DESTINATION 2030

YOUNG PEOPLE'S VISION FOR EUROPEAN BIODIVERSITY POLICY

Global Youth Biodiversity Network Europe

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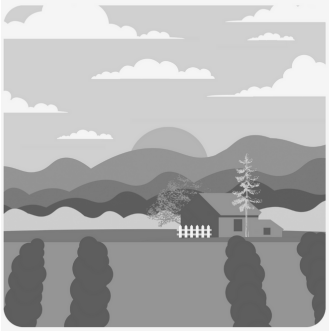

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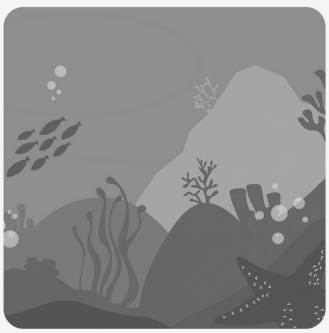
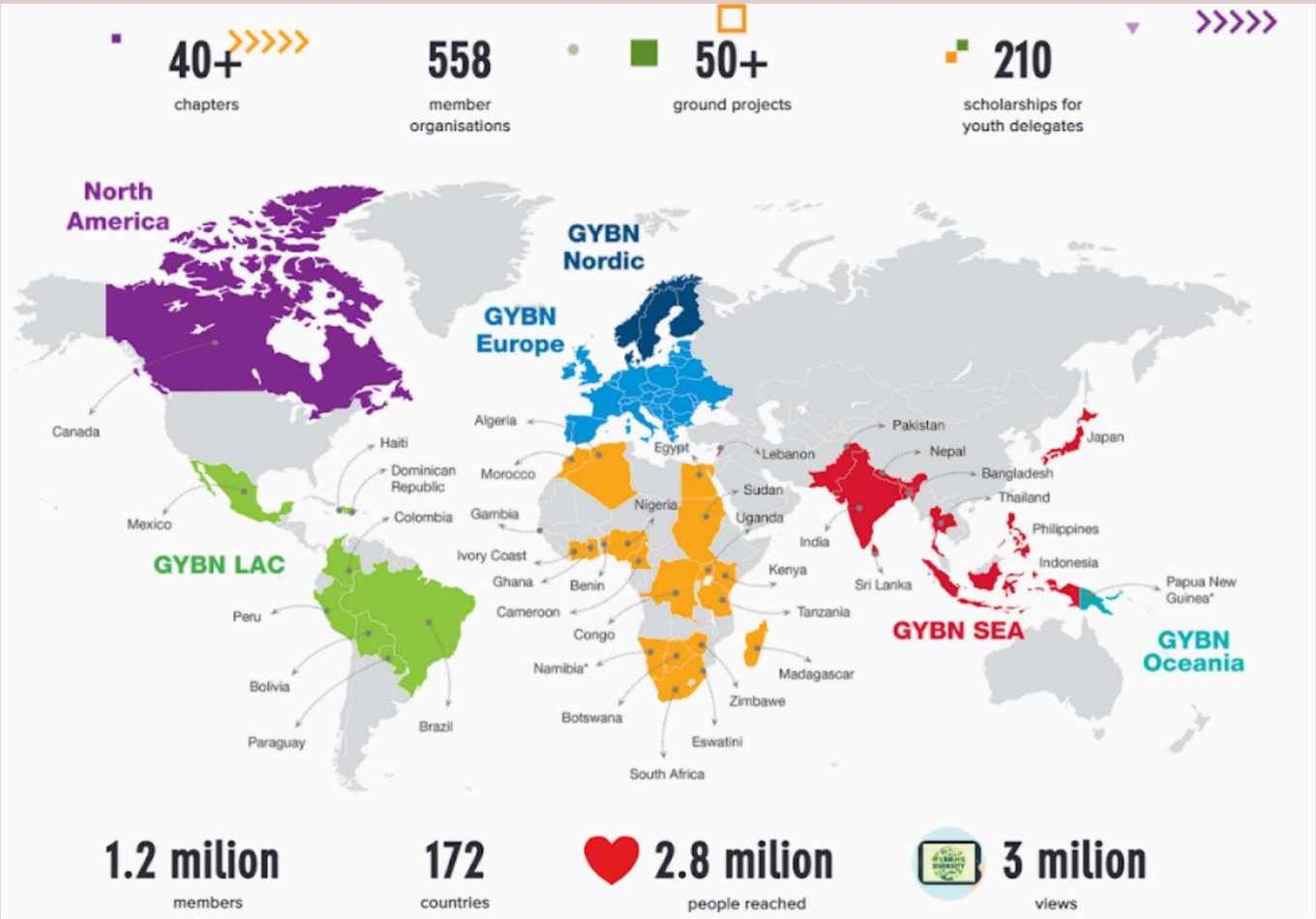



What is GYBN Europe?

