



**THINK
2030**

Policy paper

Using nature-based solutions to foster synergies between biodiversity and climate

Missed chances and new opportunities
for a sustainable future



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1 INTRODUCTION

The EU and its Member States are committed to contributing their fair share to the achievement of the Sustainable Development Goals (SDGs) by 2030, including targets on climate action and protecting life on land and at sea. The realisation of these goals is highly interdependent, not least as climate change is a direct negative driver of ecosystem change with important knock-on effects on human well-being (IPBES, 2019). The degradation of land and marine ecosystems worldwide already undermines the well-being of at least 3.2 billion people and costs about 10% of the annual global GDP in loss of ecosystem services (IPBES, 2018b).

On the other hand, there is a growing awareness of the important role that healthy ecosystems can play in mitigating climate change and supporting adaptation that reduces its environmental, social and economic impacts. For example, the UN estimates that ecosystem restoration could remove up to 26 gigatons of greenhouse gases from the atmosphere¹. This awareness is not new and was already central to the 1992 Earth Summit from which both the UN conventions on biodiversity and climate change originated².

The European elections and recent EU policy developments reflect this awareness, evidenced by an increased consideration of environmental issues by parties^{3,4} and the endorsement of a European Green Deal by the EU Member States and the European Parliament. In addition, the new European Climate Law proposed in March 2020 aims to make the EU economy and society climate-neutral by 2050, supported by the proposal for a binding 2030 greenhouse gas emissions reduction of at least 55%.

A new EU Strategy on Adaptation to Climate Change will be tabled in 2021. To tackle the acknowledged biodiversity crisis in Europe, an ambitious new EU Biodiversity Strategy for 2030 was adopted in May 2020, with the aim of ensuring that Europe's biodiversity will be on the path to recovery by 2030. Its three key components are to improve and widen the EU's network of protected areas, develop an ambitious EU nature restoration plan, and put in place a new European biodiversity governance framework.

¹ UNEP press release of 01 March 2019, 'New UN Decade on Ecosystem Restoration offers unparalleled opportunity for job creation, food security and addressing climate change', <https://www.unenvironment.org/news-and-stories/press-release/new-un-decade-ecosystem-restoration-offers-unparalleled-opportunity>

² United Nations Conference on Environment and Development, Rio de Janeiro, Brazil, 3-14 June 1992, <https://www.un.org/en/conferences/environment/rio1992>

³ IEEP Manifesto analysis of 11 April 2019, <https://ieep.eu/news/ieep-manifesto-analysis>

⁴ Politico EU news item of 27 May 2020: 'European election's winners and losers', <https://www.politico.eu/article/eu-election-2019-winners-and-losers/>

At the global level, increased recognition of the importance of ecosystems in fighting climate change is fuelling new cooperation between climate and biodiversity communities⁵ and initiatives like the UN Decade for Restoration⁶ and Bonn Challenge⁷. Nature-based solutions (NBS) are at the centre of this narrative, having emerged as a systemic approach that can address multiple societal challenges in parallel, including climate change, biodiversity decline and ecosystem service loss (Turney, Ausseil and Broadhurst, 2020).

Nature-based solutions, as defined in Box 1, include ecosystem protection, management and restoration approaches, such as the rewetting of peatlands to protect carbon stores, the use of vegetation to reduce soil erosion and water pollution; and the restoration of coastal marshes to reduce flood risk and -defence costs.

Such nature-based solutions are urgently needed globally, as well as at the EU level: While the EU met its 20% emissions reduction target for 2020, it has largely failed to reach its biodiversity targets. Recent assessments (EEA, 2020; IPBES, 2018a; Maes et al, 2020) confirm the large gap remaining to meet the agreed targets. Reaching the new 2030 climate targets will also require a significant increase in ecosystem-based mitigation, particularly from Land Use, Land Use Change and Forestry (LULUCF).

While the climate and biodiversity agendas in some cases work against one another, such as through unsustainable renewable energy and hydropower development (EEA, 2020; Huđek, Žganec and Pusch, 2020), utilizing biodiverse nature-based solutions can help bridge these challenges and create win-win solutions.

Nevertheless, further work remains to design and implement solutions, which effectively capitalize on the synergies and shared goals between the climate and biodiversity agendas, while ensuring no harm is done to biodiversity.

This paper discusses how EU policies and investments have spurred the uptake of nature-based solutions to support biodiversity and ecosystem health, and outlines remaining gaps and opportunities on how best to scale up efforts to meet the current EU policy framework's 2030 objectives.

Furthermore, the paper offers ideas for how the new EU Restoration Plan could be operationalized through concrete tools, measures and strategies to allow Member

⁵ For example, the establishment of an Ad Hoc Technical Expert Group on Biological Diversity and Climate Change under the CBD: <https://www.cbd.int/climate/background.shtml>

⁶ UN Decade on Ecosystem Restoration, <https://www.decadeonrestoration.org/>

⁷ Bonn Challenge, <https://www.bonnchallenge.org/>

States to scale up their efforts while complementing existing policies and contributing to the broader European Green Deal agenda.

