respective SDGs they are contributing to, notably SDG 11 (Sustainable Cities). The Action Plans refer moreover to linkages with SDG 15 (Life on Land) - for example, through the promotion of NBS; SDG 8 (Decent Work and Economic Growth) - for example, by supporting the creative sector through the Action Plan for Culture and Cultural Heritage; SDG 9 (Industry and Infrastructure) - for example, through an integrated and holistic approach that focuses on the reuse of abandoned places, thus decreasing land use in the same Action Plan. The Urban Agenda also links to SDG 17 (Partnerships) through its approach to fostering collaborations at different levels of governance. While the EU Biodiversity Strategy 2020 is not referenced in the Pact of Amsterdam, it is only rarely referenced in some of the Action Plans - for example in the Action Plan for Sustainable Land Use and NBS, but without linking its targets to specific actions. The lack of explicit focus on biodiversity, suggests missed opportunities to integrate it into Urban Planning through the EU Urban Agenda.

3.3.2 Integration of the Principles for Transformative Change

Acknowledgement of equity and justice, but limited capacity to ensure them. The Pact of Amsterdam calls for transparency, equal access to information, and equal opportunities for all stakeholders to contribute to the Urban Agenda (p. 6). It also highlights societal change as a cross-cutting concern, including behavioural change, gender equality and women's empowerment (p. 8). Specific references exist, such as Action 8 of the Sustainable Land Use and NbS Action Plan - which stresses the importance of equitable access to information in decisions on NbS (p. 65) - and the Climate Adaptation Action Plan - which recognises that climate change intensifies social injustice, particularly affecting vulnerable groups like the elderly, urban poor and migrants (p. 17). This plan calls for adaptation responses designed with social justice in mind (p. 17). However, no concrete measures or dedicated actions are specified, limiting the practical implementation of these commitments. Moreover,

equity is often framed as a means to ensure economic stability within the internal market and monetary union (p. 17). Evidence of equity and justice across the Action Plans is fragmented and partial.

Acknowledgement of pluralism and inclusion as cross-cutting priorities, though commitments often remain aspirational and lack operational detail. The Working Programme of the Urban Agenda for the EU highlights inclusivity as a potentially transformative element, for example by setting objectives to '*reduce poverty and improve the inclusion of people in poverty or at risk of poverty [...] with a focus on spatial concentration of structural poverty in deprived neighbourhoods (and regeneration of these areas) and child poverty*' (p. WPiii). These goals are to be pursued through place- and people-based solutions, urban regeneration and socio-economic integration (p. WPiii). Similarly, the Partnership on Inclusion of migrants and refugees aims to provide a framework for integration through housing, cultural inclusion, public services, education, labour market access and tackling spatial segregation, while also considering intergenerational perspectives (Urban Agenda, WPiii). In the Action Plan for Sustainable Land Use and NbS, Action 8 underlines that a sustainable city must be liveable and inclusive for all population groups, explicitly referencing women, people with disabilities, and older individuals (pp. 65–66). This action promotes awareness-raising and citizen participation in decision-making on NbS (p. 64), but offers no concrete mechanisms for implementation. Action 11 of the Culture and Cultural Heritage Action Plan proposes fostering social inclusion largely by identifying research needs and linking them to local administrations through knowledge-sharing methodologies (p. 111). While these initiatives emphasise inclusivity and plurality, their fragmented and non-binding nature, together with the absence of links to the protection and regeneration of nature, limits their transformative potential for addressing the social and ecological dimensions of urban challenges integratively.

Recognition of adaptive learning as central to improving policy outcomes with limited mechanisms to ensure inclusivity and enforcement. The Urban Agenda emphasises particularly the need to foster knowledge exchange, reliable urban data and continuous monitoring, while also addressing data protection, administrative burdens and institutional diversity (p. 9). Action Plans build on this by aiming to strengthen regulation, knowledge and funding, components that - if implemented in

line with adaptive principles - could support transformative change and minimise unintended effects. The Pact of Amsterdam outlines overarching actions to improve '*the urban dimension of EU-policies*' (p. WPiv) and highlights the URBACT programme, which contributes through transnational networking, capacity building and dissemination of urban knowledge (pp. WPiv–v). Such mechanisms create opportunities for adaptive learning in sustainable urban development. The principle is further reflected in Action 11 of the Culture and Cultural Heritage Action Plan, which seeks to align local research needs with EU funding to reinforce cultural policy (p. 19), though it does not specify how marginalised voices will be included. Similarly, the Action Plan for Sustainable Land Use and NBS emphasises adaptive monitoring through Action 9, which proposes common indicators and targets for NbS, green infrastructure, biodiversity and ecosystem services, stressing the need for relevance, adaptability across contexts and ease of implementation (p. 58). Together, these initiatives illustrate the Urban Agenda's recognition of adaptive learning, but their transformative potential depends on how inclusively and consistently such mechanisms are put into practice.

Little explicit recognition of reciprocal or respectful human–nature relationships. The Pact of Amsterdam does not call for alternative engagements with nature beyond a predominantly utilitarian framing of nature as a 'service provider.' However, the Culture and Cultural Heritage Action Plan introduces a broader perspective by explicitly considering 'natural heritage', including for example landscapes, natural environments and habitats (p. 145). This approach acknowledges that natural heritage carries intrinsic value, extending beyond ecosystem services, and positions it as an integral part of cultural identity and policy action. While limited in scope, this reference opens a pathway for more respectful and relational understandings of human–nature interactions.

3.4 The Nature Restoration Regulation

The Nature Restoration Regulation (2024/1991) sets binding targets to restore degraded ecosystems, habitats and species across the EU's land and sea areas, in line with the EU Biodiversity Strategy and towards achievement of the EU's international commitments, including under the CBD and the UNFCCC. It aims to enable the long-term and sustained recovery of biodiverse and resilient nature, with the explicit acknowledgement that restoring ecosystems also contributes to

achieving the EU's climate change mitigation and adaptation objectives. It entered into force on the 24th of August 2024, expecting EU countries to submit National Restoration Plans to the European Commission by mid 2026.

As a result of its recent adoption, and pending preparation and submission of the national restoration plans, there is no CJEU case law on it as yet. It has, however, already been invoked before national courts, giving rise to questions regarding its direct applicability (as a general principle for regulations discussed above). An Austrian Federal Administrative Court, for instance, addressed the question of whether the regulation applies directly in permitting procedures, before finalisation of the national restoration plan. An environmental organisation challenged the permit of a planned project, arguing that it violated the nature restoration regulation. The Court provided that, although the regulation is directly applicable EU law, it does not give rise to directly applicable permitting requirements. Until finalisation of the national restoration plan, the provisions of the regulation amount to targets and general obligations, with no specific requirement to assess them in permitting procedures (BVwG 9 May 2025; W270 2279107-1; Wolf, 2025).

3.4.1 Biodiversity Policy Integration

Legally binding biodiversity targets allowing for derogations. Article 1 of the Nature Restoration Regulation requires Member States to adopt effective, area-based measures to cover at least 20% of both land and sea by 2030 and all ecosystems in need of restoration by 2050 (Art. 1(2)). The regulation applies to terrestrial, coastal, freshwater (Art. 4), marine (Art. 5), urban (Art. 8), agricultural (Art. 11), and forest ecosystems (Art. 12), as well as river connectivity and floodplains (Art. 9), and pollinator populations (Art. 10). Member States must restore specific habitats not in 'good condition': 30% of total area by 2030, 60% by 2040, and 90% by 2050, with priority to Natura 2000 sites until 2030 (Art. 4(1)). 'Good condition' is defined as referring to a habitat with a high level of ecological integrity, stability and resilience necessary to ensure its long-term maintenance (Art. 3(4). States may exclude, with due justification, widespread habitat types covering over 3% of their territory (Art. 4(2)). Obligations do not apply to deterioration from force majeure, unavoidable climate-change impacts, or projects of overriding public interest with no alternative solutions (Art. 4(14–16)). Derogations also apply for degradation outside Member State control (Art. 4(14–

15)) and for certain projects within Natura 2000 authorised under the Habitats Directive (Art. 4(16)). The regulation recognises that restoration alone cannot reverse biodiversity loss, and that additional measures are needed (Recital 25). It highlights indirect drivers such as harmful subsidies (Recital 85) and the role of sectoral policies like the Common Fisheries Policy (CFP) (Recital 42) and Common Agricultural Policy (CAP) (Recital 58), though without directly regulating them.

High operationalisation to achieve biodiversity targets through specific actions and clear responsibilities. Articles 14 and 15 require Member States to prepare national restoration plans, supported by monitoring and research, in accordance with a uniform format prepared by the Commission (Art. 15(3) and (7)). Draft plans must be submitted to the Commission by 1 September 2026 (Art. 16). They must identify necessary measures, quantify areas to be restored, and align with the latest scientific evidence (Art. 14(1–2)). They must also ensure synergies with agriculture, forestry (Art. 14(10)), and renewable energy development (Art. 14(13)). National plans must extend to 2050, include intermediate deadlines (Art. 15(1)), and specify areas to be restored in quantitative terms. Where full implementation by 2050 is not possible, justification is required (Art. 15(3b)). Plans must describe measures taken, compensatory measures for deterioration, timelines, monitoring arrangements, and how sustained effects will be ensured (Art. 15(3p)). They must also assess co-benefits for climate change mitigation and land degradation neutrality, socio-economic impacts, and list harmful subsidies (Art. 15(1, 3a–c, g(1), n, q–s, u)). Member States are expected to involve authorities, landowners, users, civil society, businesses, researchers and the wider public, at all stages of plan development and implementation (Recital 83). Finally, Article 20 requires monitoring of habitat condition and trends in restored areas.

Well-defined capacities to support implementation across funding, technical support, coordination, monitoring, and revision, with clear mandates. The regulation recognises the need for both public and private investment and lists EU funding sources (Recital 78). Restoration plans must estimate financing needs, describe stakeholder support, and indicate financing means (Art. 15(3u)), while their development should allow for public participation (Recital 65) and their monitoring should be science-based (Recital 73). Member States may promote support schemes for stakeholders (Art. 14(12)), but are not obliged to reprogramme

CAP, CFP, or related funds (Art. 14(11)). A series of potential capacity-building mechanisms are listed, including the Technical Support Instrument (Recital 76) to strengthen administrative capacity, and the EEA to support monitoring and plan preparation (Recital 72). The European Commission and European Union agencies coordinate actions concerning pollinators (Art. 10(5)). Member States must seek synergies with the plans for ecosystems that span across regions (Art. 14(17)) and may use regional cooperation structures (Art. 14(18)). For marine ecosystems in particular, issues threatening compliance must be raised with the European Commission, other Member States, or international organisations (Art. 14(19)). The European Commission assesses draft plans within six months, assisted by experts or the EEA (Art. 17). Member States must revise plans accordingly, within six months (Art. 17(5–6)). Reporting obligations include restored areas, deterioration, compensatory measures, barriers removed and tree planting (Art. 21; Art.17(1)). Progress reports are due by 2031 and every six years thereafter (Art. 17(2)). By 2032, and every six years, the EEA publishes a Union-wide progress report (Art. 21(5)). From 2029, the European Commission reports to the European Parliament and Council every six years (Art. 21(6)).

Coherence with the SDGs and the EU Biodiversity Strategy. This regulation is a central pillar of the EU Biodiversity Strategy for 2030. It adopts the target of preventing deterioration in conservation status and ensuring that by 2030 at least 30% of currently unfavourable species and habitats reach favourable status or show strong positive trends (Recital 11). Member States must consider their CBD National Biodiversity Strategies and Action Plans when preparing restoration plans (Art. 14(14f)). The regulation aligns with SDGs 14.2, 15.1, 15.2 and 15.3, emphasising conservation, restoration, and sustainable use of terrestrial and freshwater ecosystems (Recital 5). Plans must optimise ecosystems' ecological, economic and social functions, and their contributions to sustainable development (Art. 14(16b)).