Box 1: Definitions of nature-based solutions (NBS)

The European Commission (European Commission, 2015) defines nature-based solutions as *'Solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions.'* This definition was recently amended by the following: *'Nature-based solutions must therefore benefit biodiversity and support the delivery of a range of ecosystem services.'*

IUCN defines nature-based solutions as *'actions to protect, sustainably manage, and restore natural or modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits'* (IUCN, 2020).

2 EU POLICY – A DRIVER FOR PROTECTING, MANAGING AND RESTORING ECOSYSTEMS?

There is high potential for integrating nature-based solutions into EU policies as well as wider sectoral legislation and thereby generating opportunities to increase the scale and scope of the benefits that nature-based solutions can provide. Yet only a third of the policies in the European environmental and climate legislative framework either explicitly or implicitly strongly support nature-based solutions (Davis et al, 2018). This section explores the extent to which the EU policy framework has already encouraged the uptake of nature-based solutions through the protection, sustainable management and restoration of Europe's ecosystems. Opportunities to strengthen the implementation of and support for nature-based solutions within the existing policy framework are also outlined.

In terms of nature protection, the EU's key instruments are the **Birds and Habitats Directives** (the nature directives), under which EU Member States are committed to ensuring the conservation of over 500 wild bird species, around 1,400 non-bird species, and 234 habitats. Of these habitats 148 are carbon-rich, covering an area of approximately 950,000 km² or around two-thirds of the total terrestrial and marine habitat area reported across Member States (EEA, 2020). A key part of the legal instrument is the Natura 2000 network of protected areas. This network includes a substantial portion of the EU's carbon-rich ecosystems such as grasslands, wetlands, peatlands, forests, coastal and marine habitats such as saltmarshes, kelp beds and sea-grass beds.

The nature directives require Member States to conserve and, where necessary, restore the target habitats and species over their entire territory. To achieve this in practice, most effort is focused on protecting and managing the Natura 2000 network of sites, which covers about 18% of the EU's land area, and 10% of its seas (EEA, 2020). This network includes a substantial portion of the EU's carbon-rich ecosystems⁸. The nature directives not only provide direct legal protection but also shape and trigger sustainable management and restoration action (largely within and directly around Natura 2000 sites). While measures taken under the nature directives have resulted in measurable successes (Tucker et al, 2019), implementation and progress towards improved conservation status have been slow (Milieu, IEEP and ICF, 2016) with recent reports indicating that 81% of habitat assessments have a poor or bad conservation status (EEA, 2020).

⁸ Natura 2000 barometer, <https://www.eea.europa.eu/data-and-maps/dashboards/natura-2000-barometer>

Bogs, mires, and fens are in particularly poor status, with over half of assessments reporting that the situation is getting worse, highlighting the urgent need for restoration of these carbon-rich habitats. Significant room thus remains for a mutually beneficial restoration agenda in which nature-based solutions contribute to both the conservation status of habitats and species as well as climate action and other societal objectives.

Two other key EU laws with ecological objectives that require protection measures are the **EU Water Framework Directive (WFD)** and **Marine Strategy Framework Directive (MSFD)**. Under the WFD, all water bodies in the EU were to be in good ecological and chemical status by 2015, including their ecological structure and functions. Yet further improvement of 9,254- 25,604 km² of the 103,255 km² area of water bodies is still needed (EEA, 2019). Nevertheless, the Directive provides a strong basis for applying nature-based solutions by outlining the need to protect, enhance and restore functioning ecosystems and water bodies to deliver multiple ecosystem services. As such, solutions including targeted land protection, revegetation, riparian restoration, improved agricultural practices and wetland restoration and creation are already being applied (Trémolet et al, 2019). Room remains to strengthen support for nature-based solutions as a tool to contribute to climate adaptation goals. The MSFD aims to achieve Good Environmental Status (GES) of the EU's marine waters by 2020 and to protect the resource base upon which marine-related economic and social activities depend. Member State Marine Strategies developed under the MSFD should in addition to GES also support the achievement of Good Ecological Status of coastal and transitional waters under the WFD, and favourable conservation status of habitats and species under the nature directives. As with the nature directives, implementation of the WFD and MSFD has been slow (European Commission, 2018a; Vermeulen et al, 2019) and despite significant improvements, the ecological status of water bodies and the marine environment is still insufficient (EEA, 2018, 2019).

In terms of sustainable management of Europe's terrestrial and marine resources, the EU's two key policies are the **Common Agricultural Policy (CAP)** and **Common Fisheries Policy (CFP)**. The CAP takes action through income support to farmers, support for marketing organisations, and rural development measures. More specifically, environmental investments currently include mandatory greening measures under the 'first pillar' and voluntary measures under the 'second pillar' (e.g agri-environment schemes, organic farming and agroforestry). In recent CAP reforms, climate and biodiversity provisions have been strengthened, but evidence shows that their impacts have been limited by insufficient prioritization of biodiversity objectives and – when applied – many measures are only moderately effective (Alliance Environnement, 2019; Tucker et al, 2019). However, targeted agri-environment schemes and accompanying investments in restoration can be highly effective and are the most important source of funding for restoration on agricultural land, which makes up a third of the Natura 2000 network.

The CFP's main pillar is fisheries management, which includes obligations to ensure coherence with environmental protection objectives under the nature directives and MSFD, including the implementation of fisheries-restricting measures. Under the CAP and CFP, EU Member States have shown a tendency to implement the lowest common denominators from a biodiversity and climate perspective, such as in the greening of direct payments under the CAP in 2013, rather than use the flexibility in the policy frameworks to raise environmental ambition (Alliance Environnement and Thünen-Institut, 2017; European Court of Auditors, 2017). The EU also has a **Forest Strategy**, but it has had limited impacts due to a lack of mandatory obligations for Member States to take measures beyond national legislation. However, a post-2020 EU Forest Strategy is expected in early 2021, which could strengthen the recognition and support of restorative actions and sustainable management.

The achievement of objectives under the nature directives, WFD and MSFD require significant restoration efforts. While such measures have been implemented in all Member States, their focus so far has generally been on protection requirements in relation to basic species protection and establishing Natura 2000. The absence of clear deadlines for the achievement of the nature directives' objectives has also been a reason for slow progress. To stimulate improvements in the conservation status of habitats and species, the EU Biodiversity Strategy to 2020 included Target 1, to achieve by 2020 better conservation or a secure status for 100 % more habitats and 50 % more species protected by the EU nature law. The recent State of Nature report demonstrated how this target was missed by a large margin (EEA, 2020).

The Strategy also included a specific target of restoring at least 15 % of degraded ecosystems by 2020. However, no significant progress seems to have been made with this either although it is impossible to say with certainty as no monitoring system is in place. With the exception of Germany, Finland, The Netherlands and the Flemish region of Belgium, no Member State even drew up a plan of how it would achieve this on its territory despite detailed Commission guidance. The **EU Green Infrastructure Strategy**⁹ adopted in 2013 was meant to scale up ecosystem restoration and better integrate nature-based solutions into other policy domains and deliver on the 15% restoration target. A recent Commission review concluded, however, that the Strategy has failed to encourage action at scale. The Commission has neither proposed a strategic approach for GI at the EU level, nor successfully overseen the development of strategies and prioritisation frameworks by Member States for the restoration of degraded ecosystems. The uptake of available funding was also found to be insufficient (European

⁹ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52013DC0249>

Commission, 2019b). Despite increasing knowledge and Commission guidance, Member States actions have been limited. Legal requirements or more targeted support for cities and local and regional authorities are seen to be beneficial.

The **EU Floods Directive** is also relevant for driving restoration measures, aiming to reduce and manage the risks that floods pose to human health, the environment, cultural heritage, and economic activity. In Flood Risk Management Plans, Member State authorities must consider climate modelling as well as a wide range of environmental objectives, including nature. The application of nature-based solutions for flood risk management - often referred to as natural water retention measures – is established within this sector (EEA, 2017, 2019) (Opperman, 2019). While at least 26 Member States included at least some nature-based solutions in their plans (European Commission, 2019a), differences in the scale of uptake between Member States are significant and there is substantial scope for improvement (European Court of Auditors, 2018; Schwarz et al, 2018). Further cooperation between Member States and Commission to exchange best practices on the role of such nature-based measures in combination with climate change or - where relevant - land use and land cover changes could identify current gaps and support wider integration and application of nature-based solutions in future flood risk management plans. Furthermore, there is a need to thoroughly analyse costs and (co-) benefits and potential trade-offs of nature-based solutions, which vary depending on the location of the measure to support the selection of appropriate measures (Naumann et al, 2020).

Nature's contribution to climate regulation in Europe and Central Asia is estimated as being 400 EUR/ha/year (IPBES, 2018a). However, the EU climate policy framework has had little impact to date in driving nature-based solutions for ecosystem restoration or sustainable management. The **EU Adaptation Strategy** (which is due to be replaced in 2021 – see section 5) recognizes ecosystem-based approaches and green infrastructure as win-win, low cost, and no-regret approaches to address climate change, but does not mention restoration (Davis et al, 2018; etec et al, 2017). A recent review has found that the multifunctionality of ecosystem-based adaptation has not been sufficiently embedded in the assessment of adaptation options or sufficiently funded (European Commission, 2019b). Requiring Member States to design, implement and monitor national adaptation strategies that and include nature-based solutions could be a powerful approach to increase their uptake.