3.4.2 Integration of the Principles for Transformative Change

Equity and Justice are acknowledged, but clear safeguards are absent. The regulation addresses both procedural and distributive aspects through its participatory approach, although clear obligations linked to accountability are lacking: the importance of public participation in the development of national

restoration plans is acknowledged in the preamble (Recital 65), and the plans themselves must include information on public participation and on how the needs of local communities and stakeholders have been taken into account (Art. 15(3)(w)). The preamble further calls for a 'fair and cross-society approach' in preparing and implementing plans (Recital 83), and calls on Member States to consider the socio-economic impacts and estimated benefits of restoration measures (Recital 65). Yet the regulation does not specify how such benefits and impacts should be distributed across society, or provide any guidance with regard to criteria to be taken into account. Finally, Article 14(16) requires that national restoration plans take into account specific national and local conditions, regional and cultural diversity, population density and the particular costs borne by outermost regions, acknowledging differentiated contexts, but leaving distributional questions largely open to be addressed at the national level.

Pluralism and inclusion are mandated, yet their realisation ultimately depends on implementation by Member States. The regulation embeds inclusivity and plurality into its governance framework by explicitly requiring participatory processes in the development of national restoration plans. Article 14(20) mandates that these plans be prepared through '*open*, *transparent*, *inclusive*, *and effective*' procedures, ensuring that decision-making does not remain a top-down exercise. Stakeholders to be involved in the preparation, review and implementation of the national restoration plan include local and regional authorities, landowners and land users, civil society organisations, business representatives, research and education communities, as well as farmers, fishers and foresters (Recital 83). Article 15(3)(w) reinforces accountability by requiring that national plans summarise the participation process and how the needs of local communities and stakeholders have been 'considered'. While this makes inclusivity both a procedural requirement and a matter of public record, it remains the Member States' prerogative to involve those stakeholders as they see fit, and to 'consider' but not 'address' the needs of local communities.

High potential for adaptive learning and action. The regulation highlights the need to fill knowledge gaps and invest in monitoring and surveillance to support robust, science-based national restoration plans (Recital 73). Articles 20 and 21 establish monitoring and reporting obligations: Member States must make

monitoring data public (Art. 20(8)) and ensure that systems maximise the use of remote sensing, earth observation (Copernicus), in-situ technologies and citizen science (Art. 20(9)). At EU level, the Commission is tasked with assessing funding needs and gaps and proposing adequate measures (Art. 21(7) and (8)). Article 19 further provides for the review and, where necessary, revision of national restoration plans if monitoring shows insufficient progress, with the European Commission empowered to request supplementary measures. Flexibility is also built in through mandating the European Commission with adopting implementing acts (Recital 86), including for amending the annexes on ecosystem types, species and indicators, among others (Art. 22), underscoring the regulation's adaptive character.

Emphasis on ecosystem services over reciprocal human–nature relations. The regulation acknowledges the importance of restoring ecosystems, framing human–nature relationships primarily in instrumental terms. While it sets out new rules for the restoration and protection of diverse ecosystems, its stated aim is to '*optimise the ecological, economic and social functions of ecosystems, including their productivity potential, taking into account their contribution to the sustainable development of the relevant regions and communities*' (Recital 65).

3.4.3 Legislative Evolution, Actor Influence and Policy Outcomes

The design of public policies is a process that seeks to balance different perspectives and is based on a problem perception (Jänicke et al. 1999). Environmental policy emerges as a process of consultation, mediation and negotiation, informed only by scientific evidence and other inputs that is shaped by institutional procedures, competing interests and power distribution (Fiorino 1988). The EU Nature Restoration Regulation illustrates this dynamic. As the EU legislative process requires approval from both the Council and the European Parliament, the proposal underwent several rounds of negotiation. Its content evolved significantly from the European Commission's draft proposal in June 2022, through subsequent modifications by the Council and the European Parliament, culminating in the Trilogue Compromise in November 2023. The final text retains overarching restoration targets, but incorporates flexibility provisions and other adjustments introduced throughout this legislative process.

3.4.3.1 Legislative procedure and evolution of the proposal

Initial European Commission Proposal. The European Commission published a draft proposal in June 2022 (COM(2022) 304 final), along with an impact assessment, following the *Better Regulation Guidelines*, which require the European Commission to conduct participatory, evidence-based ex-ante impact assessments. This proposal introduced a regulation to restore biodiversity within the EU with specific norms, a historic baseline, and with deadlines set in 2030, 2040 and 2050. It set out to improve and re-establish a broader range of habitat types outside of the Natura 2000 network, including urban and agricultural ecosystems. It took a more holistic approach, improving on climate adaptation and mitigation, habitat connectivity and monitoring, while introducing specific targets for vulnerable species and habitats such as pollinators and farmland birds. Still, several elements could have been more ambitious. For instance, the 20% restoration target fell short of the 30% goal in the EU Biodiversity Strategy and only modestly extended protections beyond Natura 2000. Binding numerical limits for key pollutants were missing, and gaps remained on wilderness protection, peatlands and soils outside agricultural contexts, and connectivity, where no binding quantitative targets were set (Hoek, 2022). The proposal was informed by an online public consultation between January and April 2021 to collect stakeholder feedback on the European Commission's proposal for binding restoration targets, as well as five stakeholder workshops between December 2020 and September 2021. The publicly shared records do not offer a full, traceable breakdown of those five events, nor of the stakeholders involved. In fact, lack of transparency during the decision-making process resulted in the launch of a complaint to the office of the European Ombudsman when the European Commission failed to give public access to input from stakeholders concerning its legislative proposal. While the European Commission argued that disclosure could undermine the ongoing decision-making process, the Ombudsman found that the refusal to grant access constituted maladministration (Case 833/2024/MIG).

Council Position. The Council's general approach responding to the European Commission's proposal was published on 20 June 2023. The agreed text retained the core ambition of the proposal of the European Commission, but proposed changes - to make implementation more flexible, more adaptable to national

circumstances, and more closely aligned with energy and defence priorities - to accommodate Member States' concerns. Fixed quantitative targets for urban ecosystems were replaced with a requirement to demonstrate increasing trends in urban green areas and tree canopy cover, until nationally defined satisfactory levels are reached. Peatland rewetting obligations were also eased, allowing heavily affected countries to apply lower percentages. An exception for soft-sediment marine habitats was added, to permit lower targets and an exemption from the 2030 deadline. Also added was a new obligation to ensure the maintenance of restored river connectivity. In addition, the Council expanded derogations for strategic sectors: renewable energy and national defence projects were presumed to be of overriding public interest, with mitigation measures required for defence-related impacts. The Council's changes introduced a stepwise system of national restoration planning, rather than one plan covering the whole period to 2050, requiring successive plans with strategic outlooks beyond each planning window. To address implementation capacity and funding concerns, the Council added a requirement for the European Commission to report within one year on EU-level financial availability, restoration needs and funding gaps, accompanied by proposals, where appropriate.

While most countries supported the Council's general approach, Sweden, Finland, the Netherlands, Poland, and Italy voted against it. Farmers' and landowners' concerns were at the forefront of the associated debate. In Sweden, the national parliament argued that the proposal interfered too deeply in national forest policy, an area they considered the responsibility of Member States, and thus interfered with the principle of subsidiarity. In the Netherlands, the Parliament adopted a motion demanding the removal of the non-deterioration requirements, arguing that these obligations could have serious legal and practical implications for housing development, major infrastructure projects and the country's already sensitive energy transition. In Finland, a parliamentary committee issued a statement criticising the proposal and called for deep revisions, particularly with respect to forest management, national decision-making autonomy and expected financial burdens. Italy and Poland stressed considerations regarding food security and farmers' livelihoods, and administrative burdens. Together, these early motions laid the groundwork for more coordinated Member State opposition. Belgium and Austria abstained, mainly due to concerns over costs, land use implications, and

bureaucratic burdens. Denmark's position was unclear before the vote, but it finally supported the agreement (ARC, 2023; Aubert and Underwood, 2024).

Parliament Position. The main source of resistance at the parliament came from the European People's Party (EPP), which opposed the proposal and many of its core provisions. The far-right groups (ECR and ID) adopted even more confrontational stances, accusing the European Commission of undermining national sovereignty and imposing 'green ideology' on local economies. In contrast, the Greens/EFA, Socialists & Democrats (S&D), and most of Renew Europe, defended the regulation as essential to addressing biodiversity collapse, climate impacts and long-term food security. In May 2023, two parliamentary committees — PECH (Fisheries) and AGRI (Agriculture) — voted to reject the proposal entirely. Around the same time, conservative Members of the European Parliament (MEPs) in the ENVI (Environment) Committee walked out of negotiations, demanding major concessions that would substantially weaken the draft law. In June 2023, the ENVI Committee held a decisive vote. The EPP's attempt narrowly failed: the vote was tied, meaning there was no majority in favour of rejection. As a result, the committee proceeded to vote on compromise amendments, negotiated by the rapporteur, César Luena, as well as on individual amendments submitted by other MEPs. However, the committee's final vote on the amended text also ended in a tie, leading to the proposal being rejected at committee level. However, the proposal was unexpectedly rescued during the plenary vote in the European Parliament. In a very narrow outcome, a majority of MEPs rejected the attempt to throw out the proposal and instead chose to align the Parliament's position with the Council's general approach. On 12 July 2023, the European Parliament narrowly approved the regulation, with some EPP members breaking ranks despite internal criticism (Luick et al. 2025a).

The position of the European Parliament on 12 July 2023 maintained the proposal's overarching ambition, while adding stronger safeguards for Member States' priorities, including socio-economic, food-security, and ensuring alignment with renewable-energy and national-defence priorities. The Parliament emphasised coherence with other EU laws, including those on renewable energy, plant protection, forestry and critical raw materials. It strengthened the Council's line by stipulating that renewable energy projects outside Natura 2000 could be exempted

from proving that 'no less damaging alternatives' exist, provided they undergo an Environmental Impact Assessment or Strategic Environmental Assessment. For national defence, the Parliament gave top priority to security-related activities and allowed Member States to exempt military areas where restoration is incompatible with their continued use. It required Member States to prepare national restoration plans using the best scientific evidence, taking into account local community needs, cost-effectiveness, socio-economic impacts, and with stakeholder involvement, including landowners and land managers, at every stage. The possibility of postponing achievement of restoration targets when specific socio-economic conditions arise was introduced, such as a sharp rise in food prices, a decline in food production, or delays in permitting procedures linked to EU nature legislation. Under these conditions, targets would be suspended until the triggering factors no longer apply. The Parliament further stipulated that the Regulation should only apply once the European Commission has supplied robust scientific data on long-term food security and once Member States have quantified the restoration areas required. Finally, to address financing, the Parliament required the European Commission to deliver, within 12 months, a report identifying funding gaps and implementation needs, accompanied where appropriate by proposals for new financial measures, including dedicated funding. It also mandated a review every two years from 2030, with particular attention to impacts on farming, food security and rural communities.