Member States' current **National Energy and Climate Plans** are not demonstrating a commitment to restoring their natural carbon sinks and to using nature-based solutions as key tools for climate mitigation and adaptation. The LULUCF sector is recorded as a net carbon sink but is projected to become an emitter by 2030 and a third of the 2005 EU carbon sink being lost. A quarter of Member States do not list climate adaptation goals in their plans and only a few countries provide some detail on adaptation

measures e.g. Croatia, Ireland, Italy, Slovenia and Spain (European Commission, 2020). The **LULUCF Regulation** adopted in 2018 encourages projects of reforestation, afforestation and restoration, particularly under the LULUCF accounting decisions, which refers to the inclusion of measures that incentivize rewetting, the restoration of mires and the restoration of degraded lands, but this ambition is not yet reflected in national plans.

Member States are not including restoration of coastal ecosystems as part of their climate change efforts. Marine and coastal habitats are rich in carbon (e.g. saltmarshes, kelp forests, seagrass meadows), but are frequently overlooked in the national greenhouse gas (GHG) inventories of the Nationally Determined Contributions. Large areas of these habitats have been lost or damaged by agriculture, aquaculture and fisheries practice, so their exclusion potentially hides an important loss of carbon (Pendleton et al, 2012). Protecting and restoring seagrass meadows, salt marshes and kelp forests would supply a host of additional ecosystem services, while also reducing coastal flooding and erosion and play a major role in maintaining water quality. Wetlands are to be included in LULUCF by 2026 but so far, have been classed as an emission source due to unsustainable management.

3 THE CRITICAL ROLE OF INVESTMENT

The availability of funding is crucial for large scale restoration. Restoration projects often require multiple funders and sometimes complex funding arrangements as a consequence of their duration and scale. The potential **co-benefits from restoration demonstrate the significant potential for a high return on investments**, but a greater utilisation of available funding and perhaps additional funding will be needed to achieve climate, ecosystem restoration, and biodiversity protection goals. Evidence shows **that EU financing instruments available to invest in nature-based solutions have not been fully utilised and access to finance needs to be improved** (European Commission, 2019b). Although Member State authorities provide significant levels of investment in nature conservation (mostly through spending on Natura 2000 as planned through the Prioritized Action Frameworks, PAFs), the overall level of resources that have been allocated for this purpose is insufficient to cover the implementation costs (Kettunen et al, 2011).

The LIFE programme remains the EU's most targeted instrument to support nature conservation. In the funding period 2014-2020, it had a budget of 3.4 billion EUR, 75% for the environment sub-programme and 25% for the climate action programme. Within the sub-programme of the environment, 55% or 1.3 billion EUR was available for nature and biodiversity. The LIFE programme has implemented and demonstrated the effectiveness of nature-based solutions, from a biodiversity and climate perspective, improving the knowledge base for the implementation of nature-based solutions at larger scales e.g. extensive floodplain development (LIFE Sparc) and restoration in the wider countryside (LIFE IGIC) (EASME, 2020). Nevertheless, the short-term nature and small size (<1% of the EU budget) of LIFE funding has limited its scale and long-term impact. Although the LIFE Nature and Biodiversity budget will likely increase in the upcoming MFF 2021-2027 to a proposed 2.15 billion EUR (European Commission, 2018c), this still represents a fraction of the investment needs and the programme's overall impacts are therefore expected to remain relatively limited.

To make a significant long-term contribution to the EU's restoration and other biodiversity objectives, LIFE projects need to be followed up or complemented by much larger-scale EU and/or national longer-term funds, in particular from the European Structural and Investment Funds. Of these, the European Regional Development Fund (ERDF, including Interreg) and the European Agricultural Fund for Rural Development (EAFRD) provide the greatest opportunities to finance restoration and the implementation of nature-based solutions (Kettunen, Torkler and Rayment, 2014). Member States report having spent at least 4.7 billion EUR from ERDF and over 14 billion EUR from the EAFRD on biodiversity in the 2014-2020 funding period. However, the actual uptake of funding for biodiversity in Member States is limited by their capacity to co-

finance and administer programming and projects (EY and Biotope, 2017). Furthermore, the EU regional development and cohesion funds tend to prioritise capital investments and hard infrastructure compared to the recurring costs needed to fund restoration and management (Gantioler et al, 2010). In addition, approximately 250 million EUR have been spent on nature-based solution projects under the Horizon 2020 programme to support the Commission's nature-based solutions research and innovation agenda. It is expected that investment in nature-based solutions research will continue under Horizon Europe.