Trialogues and final compromise. The trilogue negotiations ended in November 2023, under the Spanish Presidency, with a provisional political agreement submitted to the Member States' representatives within the Council and to the Parliament's Environment Committee for endorsement. Overall, the trilogue compromise preserved the European Commission's overarching restoration ambition, while incorporating the Council's flexibility and exemptions and the Parliament's socio-economic and procedural safeguards. The final text kept binding EU-wide restoration obligations, but introduced Member State discretion in defining satisfactory levels for several indicators and targeted derogations where justified - including for force majeure, climate-driven habitat change, or overriding public interest projects. It also included the requirement for Member States to quantify restoration needs in their national plans, and an evaluation of the progress by the European Commission by 2033, with the possibility of proposing new targets aligned with the 2040 and 2050 milestones. Phased planning cycles were

confirmed, and the compromise embedded Parliament's procedural conditions by requiring national restoration plans to rely on the best available science, involve the public and ensure stakeholder participation, and account for socio-economic impacts. It included a requirement for the European Commission to issue a funding-gap analysis within one year, potentially accompanied by proposals for additional financial measures. Another central compromise emerged around the energy and defence sectors: renewable-energy plants, grids and storage were presumed to be of overriding public interest, allowing Member States to restrict this presumption in specific cases; and defence activities were granted strong exemptions when restoration would be incompatible with military use. On sectoral provisions, the Council's requests for exemptions for soft-sediment marine habitats, additional flexibility on peatland rewetting, and greater Member State discretion for urban ecosystem indicators, were accepted in a moderated form. The compromise included a mechanism for joint coordination under the Common Fisheries Policy in marine areas, and clarifications that peatland rewetting obligations do not impose requirements on farmers or private landowners, keeping participation voluntary. It stipulated that Member States may apply lower restoration percentages for 'very common and widespread' habitat types covering more than 3% of national territory, provided this does not undermine the achievement of favourable conservation status. It considered that Member States must ensure an increasing trend in at least two of three listed biodiversity indicators at national level in agricultural ecosystems. Parliament's insistence on safeguarding food security, requiring robust monitoring before certain obligations take effect, and maintaining ambition for free-flowing rivers, also shaped the final outcome - including via the addition of a requirement to maintain restored river connectivity. Finally, the compromise text specified that implementation of the Regulation does not oblige Member States to re-programme CAP or CFP funds within the 2021–2027 financial framework.

After the European Parliament approved the final compromise text in February 2024, adoption by the Council was expected to be a procedural formality (Aubert & Underwood 2024). However, Hungary unexpectedly announced that it would no longer support the Regulation, citing recent farmers' protests, endangering the qualified majority required for adoption (WWF, 2024). A new vote took place in June 2024, Austria and Slovakia both changed their position and supported the proposal. Austria's Green Environment Minister Leonore Gewessler unexpectedly

voted in favour, against the explicit wishes of her conservative coalition partners, securing the needed majority. The law was then officially adopted and published in July 2024 (Cliquet et al. 2024a; Luick et al. 2025). The Austrian Chancellor challenged the Environment Minister's authority to cast the vote, announcing legal action to annul the decision before the CJEU. However, the Council confirmed that the vote was valid and binding, meaning that the regulation would enter into force twenty days after adoption, as scheduled. The Nature Restoration Regulation was published in the Official Journal on 29 July 2024, and entered into force on 18 August 2024 as Regulation (EU) 2024/1991. While the circumstances of the Austrian vote are unusual, given that this is essentially a national dispute, an action for annulment before the CJEU, if initiated, appears to have limited chances to succeed (Quaritsch and Nigl, 2024).

3.4.3.2 Positions and influence of different actor groups

The European Commission connected the decision-making process for the Nature Restoration Regulation with the 15th UN Biodiversity Conference (COP15), held in Montreal in December 2022. It identified it as a key opportunity to influence negotiations on the Kunming-Montreal Global Biodiversity Framework and to demonstrate EU leadership in reversing biodiversity loss and restoring nature, as well as build support among the divided Member States (Tosun, 2023). Fleckenstein et al. (2025) identify two main discourse coalitions shaping the policy debate: the supporting and the opposing coalitions.

Opposing coalition. Vested interests, particularly from primary sectors such as agriculture, forestry, and fisheries, opposed the law's adoption, arguing that it would harm employment and compromise food and energy security (Decleer and Cliquet, 2023). Much of the resistance stemmed from lobbying by economic interest groups, as illustrated by the proposed amendments, which seek to unilaterally expand the scope for economic considerations (Cliquet et al., 2024). Commercial forestry and industry-linked associations campaigned against the regulation (Luick et al., 2025). Copa-Cogeca, the umbrella organisation representing many farmer unions and agri-cooperatives in the EU, campaigned for the withdrawal or major redesign of the regulation, arguing it was 'ill-thought out' and would reduce land available for production, threaten rural incomes, and add bureaucratic burdens (Marques da Silva, 2023). With agricultural land being a major focus of the law, and

with the EU farming sector being extremely diverse, including smallholders and family farmers, it was feared that they would not receive the necessary support for restoration, with negative impact on their livelihoods (Robinson, 2024). Copa-cogeca sent MEPs detailed voting instructions, advising conservative members to support amendments proposed by right-wing populist parties if a full rejection proved impossible (Aragao et al. 2023; Luick et al. (2025a). Copa-Cogeca is portrayed as a central node in a broader campaign against the regulation, leveraging its access to national ministries, Members of the Parliament and the Council, to press for flexibility clauses, exemptions and funding guarantees (Foote, 2023; Bărbulescu et al., 2023; Win, 2023). Nevertheless, NGO and citizen campaigns highlighted that many small-scale and agroecological farmers support restoration and were poorly represented in Copa-Cogeca's positions, illustrating the diversity of the sector (WWF, 2023). However, Christiane Lambert, president of Copa-Cogeca, strongly supported a political shift toward prioritising food production in the EU, framing Russia's actions in the Ukraine war as an example of how food security can be weaponised, and arguing that the EU needed a 'food shield', using explicitly military metaphors (weapons, shields, vulnerabilities) to portray agriculture as part of Europe's defence strategy (Holdo, 2025).

Environmental groups warned that this militarised framing could reverse years of progress toward environmentally friendly reforms. However, the rhetoric proved powerful: it quickly reshaped public and political debate, making it much harder to question policies aimed at increasing Europe's agricultural production capacity in terms of yields, even if these conflicted with environmental goals (Holdo, 2025). The influence of the groups opposing the regulation was mainly through linking restoration obligations to fears about food shortages, amplified after Russia's invasion of Ukraine; by arguing that setting aside land or re-wetting peatlands would undermine Europe's ability to feed itself; and by stressing that restoration would impose costs on farmers and foresters without sufficient compensation, and would undermine EU competitiveness.

Misunderstandings and unfounded claims spread widely in the press and on social media. A distorted picture of the regulation and its supposed negative impacts was promoted mainly by agricultural and forestry groups, but also by some political actors (Cliquet et al., 2024; Luick et al., 2025a). The impact assessment was

repeatedly questioned, and in some parliamentary circles ignored altogether (Luick et al., 2025a). These narratives were further amplified by large-scale farmer protests across Europe, including repeated demonstrations in Brussels and Strasbourg, driven by extensive media coverage and rapid political reactions (Finger et al., 2024; Cliquet et al., 2024; Luick et al., 2025a). Although protest triggers differed by country and over time, common themes included pressure on farm incomes due to tighter environmental rules and trade competition (Matthews, 2024).

Policymakers reacted quickly to the farmer protests, both nationally and at EU level. At EU level, the EU Sustainable Use of Pesticides Regulation was rejected by Parliament and later withdrawn by the European Commission (Finger et al., 2024). This regulation had been introduced together with the Nature Restoration Regulation as a 'nature conservation package' (Luick et al. 2025a). Additional initiatives under the Farm-to-Fork Strategy (COM(2020) 381 final) were sidelined as well, including the planned legislative framework for sustainable food systems and revisions to animal welfare legislation. The EU also adopted Regulation 1468/2024, easing several conditions required for farmers to receive CAP direct payments, (Matthews, 2024; Finger et al., 2024).

Negative reactions escalated into political opposition at the EU level, largely driven by the European People's Party (EPP) in the European Parliament (Cliquet et al., 2024), even though the Regulation was initially introduced with the EPP's endorsement as part of President von der Leyen's European Green Deal (Luick et al., 2025a). As public discourse became increasingly populist and one-sided, parts of the democratic spectrum began to distance themselves from the proposed regulation (Luick et al., 2025a). Luick et al. (2025a) offer a possible explanation on why the EPP underwent a decisive shift: the party's longstanding ties to agricultural and forestry interests were reinforced by its negative experience with the Renewable Energy Directive (RED III) in 2022–23, when the European Commission's proposal to restrict wood-burning power plants provoked strong opposition from rural and commercial sectors. In the run-up to the 2024 elections, the party also sought to consolidate its support among rural constituencies, particularly farmers and forest owners. In addition, the shift can be explained in the context of the larger geopolitical shift since the introduction of the European Green Deal in 2019,

resulting in the retreat of environmental considerations for the benefit of a rhetoric on self-sufficiency and competitiveness, as well as the widening gap between urban and rural populations in the EU and globally.

Supporting coalition. The proposal was met with predominantly positive reactions from a wide range of stakeholders, including scientists, environmental lawyers, international organisations (for example, the Restore Nature Coalition), citizens (with over one million signatures supporting the Proposal through the #RestoreNature campaign), and businesses (for example, the Business for Nature coalition and the Corporate Leaders Group, with CEOs and executives from more than 80 companies urging the EU to adopt the Nature Restoration Regulation) (Cliquet et al., 2024). Local governments openly supported the proposal, particularly the network Eurocities. Eurocities (2023) called for it to be improved to align with the EU Biodiversity Strategy and to include provisions for biodiversity and accessibility to urban green spaces, highlighting also the relevance of blue urban spaces. They called for flexibility in the geographic scope of implementation by the Member States in agreement with local authorities and relevant stakeholders. While they welcomed the growing recognition of their role in restoring nature, they stressed the increasing pressure to deliver long-term results given constrained budgets and competing priorities. Their advocacy provided an important counterbalance to narratives focused solely on rural impacts, highlighting that many cities see clear benefits in restoring urban nature. NGOs, think tanks, scientific communities and international networks, including for example IUCN (2024), provided expert backing for binding restoration targets and spatially explicit planning, stressing co-benefits for carbon storage, flood prevention and soil health among others (e.g., Marquard et al. 2025), and framing the proposal as socially beneficial. Environmental NGOs viewed the proposal as an important step for biodiversity and climate, provided it is implemented well and on time. For example, a joint NGO analysis by BirdLife, ClientEarth, EEB, Oceana and WWF (WWF, 2022) welcomed the new non-deterioration rule and asked for strong safeguards to ensure long-term protection and prevent misuse of exemptions. They also stressed the need to tackle the drivers of degradation, noting for example that marine restoration targets risk being ineffective because they depend on CFP procedures that do not properly control harmful fishing. They called for effective public participation. and called for National Restoration Plans that explain how measures

go beyond existing legal obligations under the Birds, Habitats and Water Framework Directives, to ensure additionality.

The influence of these groups was mainly through helping the European Commission justify a high-ambition proposal, by supplying expertise and normative arguments about a 'paradigm shift' towards restoration in environmental law, by providing the Parliament and supportive Member States with arguments and amendments to defend the integrity of targets and non-deterioration obligations during negotiations, and by acting as 'guardians of ambition', publicly warning when Council or Parliaments' positions risked watering down key provisions. European institutions, along with the scientific community, responded to the unfounded claims by providing evidence-based counter-arguments and clarifications, for example the letter by Pe'er et al. (2023) and the work of the SERE Legal Working Group (2023a). This provided scientific support to NGOs and businesses, as well as government agencies and parliamentarians, making their case in favour of an ambitious regulation (Pe'er et al., 2025).

Although the arguments opposing the proposal were not substantiated by scientific evidence or aligned with the proposal's actual provisions, their dissemination nonetheless had a considerable impact (Cliquet et al., 2024). A central argument against the proposal was that it would force farmers to abandon or remove large areas of farmland from production, negatively affecting agricultural output, stemming from the initial suggestion that 10% of agricultural land should consist of high-diversity landscape features. However, during the early stages of the negotiations, 'high- diversity landscape features' were redefined to allow certain productive activities. Also, the 10% requirement was ultimately removed, focusing instead on improving the condition of habitat types mainly listed in the Habitats Directive, some of which rely on continued extensive farming (Pe'er et al., 2025).

A further claim was that the regulation would endanger global food security, overlooking the fact that, within the EU, overall food production is not the main factor determining food security, but rather unequal food accessibility, high levels of food waste, and the disproportionately high consumption of meat and dairy products (Pe'er et al., 2025). This was ultimately reflected in the final text of the Nature Restoration Regulation - for example in Article 27, which allows the suspension of its implementation in agricultural areas during emergencies that

severely threaten the availability of land needed to ensure sufficient food production for EU consumption (Pe'er et al., 2025).

The study of Fleckenstein et al. (2025) examines how coalition formation and discursive power influenced this policy-making process and its outcomes. It shows that the opposing coalition was larger and had stronger internal connections. It comprised centre-right political groups, such as the EPP and the European Conservatives and Reformists, along with forest and landowner associations, industry representatives from agriculture, forestry and mining, and several ministries from forest-rich or agriculture-oriented Member States. It criticised the proposal as overly ambitious, insufficiently attentive to landowner and industry interests, and too influenced by the European Commission's role in forest policy and management. Despite being smaller, the supporting coalition included most governmental bodies with decision-making power. It promoted ambitious restoration targets and stronger provisions, and consisted mainly of centre-left groups, such as the Socialists and Democrats and the Greens/European Free Alliance, together with environmental NGOs, agencies, and most national environment ministries, including those from Germany and France. Their study identified several forest-specific storylines in the policy debate, about half of which were highly contested between the two coalitions. The most central and influential storylines were mainly advanced by the opposing coalition and focused on production restrictions, forest disturbances, local participation and feasibility. Their network analysis revealed that these conflictual storylines were more interconnected and frequently discussed than consensual ones, highlighting the strong polarisation of the debate.

3.4.3.3 Gaps of the Final Regulation

Although the final agreement reached in the trilogue negotiations aligns closely with the original legislative proposal, it nevertheless incorporates several concessions to the opposing coalition, particularly the farming sector. First, the impact on food production and food security was added in the assessment to be conducted by 2033, reflecting the political pressure coming from Member States and agricultural interests, who argued that restoration measures should not jeopardise Europe's capacity to produce sufficient food. Second, the regulation now includes an exemption for re-programming existing EU funding, such as the CAP,

the CFP, or other programmes under the 2021–2027 Multiannual Financial Framework, which implies another clear concession to farm and fisheries lobbies concerned about losing financial support. Third, the trilogue agreement introduced an entirely new provision known as the 'emergency brake', allowing the European Commission to temporarily suspend the obligations related to restoring agricultural ecosystems if an exceptional situation arises that severely affects land availability or threatens food security. This illustrates how the need to secure political agreement resulted in a more flexible and conditional regulatory framework that accommodates the interests of the opposing coalition, while still upholding the core structure of the restoration targets (Fleckenstein et al., 2025). The provision on agricultural ecosystems was re-introduced in the draft agreement, after it was completely deleted in the Parliament's amendments. Nevertheless, it still substantially weakens the European Commission proposal: rewetting on agricultural land remains voluntary and if Member States want to respect the duty to put in place such restoration measures, they must adopt national legislation to do so (SERE, 2023b).

Moreover, the non-deterioration obligations were significantly weakened in the final compromise text. As a result, the obligation becomes harder to enforce in practice, and its original function as a legal safeguard is no longer ensured (de Leeuw and Backes, 2024). The final version prohibits only 'significant' deterioration, and changes the rule from a strict duty to prevent any damage to a softer duty that merely requires Member States to aim to prevent it (Cliquet et al. 2024). Guidelines on what 'significant' deterioration means, or examples of 'non-significant' deterioration, would be required (SERE, 2023b). A derogation is provided for 'very common and widespread habitat types', failing to clarify that only ecological and not economic reasons can be used to justify the application of this clause (SERE, 2023b).

The SERE Legal Working Group (2023c) argues that the regulation should more fully reflect the three pillars of the Aarhus Convention — access to information, public participation, and access to justice. While it already covers participation and access to justice, the authors propose expanding it to also include obligations for information-sharing, awareness raising, education and structured multilevel dialogue. They stress that meaningful participation requires well-informed

stakeholders, but participation must not undermine the scientific basis of restoration measures or the achievement of restoration targets.

4. Discussion

The above analyses show that the Birds and Habitats Directives, the European Climate Law, the Urban Agenda for the EU, and the Nature Restoration Regulation broadly contribute to the European Green Deal's overarching vision of transforming the EU into an ecologically sustainable, economically sound and socially fair economy. Despite the declaration of transformative potential at the level of vision (Villasante et al., 2025), the policy design bears challenges in meeting the conditions for transformative change as put forward by the IPBES Assessment (2024). **Assessing EU policies against this framework shows that their potential to transform structures and practices for biodiversity is meaningful yet uneven, while their capacity to shift views remains particularly limited. Although the principles for transformative change are referenced across several policy instruments, their operationalisation is often partial or weak.** This is unsurprising for strictly structured, EU-wide policy instruments; this dimension is thus left to be addressed at the national and local level. Stronger shifts emerge where policies establish binding frameworks and enforceable requirements, yet weaknesses remain in areas where commitments are vague, under-specified or insufficiently operationalised.

4.1 Transformative elements of the analysed EU policies and their limitations

Despite their adoption in the 1990s, the Birds and Habitats Directives still provide a strong legal framework for structural transformation with binding obligations, scientific site designation, and monitoring and reporting mechanisms. They have high potential to transform practices through the establishment and high visibility of Natura 2000 sites and species protection regimes. Efforts to shift views appear through education initiatives, awareness campaigns, and pilot projects linking biodiversity with cultural identity. Yet implementation gaps persist and so do drivers of biodiversity loss such as over-exploitation, intense land and sea use, and pollution. The latest assessment under these directives showed that 62% of

protected species other than birds, 81% of protected habitats, and 39% of protected bird species were in poor or bad conservation status in 2013–2018, with widespread declining trends (EEA, 2025).

A fundamental problem for the effective management of Natura 2000 areas is that many sites still lack clear, specific and measurable conservation objectives. Further deficiencies include: the absence of defined management objectives, measures and monitoring systems; gaps in knowledge and monitoring of key conservation values and pressures; and insufficient investment in management authorities' capacity and practical site management (EEA, 2020).

By translating into law the EU's aim to become climate-neutral by 2050, the European Climate Law aims to enable a structural transformation. However, its transformative potential for biodiversity is limited by the lack of coordination between climate and biodiversity objectives, the lack of recognition of ecosystems' contribution to mitigation, and the limitation of the multiple biodiversity values to natural carbon sequestration. NbS and ecosystem-based approaches are limited to adaptation without concrete practices or standards specified for implementing them. The law's potential to transform practices across industries is limited by the voluntary nature of the national long-term strategies and sectoral roadmaps it promotes. Its transformative potential is further constrained by its continued reliance on market-based and efficiency-oriented mechanisms, including those underpinning the 'Fit for 55' package, which do not challenge prevailing growth-oriented economic logics. Nevertheless, structural reforms in the LULUCF sector, and broader land governance reforms, create opportunities for more integrated approaches that align climate action with biodiversity protection.

The Urban Agenda for the EU introduces multi-level and participatory governance that can help rebalance power relations and support more integrated urban sustainability initiatives. Its partnership model opens opportunities for pluralistic collaboration among local authorities, communities, civil society and knowledge providers, mitigating the top-down nature of EU policymaking. However, the voluntary nature of these processes and the reliance on soft-law instruments do not allow addressing systemic drivers, such as urban sprawl or unsustainable land use dynamics. Nonetheless, specific action plans, such as the one on Sustainable Land Use and NbS, can shift practices and views, by increasing access to knowledge and

highlighting the hidden costs of urban sprawl. Other initiatives, such as arts-based approaches to culture and heritage, can foster emotional engagement with sustainability challenges and thereby contribute to changing views.

The Nature Restoration Regulation represents a major structural innovation that can serve as an example for other jurisdictions (Cliquet et al., 2024). It establishes binding restoration targets and obligations across ecosystems, including urban and agricultural areas, extending the operationalisation of the already existing obligations under the Habitats Directive (de Leeuw and Backes, 2024). This regulation introduces national restoration plans with deadlines and monitoring requirements. It institutionalises citizen science in pollinator monitoring, strengthens practices through long-term ecosystem restoration efforts, and shifts practices toward broader engagement. It also reflects a systemic perspective linking restoration with climate, health and broader socio-economic benefits, and promotes dissemination of science-based knowledge, which may help shift societal ways of valuing nature. However, a managerial and utilitarian argumentation is depicted (Dallagiacoma, 2025). By continuing to frame restoration partly in growth-oriented language, it reinforces ongoing prioritisation of short-term economic interest.

Several enablers for transformative dynamics can be identified. First, binding EU-level targets and timelines, as in the Nature Restoration Regulation, create legal obligations that can empower national reformers and civil society actors. Second, **adaptive and participatory design through monitoring, revision mechanisms and stakeholder processes** can support learning, reduce unintended consequences, and open space for more inclusive and plural visions of land use and food systems. Third, the existence of multiple potential 'agents of change' in the EU system (the European Commission, Parliament, Member States, cities, civil society, and even citizens through initiatives) creates **opportunities for agenda-setting** even in adverse political climates. Finally, the comparison between the NRR and the failed SUR proposal suggests that policies with relatively broad **societal and scientific consensus**, more voluntary participation for directly affected actors, and more diffuse distribution of costs across sectors, may be better positioned to survive political contestation (Pe'er et al., 2025).

A key limitation across all policies is their limited engagement with indirect drivers of biodiversity loss, as well as the underlying causes such as

concentration of power and wealth, expanding inequities, societal disconnection from nature, and prioritisation of short-term material gains (IPBES 2024). While several instruments identify direct drivers of biodiversity loss, such as land-use change, unsustainable exploitation and pollution, they do not sufficiently address the structural economic and governance systems that perpetuate these pressures. For example, the European Climate Law acknowledges climate change as a key direct driver, but pays no attention to how economic and technological drivers, such as growth-oriented energy transitions and bioenergy expansion, might exacerbate land-use change and biodiversity loss. The Urban Agenda identifies urban sprawl as both a direct and indirect driver, but the Action Plan for Sustainable Land Use and NbS addresses it in a narrow way and barely considers biodiversity aspects. The Birds and Habitats Directives primarily target direct drivers and require complementary policies to address wider governance and economic drivers. The Nature Restoration Regulation recognises the role of harmful subsidies and problematic sectoral policies, such as the CAP and CFP, but it cannot directly intervene in the regulation of these areas, leaving a critical gap between diagnosing systemic causes and regulating them. Restoration efforts will have limited overall impact unless biodiversity loss is stopped (Penca and Tănăsescu, 2025), which requires tackling the underlying drivers of nature's decline. This aligns with the normative hierarchy that prioritises first preventing the loss of nature, then minimising and repairing damage in place, and finally restoring already degraded ecosystems (Penca, 2024).

4.2 Overcoming challenges and barriers for transformative dynamics

The limitations of the examined policies, as highlighted above, can be linked directly to the five overarching challenges to transformative change as identified by IPBES (2025). These challenges include: relations of domination over nature and people, propagated in the colonial era, that persist over time; economic and political inequalities; inadequate policies and unfit institutions; unsustainable consumption and production patterns, including individual habits and practices; and limited access to clean technologies and uncoordinated knowledge and innovation systems. In this section, we discuss the analysed policies in the context of these five challenges, providing illustrative examples.

4.2.1 Persistent relations of domination over people and nature

Persistent relations of domination continue to block transformation by reducing people and nature to exploitable resources, reinforcing extraction and inequality (Frantzeskaki et al., 2024). They privilege certain knowledge systems while delegitimising, for example, local perspectives - treating them as less valid or capable. This maintains institutional and social hierarchies that benefit powerful actors, justify dispossession and sustain unsustainable dynamics. Because these legacies shape current views, practices and structures, they obstruct alternative, transformative ways of relating to nature (Frantzeskaki et al., 2024).