3.1 MARRYING CLIMATE AND BIODIVERSITY THROUGH SYNERGISTIC INVESTMENTS

The European Green Deal places a renewed focus on climate action and biodiversity conservation and **is a key instrument to guide European spending to reach the policy targets**. As part of the Green Deal, the EU Biodiversity Strategy for 2030 is expected to require at least 20 billion EUR a year for investment in nature. This is partly based on an estimate of the cost of restoring 15% of degraded ecosystems under Target 2 of the Biodiversity Strategy, which amounted to average annual restoration costs for 2020 from 7.79 – 10.9 billion EUR (Tucker et al. 2013). This was in addition to ongoing annual costs of maintaining ecosystems in good condition of 618 – 1,660 million EUR. Representatives of the EU Parliament and Council agreed on a 30% annual earmarking for climate investment under the EU's Multi-annual Financial Framework for 2021-2027 as well as to dedicate 7.5% on biodiversity from 2024 onwards to be increased to 10% in 2026-2027¹⁰. This earmarking is not additional, which means win-win solutions could count towards both ambitions. While EU environment ministers in their conclusions on the EU Biodiversity Strategy to 2030¹¹ state that a significant proportion of the 30% of the EU budget and Next Generation EU expenditures dedicated to climate action should be invested in biodiversity and nature-based solutions fostering biodiversity, this will mainly depend on the initiative by their own and other ministries (Council of the European Union, 2020).

Climate policy in the EU is framed by the Climate Law and the Energy Union Governance Regulation. National Energy and Climate Plans (NECPs) are the central instruments in the governance regulation applying to all sectors of the economy including

¹⁰ European Parliament press release of 11 November 2020 'Compromise on long-term EU budget: EP obtains €16 billion more for key programmes', <https://www.europarl.europa.eu/news/en/press-room/20201106IPR91014/compromise-on-long-term-eu-budget-ep-obtains-EU16-billion-more-for-key-programmes>

¹¹ Council of the EU press release of 12 October 2020 'Council adopts conclusions on the EU biodiversity strategy for 2030', <https://www.consilium.europa.eu/en/press/press-releases/2020/10/23/council-adopts-conclusions-on-the-eu-biodiversity-strategy-for-2030/>

the agricultural and LULUCF sectors. They should facilitate Member State programming of funding and investments in the next MFF 2021-2027. While some Member States have included nature-based solutions in their NECPs, for instance by providing subsidies for converting arable land to protected areas or managed forests, thus far biodiversity measures have not been integrated at scale, missing an opportunity to deliver on agreed climate and biodiversity goals simultaneously (European Commission, 2020). There is a **clear need to establish stronger links between the NECPs, CAP Strategic Plans and PAFs**. For example, each plan could specify where to boost carbon sinks and how to coordinate practical action towards reaching the 2030 climate goals (Stainforth and Bowyer, 2020), which would direct funding streams towards solutions that foster co-benefits across sectors, rather than delivering only on one policy agenda. PAFs provide the opportunity to identify funding needs and priorities for Natura 2000 and green infrastructure, especially to restore biodiversity-rich habitats both within Natura 2000 sites and between them. With better integration into CAP SPs and the NECPs, funds directed towards climate action can deliver more for biodiversity through better streamlining of strategic and operational planning.

3.2 ATTRACTING PRIVATE AND BLENDED FINANCE CAN SIGNIFICANTLY INCREASE FUNDING OF NATURE-BASED SOLUTIONS PROJECTS.

The Sustainable Finance Agenda aims to create a chain of environmental, social, and corporate governance (ESG) information to help private investors invest sustainably. This includes a taxonomy to define what is sustainable and does not cause significant harm to climate or biodiversity, rules on non-financial reporting that govern how companies report on the sustainability of their activities, and a set of labels and standards to define which financial products support sustainable activities. This could also be an opportunity to establish a tracking system for the EU's biodiversity expenditure which is more precise than the current method (Nesbit et al, 2020). The European Green Deal Investment Plan also provides a framework for blended finance, where public money is used to make projects more attractive for private finance. Blended finance is already available for EU biodiversity and nature projects for example through the Natural Capital Financial Facility (NCFE) and the European Fund for Strategic Investments (EFSI). These have, however, had a limited uptake to date due to their complexity, long timeframes and challenges of directly investing in nature restoration projects (Suttorsorel and Hercelin, 2020). The NCFE's 125 million EUR financing (of which almost half is already committed to two adaptation-related projects) is expected to generate an additional 400 million EUR of public and private investment by 2021 (European Commission, 2018b).