Pluralism and inclusion are central to overcoming these persistent power asymmetries. They require acknowledging diverse worldviews, knowledge systems and value perspectives on what biodiversity is and how human–nature relationships should be understood (Gurung et al., 2024; Pascual et al. 2021). Translating such principles into participatory requirements, in accordance with the Aarhus Convention as noted in the analysis above, is vital for enabling bottom-up demands for change and ensuring that participation involves meaningful influence rather than mere consultation. Yet governance arrangements under the Birds and Habitats Directives remain predominantly top-down, with existing platforms often consultative rather than co-decisional. Similarly, neither the Urban Agenda nor the Nature Restoration Regulation guarantee influence over decisions. Although the Nature Restoration Regulation calls for fair, open and transparent procedures, it lacks definitions, criteria and indicators, risking tokenistic or superficial participation (Penca and Tănăsescu, 2025; Winter, 2022; Kiss 2022). In addition, it is doubtful whether the ambitious deadline for achieving the first restoration targets by 2030 can be reconciled with the requirement for open, transparent, inclusive, and effective engagement of the public in the preparation of the national restoration plans under Article 14(20) (Luick et al., 2015b). Moreover, participatory processes can differ across countries, depending on their contexts and communities (Chilvers and Kearnes, 2020), often requiring additional capacity-building efforts for their facilitation (Susskind and Kim, 2021). Finally, as Imran et al. (2025) highlight, establishing a polycentric governance system does not automatically change who holds power. Dominant actors usually remain dominant even when governance becomes more complex and more inclusive on paper.

Meaningful inclusion requires acknowledging and integrating the diverse values different actors hold, including cultural, relational and place-based meanings of nature. As Buijs et al. (2022) argue, shifts in governance are closely intertwined with shifts in how nature is valued. The EU Biodiversity Strategy, however, already pays limited attention to the relational and democratic aspects of engaging society in conservation. As a partial result, the principle of respectful and reciprocal human-nature relationships, central to dismantling anthropocentric hierarchies and dominant framings of nature (Gurung et al., 2025) is the least represented across the analysed policies. In line with mainstream views that separate nature from humans, nature is largely treated as an object of management or as an instrument serving human needs. While the Birds and Habitats Directives and the Nature Restoration Regulation foster stewardship, they seldom recognise relational values or nature's intrinsic value. Fostering respect, care and emotional connection to nature, and finding practical ways to encourage these values in society, requires moving beyond dominant conservation approaches that separate people from nature and protect only specific species or ecosystems, towards the recognition that people are part of nature and that human–nature relationships can also be positive and mutually beneficial (Penca and Tănăsescu, 2025). Current utilitarian framings of 'natural capital' and 'ecosystem services' in the analysed policies reflect these dominant approaches. The research of Dallagiacoma (2025) on the narratives behind the Nature Restoration Regulation shows that humans are not considered as integral parts of the environment–nature system, but rather as external keepers or managers, evidencing the disconnection between people and nature. The concept of human responsibility is moreover absent in the policies this study considered. In line with the EU's international obligations, including the CBD and the Kunming–Montreal Global Biodiversity Framework, EU policies could place greater emphasis on nature's intrinsic, cultural and emotional significance.

The emergence of new societal values requires governance structures to adapt, becoming more participatory and inclusive to enable meaningful involvement from a wider range of actors. In this way, changes in governance and changes in values of nature are mutually reinforcing, each necessitating and shaping the other. Successful restoration will require more than ecologic measures. It depends on restoring the relationship between humans and nature (Tănăsescu, 2017). National Restoration Plans, therefore, need to incorporate diverse perspectives on how

people value nature (Penca and Tănăsescu, 2025). Evidence from Sweden and Spain illustrates this diversity: positive perceptions of forest benefits, such as biodiversity, risk mitigation and recreation, tend to increase public support for restoration, whereas perceptions of forests primarily as exploitable resources reduce it (Kazungu et al., 2025). These findings highlight how dominant utilitarian or extractive framings can undermine support for transformative change, and they underscore the importance of context-sensitive communication and engagement strategies that resonate with local meanings and lived experiences. Moving toward transformative change thus requires nurturing emotional connection, care and inclusive recognition, not only of ecosystem services but also of nature's intrinsic and cultural value — helping to dismantle entrenched hierarchies that position nature as an object of control and instead fostering more reciprocal, respectful human–nature relationships.

4.2.2 Economic and political inequalities

The transformative potential of policymaking depends on its ability to move beyond structural economic and political inequalities, undermining both equitable policy design and the efficacy of biodiversity conservation, restoration and sustainable use (Frantzeskaki et al., 2024). Yet decision-making processes are shaped by dominant actors seeking to protect existing privileges, while marginalised groups who have limited access to formal arenas of power may fear that transformative change threatens their livelihoods rather than securing them (Frantzeskaki et al., 2024). These dynamics are embedded in a broader growth-oriented and deregulated economic system that prioritises profit-driven investments over public goods, including biodiversity objectives (IPBES, 2024). As long as this structural context remains unchallenged, policies tend to reproduce, rather than address inequalities, and perpetuate, rather than transform, underlying drivers of ecosystem degradation.

Equality (not equity) and justice, central EU normative principles (Articles 2 and 3 TEU), appear across policy texts, without concrete mechanisms to promote implementation. The Birds and Habitats Directives acknowledge that implementation measures should consider economic, social and cultural requirements, and regional and local characteristics, but do not specify how burdens and benefits should be distributed. The Urban Agenda promotes gender equality

and equal access to information, yet implementation relies heavily on local authorities, whose mandate and resources are limited. The Climate Law embeds just-transition principles, but operationalises them mainly through downstream instruments, revealing a broader pattern in EU environmental governance where high-level commitments to justice remain largely rhetorical, as they are not matched by clear operational mechanisms. Similarly, the Nature Restoration Regulation includes provisions generally aiming towards distributive and procedural justice, but detailed guidance and accountability mechanisms are absent. Key provisions, such as on access to justice, were removed during the negotiations (Penca and Tănăsescu, 2025), and it falls upon Member States to outline how restoration measures will shape the fair and just distribution of benefits and burdens (Coolsaet, 2020). Thus, the Nature Restoration Regulation falls short of confronting inequalities in power, resources, and wealth that drive environmental degradation, which is key for effective biodiversity protection (Penca and Tănăsescu, 2025; Martin et al., 2020).

The Nature Restoration Regulation serves as an example of how policy processes are shaped by competing discourse coalitions that seek to influence decisions through problem framings, narratives and alliances (Fleckenstein et al., 2025). Typically, the dominant coalition, organised around shared ideas, interests and storylines, has the greatest impact on the design and stringency of final policy outcomes (Schaub & Metz, 2020). When a single coalition clearly controls the narrative, transformative change is unlikely; by contrast, when a counter-coalition emerges and successfully challenges that dominance, often by reframing the debate, the window for change widens (Ingold & Gschwend, 2014; Schaub & Braunbeck, 2020). In the Nature Restoration Regulation, the opposing coalition, comprising influential agricultural, forestry and conservative political actors, was large, cohesive and highly effective in shaping the debate; it introduced numerous amendments that weakened the text (Cliquet et al., 2024; Fleckenstein et al., 2025). Nevertheless, its efforts to block or derail the law ultimately failed, largely because its discursive and organisational strength did not translate into decisive control over key decision points. The supporting coalition, anchored by Greens/EFA and Socialists & Democrats in the European Parliament and several powerful Member States in the Council, managed to prevail (Fleckenstein et al., 2025).

At the same time, the Nature Restoration Regulation case shows how discursive innovation can enable transformative dynamics. Proponents of the law leveraged the positive and emotionally resonant idea of 'restoration' to build broad alliances. This framing helped mobilise not only actors within the policy network, but also scientists, businesses and citizens, generating cross-sectoral support that countered narratives of loss, burden and regulatory overreach (Fleckenstein et al., 2025; Pe'er et al., 2025). Compared with earlier EU forest policy debates, conditions had changed substantially: when the Habitats Directive was adopted in 1992, forest-sector interests were still weakly organised at EU level, and forest-rich Member States like Finland and Sweden were not yet in the Union (Sotirov et al., 2017, 2021; Winkel & Sotirov, 2016; Begemann et al., 2025). The European Parliament also played merely an advisory role; only with the Maastricht Treaty did it gain real legislative power. By contrast, in the Nature Restoration Regulation process the European Parliament was a central arena where internal votes could significantly weaken (or rescue) the draft legislation (Cliquet et al., 2024). These shifts illustrate that institutional empowerment and new discursive resources can act as enablers, even in the face of strong opposition.

The transformative potential of law, always mediated by the political and institutional context, should be addressed as part of the discussion. While litigation is rarely effective in isolation but operates as part of broader social movement strategies (Ghinelli, 2024), citizens and civil society organisations increasingly use legal mobilisation and access to justice as part of their repertoire of political action and advocacy, toward the achievement of environmental aims. As a result, scholarship has started exploring a series of relevant questions, including: how legal tools and mechanisms can drive social change, push towards transformation, or reveal the transformative potential of EU policies; what is the degree of effectiveness and limitations of citizen-led legal actions; and what is the role of the courts in shaping environmental governance, including through procedural innovations and expansion of rights. With most literature focusing on climate litigation, researchers note that the impact of legal mobilisation extends beyond legal victories in court (in cases that produce enforceable judicial orders against governments), to norm and strategy diffusion across jurisdictions, institutional learning and policy implementation (albeit inconsistent), and shift of public discourse, due to public and media attention (Garofalo, 2023; Eckes, 2025).

The preceding analysis indicates that law transforms biodiversity governance directly, through decisions of the CJEU and national courts, but also indirectly, through norm diffusion, political mobilisation, and creation of opportunities for public discourse and participation. As noted above, the CJEU has provided guidance on the interpretation of open-ended provisions of the Birds and Habitats directives to secure biodiversity protection, often because of legal action led by environmental organisations; it has also extended participation requirements and the legal standing of civil society organisations, in accordance with the requirements of the Aarhus Convention. Still, the biodiversity policy area has not yet given rise to a dynamic body of litigation as witnessed in climate policy - whereby courts increasingly interpret constitutional provisions, human rights-related obligations, and international commitments to impose substantive obligations on states. Biodiversity-related strategic litigation, however, is expected to increase, due to the increasing recognition of the interlinkages between biodiversity loss and climate change, and the associated policies, as well as the impact of the Advisory Opinion on climate change of the ICJ (Garofalo, 2023, Schoukens 2023; Eckes, 2025).

Albeit formally non-binding, ICJ advisory opinions carry significant weight as providing authoritative interpretation of international law; they are thus generally followed by regional and national courts. In its opinion on climate change, the ICJ clarified that States' climate-related obligations stem from human rights and customary international law, rather than strictly the climate treaties, meaning they extend to States that have not ratified the climate treaties (Bansard, 2025; Schaugg et al., 2025). While the Court makes a number of additional normative contributions that are out of the scope of this analysis - including on what constitutes an internationally wrongful act, State responsibility, and available remedies - importantly, it recognises the close connection between climate change and biodiversity, concluding that the CBD forms part of the directly relevant applicable law (ICJ para 129). It notes that obligations under the CBD contribute to ensure the protection of the climate system (ICJ para 330).

In this context, the Nature Restoration Regulation, holding significant transformative potential through its binding targets, directly applicable legal form, mandatory planning at the national level, and integration of climate considerations, can provide a case study of law's transformative potential in the coming years. It is

certain that opportunities for litigation will arise; whether its implementation can catalyse transformation, however, depends on factors beyond law and litigation; it depends on political will, institutional capacity, adequate resource allocation and public engagement (Penca & Tănăsescu 2025; Hildt, 2025).

4.2.3 Inadequate policies and unfit institutions

Institutions that are poorly aligned with the scale and complexity of biodiversity challenges limit the effectiveness of transformative action. Many remain focused on extractivism and profit, lack coordination and have weak accountability, while biodiversity policies are sometimes not evidence-based or coherent with other sectors. Neoliberal reforms and fears of capital flight further weaken regulation. Institutional 'misfits' — where administrative, ecological, or social boundaries do not match — lead to fragmented decisions that fail to address biodiversity loss, as seen in examples from watershed and marine fisheries management. These mismatches prevent policies from targeting the real drivers of degradation and undermine transformative change (Frantzeskaki et al., 2024).