In addition to optimizing the allocation and use of funds within the existing EU policy framework, the COVID-19 pandemic provides a further opportunity to shift mindsets, unlock previously unavailable funding streams towards sustainable restorative nature-based solutions actions and foster actions which 'build back better'. In line with the 30% climate mainstreaming target for both the EU's multiannual financial framework (MFF) and Next Generation EU, each recovery and resilience plan will have to include a minimum of 37% of expenditure related to climate¹². Targeting a portion of these funds towards nature-based solutions for climate change adaptation and mitigation could further contribute to EU biodiversity goals. While the Commission recognizes that 'other environmental objectives in line with the Green Deal are also important', evidence on economic responses to COVID shows that biodiversity has been largely overshadowed and – in some cases – jeopardized by a prioritisation of climate change (OECD, 2020). Concrete actions that can help integrate biodiversity considerations are already being taken in some Member States. In Finland, for example, recovery efforts include the dedication of 13.1 million EUR to the rehabilitation of natural habitats and the development of nature tourism; these funds are earmarked for state-owned enterprises charged with capturing carbon and protecting biodiversity (UNEP, 2020).

¹² https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_1659

4 BOTTLENECKS WITHIN THE EU POLICY FRAMEWORK AND ITS IMPLEMENTATION

The EU environmental policy framework supports biodiversity as an agent to reach climate goals to varying degrees. The implementation and uptake of these policies are, however, challenged in practice by disparities and gaps on multiple levels of the governance pyramid. Several critical challenges exist in translating policy to practice. Indisputable are the well-documented implementation delays of EU Directives, in particular the nature directives, WFD and MSFD.

A second is a lack of mainstreaming across associated policy realms and conflicting agendas (Naumann and Davis, 2020; Wamsler et al, 2017). A **lack of coherence** among relevant environmental and sectoral policies at the EU level in terms of wording, monitoring requirements and financing instruments, among other factors, has led to fragmented governance arrangements offering limited leeway for addressing climate issues through innovative nature-centred approaches (Davis et al, 2018). Silo thinking misses the complementary values that a focus on nature-based solutions could offer to the EU climate agenda (Tozer and Xie, 2020). An important reason for this has been the absence of concrete and integrated national and regional plans providing guidance on investment priorities.

Existing shortcomings across sectors in the design and application of policy instruments for the active restoration of ecosystems can be linked to the largely **non-binding nature** of several relevant policies (Naumann et al. 2018). Examples are Target 2 of the EU Biodiversity Strategy for 2020, the EU Adaptation Strategy, Green Infrastructure Strategy and Urban Agenda. In principle, the legal texts require either voluntary action or demand none at all. Implementation in the Member States is reliant on self-initiative and commitment as mandatory standards or measures are missing across EU policies (Davis et al. 2018). Explicit encouragement for the integration of biodiversity into climate mitigation activities thus needs to be enhanced.

The lack of binding commitments and mainstreaming in policy strategy and planning also has important knock-on effects on the implementation of the EU's integrated model for biodiversity and climate investment. While this was partly the result of the absence of sufficiently explicit green infrastructure and restoration investment needs, especially beyond those in Natura 2000, biodiversity and climate proofing of national and regional plans –as well as tracking of actual investment - has been inadequate to ensure the investment gap was met (Forster et al, 2017; Kettunen et al, 2017; Nesbit et al, 2020).

In addition, biodiversity and climate targets clash with the EU's economic ambitions, making it necessary to better 'sell' nature-based solutions as the smart cost-effective solutions that they are across the board, at low cost and high gains. A number of policy instruments relevant for achieving both biodiversity and climate goals explicitly acknowledge the restorative qualities of nature, but few place **quantitative or measurable value** to their purpose (Davis et al, 2018), which would better support the integration of nature-based solutions into sectoral policies, i.e. forestry or farming, that are focused on numerical growth of their outputs.

While the benefits of biodiversity and the ecosystem services they provide are well known, a lack of centralized and comparable data quantifying these benefits into monetary figures stifles the popularity of financing restoration and nature-based solutions (Credit Suisse Group AG and McKinsey Center for Business and Environment, 2016; Ding et al, 2017). Both public and private investors commonly prefer single-objective solutions associated with straightforward quantitative data and low-risk scenarios, even though nature-based solutions can deliver high returns on investments (Bockarjova, Botzen and Koetse, 2020). More widespread implementation and uptake of nature-based solutions are hindered by an **inadequate provisioning and unjust allocation of funds** (Toxopeus et al. 2019), underlining the need for further studies in this field as well as the need for facilitation of restoration investments.