The transformative potential of EU policies is strongly shaped by the nature of the instruments themselves. Binding legal tools, such as directives and regulations, create enforceable obligations, clear compliance standards, and accountability mechanisms that can drive structural and practical change. The Nature Restoration Regulation demonstrates how the form of a legal instrument can enable transformation. As a regulation, it entered directly into force after adoption, avoiding the lengthy transposition processes associated with directives. Because biodiversity decline is accelerating and time-bound, this immediate applicability is a major advantage for meeting EU and global commitments. The scope of binding policy instruments becomes clear in whether actions are *mandated* rather than merely *encouraged or left to the discretion* of Member States. For example, the Habitats Directive stipulates that Member States shall '*endeavour, where they consider it necessary*' to improve Natura 2000 coherence (Art. 10) and may, '*if they consider it necessary*', restrict non-native species (Art. 22(b)), thereby framing key biodiversity actions as voluntary. Similarly, the Climate Law only '*invites*' Member States to establish advisory bodies (Art. 3.4) and requires that its '*provisions [...] shall be kept under review [...]*' (Art. 4(7)), giving flexibility to align EU climate governance with international developments, risking also introducing uncertainty, creating

dependence on global ambition levels. Such soft formulations in binding instruments are usually the result of negotiations in an effort to reach the necessary majority for decision-making, and may allow adaptation to evolving contexts. However, they also introduce uncertainty, blurring responsibility between the EU and its Member States, create dependencies on fluctuating global ambition levels, open the door to political instrumentalisation, and risk fostering reactive- instead of precautionary governance.

Although binding biodiversity legislation provides a strong foundation for structural and practical change, the existence of derogations illustrates the persistent prioritisation of short-term economic interest over environmental health. For example, the Birds and Habitats Directives impose strict conservation obligations but allow open-ended derogations under certain conditions, such as preventing damage to crops, livestock, forests and fisheries. Similarly, the Nature Restoration Regulation exempts projects of 'overriding public interest for which no less damaging alternative solutions are available' (Art. 4.14, 4.15, 5.11, 5.12), in a formulation that can accommodate practically everything. While courts around Europe have developed criteria and specifications depending on each country's circumstances and regulatory traditions (Möckel, 2017), such derogations have routinely been used to justify projects - ranging from renewable energy installations to large-scale tourist infrastructure. In the case of Nature Restoration Regulation, these derogations must be justified and reported to the European Commission, ensuring a measure of oversight. Their use nonetheless reveals a persistent prioritisation of economic interests over biodiversity protection, thereby undermining the scope of biodiversity integration, and the consistency and binding force of EU environmental policies. The EU Climate Law, on the other hand, does not contain explicit derogation clauses, but it contains certain passages providing flexibility that can be interpreted as functional derogations: Article 7(2-3) empowers the European Commission to issue recommendations when national measures are inconsistent with the climate-neutrality objective, yet these recommendations are non-binding, reflecting a reliance on soft-law instruments that leave Member States considerable discretion in implementation - the result of negotiations in order to achieve its adoption.

Precise terminology can strengthen accountability and embed principles of transformative change, providing substance to the form of a legally-binding instrument. The definitions of 'good condition' and 'good environmental status' in the Nature Restoration Regulation, for example, support evaluation, while clear reporting requirements enhance comparability. Yet some clauses of the policies retain vague or aspirational terms that allow decision-makers wide discretion and may dilute transformative ambition. For example, the Habitats directive refers to the consideration of '*economic, social and cultural requirements and regional and local characteristics*' (Art. 2(3)) and the Birds Directive to 'economic and recreational requirements' (Art. 2), without further specification.

In contrast to legally-binding instruments, non-binding frameworks, including strategies, agendas and voluntary agreements, rely on soft governance tools, such as knowledge exchange, coordination platforms or non-binding recommendations. They are not a new phenomenon, due to constraints regarding division of competences or because sometimes actors 'deliberately choose softer forms of legalisation as superior institutional arrangements' (Abbott and Snidal 2000, 423). The Urban Agenda for the EU exemplifies both the opportunities and limitations of such soft governance. Described by Potjer et al. (2018) as an 'experimental method to involve cities in EU policymaking' (p. 20), it introduces more inclusive, multi-level governance and draws on local knowledge to achieve a 'better fit between the European and the urban level' (p. 18). Yet cities retain only a ''small seat' at the table' (p. 6). Without enforceable obligations or guaranteed outcomes, transformative potential rests on its ability to 'inspire structural change' (p. 4), and on whether lessons from such 'urban experimentation' (p. 24) are mainstreamed into broader EU governance. Still, voluntary approaches can help, especially when trusted local actors act as 'ambassadors for change', but evidence suggests that without strong financial incentives, clear rules and, where necessary, binding obligations, progress will be slow and uneven (Marquard et al., 2025; Orliac, 2025).

Adaptive learning and action is particularly relevant for institutions to manage the unpredictable nature of transformative change. The principle of adaptive learning and action is process-focused and emphasises continual reflection, evaluation and adjustment (Reyers et al., 2022). It highlights the need to stay attentive to emerging

impacts and to prevent change processes from reproducing the very problems they seek to address (Barth et al., 2023). It is particularly relevant at times of climate instability, rapid technological and societal change, and geopolitical turmoil. Careful monitoring and responsiveness are essential to account for risks and unintended consequences of policy decisions (Blythe et al., 2018; Menton et al., 2020). Mechanisms ensuring adaptive learning and action are partially considered in EU policymaking - for example through impact assessments, policy feedback loops, consultation processes, and thematic evaluations. Yet binding, iterative learning cycles are usually absent, as a result again of the largely inflexible nature, linked to multi-level negotiations, of EU policy making. The Climate Law and Nature Restoration Regulation include formal review and revision processes, but the Climate Law's limited integration of biodiversity reduces its transformative potential. The Nature Restoration Regulation on the other hand, if implemented inclusively, provides a strong positive example, with continuous monitoring and mechanisms allowing the European Commission to update annexes and adopt implementing acts to adjust measures in light of new knowledge. Nevertheless, the absence of consistent quantitative and biogeographic data, combined with rapidly shifting species distributions under accelerating climate change, such as in the German context (Luick et al., 2025b), restricts the establishment of clear baselines including to design or evaluate management outcomes.

The operationalisation of biodiversity targets is critical for shaping the transformative potential of policy instruments, as it defines not only the level of ambition but also the principles guiding action. Effective implementation of the Nature Restoration Regulation requires swift action and access to appropriate tools, while recognising that ecological recovery takes time. Financial incentives can support uptake but cannot resolve land-use conflicts on their own; legal obligations are therefore necessary to ensure that private interests do not override the public interest in restoration. This, however, depends on public support for conflict management and early action (Marquard et al., 2025).

At the same time, many Member State representatives report limited staff, growing workloads, unclear institutional roles and weak inter-ministerial coordination, factors that slow planning and hinder stakeholder engagement and effective implementation (Orliac et al., 2025). These challenges mirror long-standing issues:

the Birds and Habitats Directives and the Biodiversity Strategy have struggled with insufficient funding, limited administrative capacity, and overly complex procedures (Hering et al., 2023). Rather than addressing these shortcomings, the European Commission's proposal for the next Multiannual Financial Framework (MFF) suggests discontinuing the EU LIFE Programme, which is the Union's only dedicated fund for environment, nature and climate action, and integrating selected components integrated into a new European Competitiveness Fund. This risks the loss of LIFE's proven return on investment and its benefits for climate, nature, and people. In parallel, the Nature Restoration Regulation neither requires coordination among the multiple authorities involved in restoration projects, nor establishes a framework for conflict resolution (Ciscato and Harris, 2025). Without substantial capacities, even the most ambitious legislation risks implementation failure. This underscores the need for reforms of complementary policies such as the CAP (Hering et al., 2023).

EU policy often pairs long-term goals, such as climate neutrality by 2050 or restoring at least 80% of degraded ecosystems, with short-term, cyclical mechanisms for implementation. This mismatch reinforces path dependencies and locks-in unsustainable trajectories, as short-term planning cycles insufficiently align with long-term transformative ambitions. As a result, opportunities for systemic change are constrained by entrenched institutional logics and established policy pathways.

Beyond agenda-setting and adoption, implementation environments are decisive for whether policies activate transformative dynamics or remain symbolic. Weak legal and organisational frameworks, lack of dedicated institutions and chronic underfunding, further constrain implementation capacity. In the case of the Nature Restoration Regulation, as an example, conflicts over land use and land-tenure constraints, such as limited public land and difficulties intervening on private land, add another layer of complexity - particularly since nature restoration ultimately depends on collective action at a local level (Anthony, 2025).

The relationship between public support and implementation success also illustrates institutional shortcomings. Evidence from the Netherlands shows that even when public support for nature conservation is high, it does not automatically lead to participatory or socially responsive governance. Instead, strong support

reinforces confidence in established, expert-led conservation approaches and reduced attention to the social implications of restoration, resulting in a continued reliance on top-down, ecology-driven decision-making (Bujis and van Koppen, 2025). This dynamic reflects an institutional mismatch between public expectations and policymaking processes, and demonstrates how insufficiently designed participation mechanisms can undermine legitimacy and long-term support, rather than enabling transformative implementation.

A related, major, barrier is the misalignment of surrounding policy regimes. The effectiveness of the Nature Restoration Regulation will depend heavily on how it interacts with other EU policies governing land, water, agriculture, forests and seas (Hering et al., 2023). While the Birds and Habitats Directives, the Water Framework Directive, the Marine Strategy Framework Directive, the EU Biodiversity Strategy, the Forest Strategy, the Common Fisheries Policy and especially the CAP, provide a dense regulatory environment, they also embody competing logics. The CAP, with its large budget and influence over almost 40% of the EU's terrestrial area, remains a structural driver of biodiversity loss and intensive land use. Reforms are needed to phase out harmful subsidies, align incentives with restoration, and address unsustainable consumption and trade (Marquard et al., 2025). The broad derogation in the Nature Restoration Regulation allowing for renewable energy projects is an example of how the EU is prioritising climate considerations without holistic consideration of biodiversity and equity outcomes.

Transformation requires both horizontal (cross-sectoral) and vertical (multi-level) coherence. Yet fragmentation and divergent mandates among institutions, such as DG Environment, DG Agriculture, DG Energy and DG Climate, continue to create inconsistencies, including 'turf battles among the involved DGs' (Blom-Hansen et al. 2025, p. 53). While strategies increasingly emphasise integration, explicit mechanisms to align goals, instruments and funding streams remain underdeveloped, giving little attention to structural contradictions. Binding environmental legislation such as the Birds and Habitats Directives and the Nature Restoration Regulation shows stronger alignment with the EU Biodiversity Strategy and SDGs 14 and 15, while broader governance frameworks like the Climate Law and Urban Agenda display uneven and largely symbolic coherence.

The SDGs are admittedly an imperfect global development agenda, with many gaps, including on addressing extreme wealth, and inherent conflicts and inconsistencies, particularly regarding the relationship between growth and sustainability. On top of fundamental critiques, including that they are grounded in Western thinking and promote an already failed neoliberal agenda, their lack of coherence results in failure to advance policy integration in implementation (Bogers et al 2022). They thus seem to promote, rather than address, the gap between promise and action. However, as Arora-Jonsson (2023) optimistically argues, they offer a universal agenda and the possibility to use them as 'contact zones' to debate and construct collective imaginaries. Rather than goals as such, the SDGs can be used as tools for a process towards desirable futures, offering the opportunity to fashion socially just policies with stronger institutions. As our analysis has shown, however, EU policymaking is far from this possibility: the analysed policies refer to the SDGs at the level of vision only, but the sporadic references maintain silo-thinking instead of promoting coherence and policy integration. As an illustration of a missed opportunity, the Climate Law does not align with SDGs 14 and 15, nor with the EU Biodiversity Strategy.

Balancing strong Union-level structures and accountability with sufficient flexibility for Member States, regions and local actors, to innovate and tailor responses is a challenge. The question of how far key transformative elements can (or should) be specified at the EU level goes to the heart of the tension between ambition and subsidiarity in European governance. On one hand, specifying clear, binding targets and mechanisms at the EU level can provide coherence, accountability and consistency across Member States, thereby strengthening the capacity for systemic change. Such top-down specification is particularly important where cross-cutting challenges like biodiversity loss require coordinated responses beyond the scope of national or local action. On the other hand, Member States operate under diverse contexts, legal frameworks and institutional capacities, which can complicate uniform implementation. Over-specification at the EU level risks constraining national and local agency and experimentation, which are essential for adaptive, context-sensitive solutions that account for these differences.

The Nature Restoration Regulation provides an illustration of this challenge. Harris and Ciscato (2025) argue that the Regulation gives Member States wide flexibility

in how to meet restoration targets, which in countries like Italy, where key powers lie with regional and local authorities, can create a mismatch between national goals and the actors responsible for carrying them out. The CJEU has consistently rejected subjective or category-based national classifications — as seen in the Waste Framework Directive cases — insisting instead on an objective, purpose-based assessment to prevent Member States from undermining EU environmental goals. This centralising tendency is even stronger for Regulations. The Nature Restoration Regulation, however, is structured differently: it expressly requires Member States to specify what their restoration measures are and what each is intended to achieve through their national restoration plans. This marks a shift from earlier environmental regulations, offering Member States additional flexibility, although it is still to be seen how the CJEU will react in the forthcoming challenges about whether the chosen measures are sufficient to meet the Regulation's substantive targets.

4.2.4 Unsustainable consumption and production patterns

Unquestioned norms and strategies rooted in growth-oriented worldviews conceal environmental impacts and perpetuate unsustainable production and consumption systems, thereby obstructing transformative change (Frantzeskaki et al., 2024). Addressing symptoms, rather than the deeper drivers of environmental degradation, can hinder transformative change. Mechanisms such as biodiversity offsets, impact assessments and market-based instruments may legitimise extractive activities and create a false impression of achievement, while reinforcing dispossession, inequality and corporate power. Similarly, voluntary efforts and certification schemes often produce weak outcomes and do little to alter structural causes of biodiversity decline. Such pathways are intertwined with broader economic systems that prioritise growth and consumption (Frantzeskaki et al., 2024).

The framing used in policy instruments deeply shapes policy outcomes. Market-based, efficiency-oriented and co-benefit narratives dominate in the policies analysed, whereas framings based on moral responsibility, reciprocity, care or urgency, are limited to non-existent. The Climate Law, for instance, presents climate action as compatible with continued economic growth and frames adaptation in cost-effective terms, rather than addressing structural causes of both climate

change and vulnerability. Similarly, the Urban Agenda and its biodiversity Action Plan stress multifunctionality and economic co-benefits of NbS with limited engagement with care- or justice-oriented narratives. Such technocratic framing can obscure power relations, depoliticise sustainability challenges, and weaken transformative ambition, reducing biodiversity integration to managerial optimisation instead of equitable systemic change.

Recent policy dynamics illustrate how growth-oriented priorities continue to limit transformative ambition. The narrow adoption of the Nature Restoration Regulation and the subsequent conservative shifts in EU politics demonstrate how dominant economic narratives constrain restoration efforts. The regulation passed only due to temporary political alignment, rather than a broader paradigm shift away from competitiveness and growth.

The Green Deal became, in 2019, the Commission's most contentious set of policy proposals, seeming to disregard the interests of the EU's powerful agricultural lobbies, by no longer regarding increased production as an unquestionable goal to be supported. Instead, its targets for restoring biodiversity and reducing climate emissions proposed transitioning from the current model of industrial mass-production to sustainable food-growing methods (Holdo, 2025). As Luick et al. (2025a) argue, however, given the current emphasis on growth, competitiveness and defence, the adoption of a law similar to the Nature Restoration Regulation would no longer be politically feasible, and the remaining Green Deal files are expected to have limited impact. This reflects how dominant economic paradigms close transformative windows and reinforce status-quo trajectories. These pressures were reinforced in the public debate, where agricultural lobby groups, opposing politicians, framed restoration as a threat to food security through what Holdo (2025) calls a 'securitised, patriarchal logic of food production' (p. 13). This productivist framing promotes an authoritative vision of agriculture that marginalises different perspectives on sustainable food systems and reinforces the assumption that intensive, high-input production is the only viable pathway for societal stability, in contravention of major global assessments (FAO, 2017). The supposed conflict between biodiversity restoration and food security considerations is at odds with global assessments on the contribution of agrobiodiversity to long-term food security and reinforces the view that high yields of a limited number of

crops equals food security. Together, these narratives exemplify how technocratic approaches can depoliticise environmental challenges and obscure power relations, reducing biodiversity integration to managerial optimisation rather than moving towards equitable systemic change.

Conflicts over land use further illustrate how dominant land-use models and political incentives prioritise exploitation over restoration. Planning regimes and property-rights structures favour production-oriented uses of land, leaving restored areas vulnerable to agricultural, forestry and development pressures. These conflicts are also shaped by socio-political dynamics that vary across national contexts. Research in Germany and Poland, for example, shows that political orientations influence support for rewilding (Giergiczny et al., 2025), while comparative studies in Sweden and Spain highlight demographic and cultural differences in attitudes towards restoration (Kazungu et al., 2025). The Dutch case shows that even when participatory and economic arguments are used in policy discourses, translating these into concrete decisions remains difficult (Buijs and van Koppen, 2025). These examples demonstrate how socio-economic expectations and political incentives reinforce extractive land uses, even where public support for nature protection appears high.

Persistent tensions between ecological and economic priorities thus continue to constrain transformative change and the explicit integration of biodiversity considerations. This is further illustrated by the interaction between the EU's biodiversity and trade-liberalisation agendas, where trade policy stimulates production and consumption of biodiversity-threatening commodities (Roux et al., 2025).

4.2.5 Limited access to and uncoordinated knowledge

Knowledge and innovation systems for biodiversity remain fragmented across public, private and civil society sectors, while education and capacity building often overlook sustainability, hindering transformation. Structural and institutional barriers keep unsustainable, resource-intensive technologies in place, as path-dependent systems and high costs restrict access to cleaner alternatives. Weak environmental institutions, insufficient regulation and monitoring, and a lack of

incentives further limit the uptake of biodiversity-supportive alternatives, constraining progress toward sustainability (Frantzeskaki et al., 2024).

A challenge is to develop indicators that can meaningfully track the progress of high-level ambitions. The Climate Law lacks clear ecological indicators beyond carbon accounting, making it difficult to assess the biodiversity implications of land-based mitigation. The Nature Restoration Regulation faces related challenges: ecosystem baselines are often unknown or inconsistent, and monitoring systems remain fragmented across Member States. Although this regulation seeks to establish measurable indicators, such as areas of restored habitats or the Grassland Butterfly Index, categories like forest indicators still require further standardisation, and marine indicators remain partly undeveloped (Hering et al. 2023). Moreover, ecosystem restoration requires defining meaningful baselines, yet it is unclear which reference conditions should guide targets. For Habitat Directive areas, late-1990s reporting data are outdated due to past errors and climate impacts, and biodiversity loss extends far earlier, with reliable records rarely predating the 1970s. This gap contributes to society's weak response to biodiversity decline and reinforces the 'shifting-baseline syndrome', in which each generation accepts an increasingly degraded state as 'normal.' (Luick et al., 2025b).

4.3 Moving Beyond Policy Mainstreaming Towards Transformative Change

Ambitious biodiversity goals must be clear and measurable, supported by operational clarity, adequate capacities for implementation, and coherent governance across sectors and levels. However, policy integration is not just reflected in the final policy text; it is a process (Persson 2004) and as such, it demands substantial resources and is often constrained by political and administrative realities (negotiations, power struggles, and competing problem definitions). This requires understanding what form of integration is both feasible and desirable, as well as ensuring sufficient integrative leadership and capacities to enable genuine integrative processes (Candel, 2021).

Focusing solely on the consideration of biodiversity aspects in sectoral policies reduces policy integration to questions of coherence, alignment, and procedural coordination. Achieving ambitious biodiversity goals requires approaches that

address the underlying causes of biodiversity loss as opposed to reformist approaches that seek to protect the environment while keeping the basic economic and political systems intact, which are ultimately perpetuating the drivers of biodiversity loss (Martin et al., 2020). This requires breaking path dependencies defined by short-term economic interests and private profit over public good, and moving toward approaches grounded in the principles of equity and justice, pluralism and inclusion, adaptive learning and action, and reciprocal human–nature relationships (Gurung et al., 2025).

Overall, barriers and enablers of transformative change are deeply intertwined. Structural inequalities, entrenched economic priorities, powerful opposing coalitions and misaligned policy regimes constrain what (biodiversity) policies can achieve in practice. Policy negotiations themselves play a decisive role in shaping ambition, narrowing or expanding the scope of commitments, and defining how targets are specified. These bargaining processes determine both the design and ambition of the final policy and its implementation mechanisms and capacities (output) and how policies translate into (transformative) action (outcome).

Using the IPBES theoretical framework was helpful to identify that, while EU policies have advanced structural forms of integration, they often fail to integrate biodiversity into the underlying views that shape policy processes, outputs and outcomes, or into the practices that determine how progress is assessed, which groups are involved, and how benefits and burdens are distributed across society. All these aspects are key to ensure effective, just, and inclusive governance and to overcome the challenges to transformative change. Whether the Nature Restoration Regulation and related policies succeed will ultimately depend on whether EU institutions, Member States and societal actors mobilise the enabling conditions to address, rather than reproduce, the underlying causes of biodiversity loss.

5. Outlook and Recommendations

Achieving the EU's biodiversity ambitions requires more than strengthening individual policy instruments; it requires fundamentally changing the way we are approaching life. This study has analysed the integration of biodiversity targets in five major EU policies: the Birds and Habitats Directives, the European Climate Law,

the Urban Agenda for the EU, and the Nature Restoration Regulation. Guided by the theoretical framework of the 2024 IPBES Assessment, it has analysed the *transformative* elements within these policies: those capable of shifting *views* (ways of seeing, thinking and knowing), structures (ways of organising, regulating and governing), and practices (ways of doing, behaving and relating) (IPBES, 2024), toward greater equity and biodiversity outcomes. It has also identified persisting challenges to transformative change and enabling conditions to overcome them. Table 1 provides an overview of the persisting challenges to transformative change identified in this study, as well as recommendations for each policy analysed.

The results show that, while these policies have potential to transform structures and practices for biodiversity to varying degrees, their capacity to shift views remains particularly limited. Yet, engaging with the way people are perceiving, knowing, and relating to both nature and each other is key, to address persisting challenges evident in both policy design and policy making processes: the relations of domination over both people and nature, and the resulting economic and political inequalities. Principles of equity and justice appear throughout the policy texts, but they lack concrete mechanisms for implementation. The policies rely on views that separate people from nature. Nature is largely referred to as an object of management and reduced to a provider of services for human needs. Measures to foster respect, care and emotional connection to nature are largely missing. Moreover, the concept of human responsibility is absent in the policies this study considered.

The findings show that the formats of engagement in place are not transparent, and that they are not inclusive - not only because they do not consider all relevant groups, but also because they fail to document and to provide explanations of how the results were considered during the decision-making process. Such engagement formats implicitly provide very strong messages to those involved: what they have to say is not relevant; and the time and resources spent on engagement is not worth investing in. This, of course, also reinforces existing power asymmetries and exacerbates inequality. Not just considering, but also carefully operationalising these principles in every action undertaken toward the achievement of biodiversity and related policy goals, is key.