5 THE PROMISE OF THE GREEN DEAL AND ITS ASSOCIATED POLICIES

The European Green Deal promises a significant step forward in aligning nature conservation and climate action with socio-economic policies. Relevant initiatives include the new EU Biodiversity Strategy for 2030, the Farm to Fork Strategy and the new Adaptation Strategy, which have a huge potential for strengthening and mainstreaming nature-based solutions delivering biodiversity and climate targets. The Green Deal also highlights sustainable finance to deliver the targets and its respective policy objectives by channelling private investment towards a sustainable, climate-resilient economy. The EU Biodiversity Strategy for 2030 sets ambitious 2030 action-oriented targets for protected areas, ecosystem restoration, habitat and species status, and a new biodiversity governance framework enabling transformative change. In terms of protection, the strategy aims to increase the size of protected area to 30% and especially to strictly protect 10% of it have the potential to significantly boost not only biodiversity but also climate benefits of Europe's protected area network. The ability of carbon-rich habitats to act as carbon sinks depends on their coverage, condition, and conservation status. The State of Nature report (EEA, 2020) estimates that at least 13-19% of the carbon-rich surface areas of protected areas (Annex I) across Europe need to be improved. Additionally, there are significant differences in the restoration needs across Member States, biogeographical regions, and habitat groups and ultimately restoration action will need to focus on areas within and beyond existing protected area boundaries to result in significant improvements in ecosystem condition. For example, the majority of the area of forest habitats lies outside of Natura 2000 (Romao, 2020).

In terms of sustainable management, the EU Biodiversity Strategy and Farm to Fork Strategy objectives for a more agro-ecological and less input-driven agriculture provide an important step forward in the transition required in farming to meet climate and biodiversity objectives. And the farm to Fork Strategy explicitly recognizes nature-based solutions for their ability to help deliver better climate and environmental results and increase climate resilience. However, the EU Biodiversity Strategy target that by 2030 'At least 10% of the agricultural area is under high-diversity landscape features.' was left out of the Farm to Fork Strategy, which is an important omission. Both strategies also have inadequate ambitions for increasing tailored and targeted RDP agri-environment climate measures, which have been shown to be the most effective in tackling biodiversity loss and providing nature-based solutions for other objectives (Alliance Environnement, 2019). Moreover, recent EU Agriculture Council and European

Parliament positions on the future CAP¹³ suggest little ambition on Green Deal objectives. In terms of fisheries, much will depend on the integrated implementation of the CFP, MSFD and Marine Spatial Planning Directive (MSP), and the proposal for a new action plan for fisheries resources and protect marine ecosystems by 2021 could be an important step forward. Also significant are plans to review and revise, where necessary, the level of ambition of the Renewable Energy Directive, the Emissions Trading Scheme, and the Regulation on land use, land-use change and forestry (LULUCF) set for 2021 with the aim to better protect EU forests. A LULUCF revision could also strengthen provisions for agricultural soil protection that would benefit climate and biodiversity.

Regarding restoration, the EU Biodiversity Strategy for 2030 proposes a range of new commitments, most importantly legally binding EU nature restoration targets. While many open questions remain on what such targets should constitute, the suggested targets in relation to the implementation of the nature directives for no-deterioration in conservation trends and status of all protected habitats and species by 2030, and improvement for 30% of them, would provide a time limit to many already identified but not prioritized restoration needs. Also, additional binding area-based restoration targets of degraded and carbon-rich ecosystems could be a real and specific win-win. Similarly, the targets for three billion more trees, Urban Greening Plans, and restoration of at least 25,000 km of free-flowing rivers. Finally, reaching climate neutrality by 2050 will require a more ambitious LULUCF Regulation and Climate Adaptation Strategy. The upcoming new Strategy is expected to be more ambitious in its targets and efforts to prioritise nature-based solutions and provide increased funding.

¹³<https://ieep.eu/publications/preliminary-assessment-of-agrifish-council-and-european-parliament-positions-on-the-future-of-cap>

6 THE EU NATURE RESTORATION PLAN: PLACEBO OR PANACEA?

The **EU Nature Restoration Plan and upcoming legislative proposal for binding restoration targets** can serve as a mechanism to enforce biodiversity targets in existing EU legislation to prevent further deterioration of protected habitats and species and improve the status of the third or more of species and habitats that currently are not in a favourable status. Moreover, legally bound nature restoration targets could help focus efforts at the EU level to deliver win-win solutions for climate and biodiversity. This would require a targeted focus on the restoration of carbon-rich habitats (e.g. forest, mires and grasslands, seagrass meadows and coastal marshes), but also a recognition that restoration actions can be a major contributor to climate change adaptation through, for example, river restoration or flood prevention measures. To tap the full potential of such solutions, actions should go beyond existing legal commitments for example in relation to protected areas. But how can such an agenda be operationalized in practice at the national and regional levels? And what is needed to overcome the current lacking implementation of existing legislation in the Member States and create more ownership?

As the protection and restoration of nature in Europe take a transnational perspective, as demonstrated for example by the Natura 2000 network or biogeographical regions approach, **EU-level coordination and guidance** are necessary to steer the actions at Member State and regional level by establishing a Trans-European nature Network in line with established guidance on EU-level Green Infrastructure. This would concern *inter alia* defining and operationalising the term “restoration” and setting a baseline for future assessments and monitoring activities; criteria to identify and prioritise areas for improved management and restoration; EU-wide mapping to select, assess, manage and monitor priority areas and ensure functional connectivity and ecosystem service delivery; as well as guidance for any transboundary populations and migratory species that require coordinated actions by more than one Member State (EC 2020)¹⁴.