Transforming engagement formats implies transforming the way we interact with each other, the way we both listen and respond to each other when we talk about our goals and ambitions and about the steps we imagine ourselves following to achieve them. Engagement formats are required that facilitate interpersonal interaction that transcends the boundaries of interest groups, political affiliations, qualifications, and institutional mandates; formats in which we practice listening to one another and remain open to the diversity of perspectives in the room. What is needed is a collective reflection on the underlying causes of ecosystem degradation and biodiversity loss and on how these can be addressed systematically, while holding ourselves and our institutions accountable for our roles in these processes. Current engagement formats need mechanisms that ensure: 1) that everyone who is affected by, influences, or is responsible for the issue or decision at hand can participate in a meaningful way, which requires; 2) that the design and facilitation removes barriers to participation, for example for less powerful, less vocal, or less well-resourced actors; 3) that everything that is said is documented, and 4) that everything that is said is considered, because all of it may be important. Inclusive participation implies that contributions are taken seriously and can influence outcomes, rather than serving a symbolic or consultative function only. This in turn requires that those in charge of taking the decisions are subject to mechanisms of accountability: that they are ready to explain how exactly they are considering all the information that was exchanged in the decisions that they are taking, especially those critical to ideology and power underrepresented in mainstream narrative.

Importantly, a key limitation across all examined policies is their limited engagement with the indirect drivers of biodiversity loss and the underlying causes, including concentration of power and wealth, expanding inequities, and prioritisation of short-term material gains. Nature restoration and protection cannot succeed if environmental legislation pulls in one direction while agricultural, fisheries, energy or trade policies incentivise practices that degrade ecosystems. Aligning objectives and instruments within environmental legislation, and embedding biodiversity and restoration goals into sectoral frameworks such as the Common Agricultural Policy (CAP), and the Common Fisheries Policy (CFP), will be necessary.

Policy integration is a process rather than an outcome, which is why transforming the ways in which societal actors engage with one another is essential. Integrating biodiversity and equity considerations at the earliest stages of policy design prevents incoherences that would otherwise require compensatory measures at later stages. This, in turn, requires a thorough consideration of all dimensions of equity: procedural (ensuring that everyone has a fair chance to take part in decisions that affect them), distributive (fair distribution of benefits and burdens), recognition (making sure that all voices count, that differences are valued, and that no one is made to feel invisible), and capabilities (ensuring access to resources and removing barriers to their use). This demands genuine engagement with a diversity of groups, amplifying the perspectives and voices of those traditionally silenced while limiting the influence of actors with the power to silence others, as well as a sustained reflection on the distribution of privileges and the structures that perpetuate inequalities. This must constitute a core element of any policymaking process.

Jointly formulating initial policy ideas, rather than retrofitting environmental objectives into other sectors ex post, reduces the likelihood of downstream conflicts and diminishes reliance on derogations or compensatory measures. Such inclusive processes might entail trade-offs and may seem to risk lowering ambition. Nevertheless, ambitious goals will not be achieved without the necessary societal support, operationalisation and implementation capacities. Formulating goals that are unattainable - not due to their aspirational nature, but due to the evident lack of mechanisms and capacities needed to realise them - ultimately undermines prospects for transformative change. Furthermore, as long as biodiversity targets and equity considerations are obscured by vague language and underspecified terms, efforts to advance ambitious policy agendas will continue to be diluted.

A transformative response to the status quo would be one that enables joint learning processes. Engaging a diversity of perspectives, views and knowledge systems, in review and evaluation mechanisms, enables a joint reflection of all intended and unintended consequences of the respective policy, as well as challenges to implementation and ideas to overcome them. This goes beyond bringing multiple perspectives to the table; it also requires the courage to examine what is not working and why. Doing so demands a degree of vulnerability and a shared commitment to try something different the next time. Review mechanisms

that allow enough time for genuine collective reflection would be a good starting point. While we keep discussing and negotiating, degradation keeps increasing. On the other hand, the protection of people and nature requires a diverse representation of society on board.

Table 1: Challenges, transformative governance principles, and measures across selected EU Policies

Policies	Key challenges and barriers	Recommendations
The Birds & Habitats Directives	- Top-down, science-driven and state-centred governance - Limited participation and local ownership - Derogations weaken environmental protection - Limited capacities -Gaps in knowledge and monitoring	- Develop criteria restricting derogations and require independent justification - Strengthen monitoring and enforcement capacity (staff, funding) - Expand co-management and local governance structures - Strengthen knowledge exchange with local and regional authorities - Agree on clearer definitions, indicators and measurable objectives - Integrate relational ethics, stewardship principles, and respect for nature into policy frameworks and implementation
The European Climate Law	- Biodiversity treated marginally, focus on carbon only - Long-term goals but weak operationalisation - Market-based framing aligns with growth paradigm	- Integrate biodiversity indicators into climate instruments - Link land-based mitigation to restoration requirements - Strengthen binding compliance mechanisms and reduce reliance on voluntary approaches - Reform carbon accounting to avoid trade-offs for biodiversity -Incorporate stakeholder input into feedback loops to enhance inclusive and adaptive learning

The Urban Agenda for the EU	- Voluntary / soft governance - Limited ability to challenge structural drivers (growth, land value capture) - Uneven capacity across cities - Project-based approach reinforcing capacity inequities -focus on narratives of multifunctionality and economic co-benefits	- Consider biodiversity aspects in related action plans, as well as in follow up actions - Engagement with care- or justice-oriented narratives - Strengthen requirements for impact and outcome evaluation, and include mechanisms for adaptive learning. - Provide dedicated funding and institutional support for cities - Expand co-decision with local authorities and other stakeholders (not only knowledge exchange) - Scale up good practice pilots into binding mechanisms in other frameworks -Mainstream lessons from urban partnerships into EU governance - Agree on common social justice principles guiding adaptation responses.
The Nature Restoration Regulation	- Limited consideration of indirect drivers of biodiversity loss -Lack of safeguards for inclusive participation - Resistance from productive sectors such as agriculture, fisheries and forestry - Risk of insufficient implementation capacity - Misalignment with surrounding policy regimes (especially CAP) - Derogations may undermine ambition	- Align CAP/CFP reforms to address harmful subsidies - Regulate negative trade impacts on biodiversity and equity - Introduce safeguards for participatory processes in National Restoration Plans to ensure equity and justice, including uptake. - Agree on clearer rules for derogation and public interest justifications - Increase funding and administrative capacity for Member States - Develop cross-sectoral governance mechanisms with agriculture, water, forestry, and fisheries. -Roll-out context-sensitive communication and engagement strategies that resonate with local meanings and lived experiences,

		and communicate co-benefits and diverse values of nature - Establish accountability and inclusive review mechanisms that integrate different knowledge systems - Integrate measures that address power, resource, and wealth inequalities -Complement implementation flexibility with binding minimum standards and safeguards to ensure that Member State discretion does not dilute ambition for biodiversity and equity.

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Statement on data availability

The Repository of articles and the coded segments will be made available on Zenodo before the end of the DAISY project in January 2027. The findings are accessible to all project members through the internal data repository on SharePoint. There is no additional raw data to be reported.

Statement on ethics

This study is based exclusively on publicly available online sources. No personal data were collected, and no ethical concerns arise from the research. The authors declare no conflicts of interest.

Annex

Table : A1 Coding Scheme for Biodiversity Policy Integration

Level	Biodiversity inclusion	Operationalisation	Capacities	Coherence with EU Biodiversity Strategy for 2030 and SDGs
0: Absent	*Missing biodiversity targets* The policy omits biodiversity considerations entirely, or includes only vague mentions without defining any goals, although it may affect biodiversity.	*Missing operationalisation* The policy lacks any concrete actions or instruments for implementation.	*Missing capacities* The policy lacks any provisions or references to implementation mechanisms, resources, or institutional coordination.	*No coherence* The policy has no meaningful connection to the SDGs and the EU biodiversity targets. Its goals/actions may conflict with these ambitions.
1: Limited	*Implicit biodiversity (-related) targets* Biodiversity is referenced indirectly or embedded in broader environmental or sectoral goals, but no standalone biodiversity targets are set.	*Weak operationalisation* The policy includes broad principles or intentions with minimal actionable detail and no implementation structure, e.g., vague	*Weak capacities* The policy acknowledges implementation needs but provides little to no concrete guidance or tools to support them.	*Low coherence* The policy touches on themes related to sustainable development and biodiversity but lacks clear targets or actions, as well as references to the SDGs and the EU Biodiversity Strategy (unless developed earlier)

		language, no deadlines, no implementing actors.		
2: Moderate	*Qualitative biodiversity (-related) targets* The policy includes clearly stated biodiversity goals, but they are descriptive or directional rather than measurable.	*Partly operationalised* The policy outlines some concrete actions or instruments, but they are incomplete, optional, or only weakly linked to targets, no timeline or performance metrics.	*Moderate capacities* The policy includes some provisions or references to implementation capacities, but they are partial, non-binding, or weakly specified, e.g., general mention of funding or collaboration, but no guarantees or enforcement; roles defined but without clear lines of accountability; review is recommended but not structured.	*Moderate coherence* The policy broadly supports sustainable development and biodiversity through related goals or actions, but lacks direct references or detailed integration with the SDGs and the EU Biodiversity Strategy (unless developed earlier)
3: High	*Specific quantitative and time-bound biodiversity (-related) targets* *The policy includes clearly defined, measurable*	*Fully operationalised* The policy includes clearly defined, actionable instruments and procedures that	*Strong capacities* The policy includes explicit, robust, and enforceable provisions for implementation across	*High coherence* The policy explicitly aligns with relevant SDGs and biodiversity targets, and includes integrated objectives, actions, or monitoring

	biodiversity targets, including timeline. Targets are quantitative and linked to indicators for progress tracking.	directly support implementation of biodiversity targets.	financial, institutional, and collaborative dimensions.	frameworks that directly support their implementation.

Table A2: Coding Scheme for Principles for Transformative Change

Level	**Equity and justice**	**Pluralism and inclusion**	**Adaptive learning and action**	**Respectful and reciprocal human-nature relationships**
0: Absent	No consideration of equity or justice. No mention of fairness, distribution, recognition, or procedural justice.	No inclusion of diverse voices, knowledge systems, or stakeholder groups. Policymaking is top-down and closed.	The policy is static and prescriptive, with no mechanisms for review, learning, feedback, or adaptation.	Nature is treated purely as a resource or externality. No recognition of relational values or interdependence.
1: Limited	Equity and/or justice are mentioned in general terms, but no concrete mechanisms or actions	Some reference to participation or inclusion, but limited to dialogue formats or consultation without real influence (e.g., no	Some openness to learning or evaluation is indicated, but no formal feedback loops or	Nature is acknowledged beyond instrumental value, but only rhetorically (e.g. aesthetic, heritage). No practical implications.

	are included. Often rhetorical.	clear mandates to consider the results).	adaptability mechanisms are defined.	
2: Moderate	Specific actions or mechanisms address equity or justice (e.g. inclusive decision-making, social safeguards, benefit-sharing), but the approach is limited in scale or scope.	The policy includes mechanisms to ensure active participation of diverse groups, including diverse knowledge systems, local communities, and marginalised actors.	The policy includes structured mechanisms for monitoring, feedback, and learning (e.g. evaluations, iterative planning), enabling moderate adaptability.	The policy integrates relational values in some aspects (e.g. rights of nature, co-existence principles, stewardship language), but implementation is partial or there is missing operationalisation.
3: High	Equity and justice are deeply embedded across policy goals, instruments, and implementation structures. Multiple dimensions of justice (distributional, procedural, recognition) are addressed systemically.	Full institutionalisation of inclusive governance: multiple knowledge systems (e.g. local, scientific) are integrated, and plurality is reflected in decision-making power, not just participation.	Continuous learning and adaptive governance are core features. The policy is reflexive, revisable, and actively engages with uncertainty and change through iterative, participatory processes.	Human–nature relationships are at the core of the policy's vision and instruments. E.g., ethical, spiritual, and interdependent relationships are recognised and institutionalised (e.g. legal personhood for nature, biocultural approaches).