As discussed in the previous section, several opportunities already exist to foster the enforcement of the Nature Directives and the **integration of biodiversity and restoration actions using nature-based solutions into sectoral policies** to make significant progress. Such action also requests Member States to make clear and binding commitments, show ambition and provide the necessary funding. Specific investment targets for corresponding action plans through which restoration actions (and nature-

¹⁴ European Commission, 2020, Biodiversity Strategy for 2030: Guidance to Member States on how to select and prioritise species/habitats for the 30% conservation improvement target under the strategy. Technical note for the NADEG group.

based solutions) can be implemented (such as programme of measures, flood risk management plans, adaptation plans or CAP strategic plans) could be based i.e. on existing evidence from the national Prioritization Action Frameworks, Article 12 and 17 monitoring data or targeted cost-and benefits analyses.

While existing policies offer a powerful framework to implement restoration needs and nature-based solutions, the question remains how Member States can ensure that these policies will also cater to biodiversity and climate targets. Given the cross-cutting nature of restoration and nature-based solutions, Member States could, for example, develop and establish a **dedicated national restoration strategy and action plan** enabling an integrated and joint approach across policy fields. This would allow the inclusion of specific biodiversity targets for various sectoral policies to specify investments, actions and timing, assign responsibilities and inform the monitoring to measures progress towards the set targets.

7 POLICY RECOMMENDATIONS AND KEY MESSAGES

The 2030 global and EU commitments for sustainable development, climate action and biodiversity all point to the urgent need for ecosystem restoration. Nature-based solutions can provide win-win solutions and also can contribute to a post-COVID-19 recovery by providing employment and public health benefits. With the European Green Deal and its associated strategies and commitments, the EU has an ambitious vehicle to help implement this, which needs to be operationalized properly. Based on our analysis of the EU's current experiences in encouraging nature-based solutions and new commitments for 2030, we make the following priority recommendations:

- 1) **Accelerate implementation of key EU legal commitments** delivering on nature-based solutions, through the nature directives, Water Framework Directive and Marine Strategy Framework Directive. In the case of EU Member States, it would mainly require a higher and more targeted investment that meets the identified public investment needs. The Commission should invest in sufficient operational capacity to fulfil more actively its role as guardian of the Treaty and where necessary promote implementation and enforcement.
- 2) **Adopt ambitious EU legislation for mandatory ecosystem restoration** that does not undermine the above-mentioned implementation commitments but builds on and complements them with the *legally binding* SMART targets and deadlines for 1) achieving the favourable conservation status of habitats and species covered by the nature directives; 2) increasing progress on other commitments under current legislation such as flood risk management under the Floods Directive, resilience in fishing, farming and forestry under the Common Fisheries Policy and Common Agricultural Policy, priority protection and restoration of carbon-rich ecosystems under the Land-use, Land-Use Change, and Forestry regulation; and 3) national nature restoration plans. A general target based on the percentage of land/sea area restored should be avoided, as this would probably result in restoration focusing on the lowest cost options, which would not necessarily provide the best value for money in terms of public environmental, social and economic benefits.
- 3) **Boost investment for nature-based solutions** including by improving biodiversity proofing and tracking of all relevant EU and national investment to be able to more precisely and regularly assess the progress of integrated funding against identified needs and intermediate objectives and take additional action where necessary to keep on track on 2030 commitments. Most urgently, concrete action should be taken to better:

- a. **Integrate biodiversity commitments with EU climate policy and investment** and its implementation in the EU Member States, in particular through making nature-based solutions a central pillar of the new EU Adaptation Strategy and ensuring its alignment with national, regional and local strategies and prioritizing the greenhouse gas emissions reductions of new restoration commitments in National Energy and Climate Plans to ensure they are prioritized and eligible for funding and avoid perverse measures e.g. in incentivizing increased biomass use.
- b. **Integrate biodiversity commitments in COVID-19 response**, such as setting biodiversity spending targets for COVID-19 stimulus measures and recovery plans to scale up investment in ecosystem restoration, linking environmental conditionality to bailouts to drive sustainability improvements, and foster cross-sectoral and international collaboration to safeguard biodiversity and restore critical ecosystems.
- c. **Increase the prioritisation of the use of European Structural and Investment Funds (e.g. in CAP Strategic Plans) towards biodiversity objectives**, especially where they provide other social and economic benefits through nature-based solutions.
- d. **Use public investment as leverage for more and better private investment** in nature-based solutions, by quickly adopting clear thresholds and criteria for economic activities that substantially contribute to protecting and restoring biodiversity and ecosystems, and cause no significant harm, following the Taxonomy Regulation.

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