GYBN Europe is the European chapter of the Global Youth Biodiversity Network (GYBN), an international network of youth organizations and individuals from every global region who have united together with a common goal: halting and reversing the biodiversity crisis. As the official coordination platform for youth in the negotiations under the United Nations Convention on Biological Diversity (CBD), GYBN is committed to bringing the perspectives of young people into the political process and empowering young people to take action.



What is our vision and mission?

Our vision is to live in harmony within nature; a society in which accountable sustainability, environmental justice and social justice are at the core, one where intergenerational equity is applied throughout all sectors and regional levels transparently, and one where humans and nature coexist and thrive as one resilient, accessible and interconnected system. Our mission is to enable, unite the voices of European youth and advocate for young people to get involved in policy and decision-making processes across Europe and to promote living in harmony with nature from the local to the national and the international level.

Why this booklet?

Youth is often perceived as an inspirational force at best or as a monolithic group constantly enraged against the older generations at worst. We are thought of as being incapable of producing viable options for the future and easily dismissed with condescending words or side-lined at public events. The youth-led demonstrations and strikes calling for a better world have contributed to creating a momentum for environmental action, but have not led to a concrete improvement of the status quo that aggravates the planetary crisis. To be bluntly honest, we do not understand this. Even if we do not sit at the negotiation tables at the highest political level, most of us vote or will vote for those politicians to represent us. Even if we do not determine which sectors will benefit from financial subsidies, our collective consumer power helps shape the future of those sectors. Even if we are only partly joining efforts on the ground, we will be the one implementing projects in the future. Listening to the youth makes political, societal and financial sense.

We have marched, signed petitions, joined webinars, started on the ground projects, supported NGOs and we tried to raise awareness using unconventional methods when the pandemic left us confined in our homes. And while we will continue to do all the aforementioned, we realized we need to do more. In GYBN Europe, we want to not only react to policy decisions that are often taken without us, but exercise our right to be a proactive component of society. We cannot continue to share our vision of the future in the streets without also commenting and working on policies that outline how we want to get there in the institutional buildings. This booklet is aimed at exactly that: encouraging young people to better understand policies and inviting policy makers to genuinely work with youth for policy formation.

We are aware of our power and of our influence. We want to harness this power for the better, to help the older generations in developing a fairer and more sustainable world. The work started by the environmental trailblazers of the past is our basis and we want to build on these efforts for the generations to come. Only together will we be able to enact a transformative change and re-establish a mutually beneficial relationship with nature.

Based on the renowned SDGs wedding cake model, we have chosen 10 topics related with biodiversity: four at the biosphere level (freshwater, ecosystem restoration, nature-based solutions and agriculture), four at the societal level (gender, education, urban ecosystems and renewable energy), and two at the economic level (trade and environmental economics). For each brief we outlined a problem, analysed the current strategies aimed at tackling said issue and complemented it with our perspectives and proposed actions. The pillars upon which the booklet is based are two: building on the GYBN International priorities and commenting on the EU Biodiversity Strategy to 2030. The latter will be the focus for the environmental sector in the European continent for the upcoming decades, thus we wanted to align as much as possible our solutions with this potentially transformative strategy, enhancing their implementation potential. To conclude, intergenerational equity will be presented as our guiding principle.

We do not have the presumptuousness to claim that this is the only way forward. This collection of policy briefs is our contribution to the biodiversity debate. Criticise us, challenge us, interact with us, teach us, mentor us and most importantly create spaces where we can actually contribute to the discussion. We invite you to use these policy briefs as a way to catch a glimpse of our views for the future and as the basis for a broader discussion. We all want to *live in harmony with nature* while *leaving no one behind*, let us jointly take the first step towards this direction.

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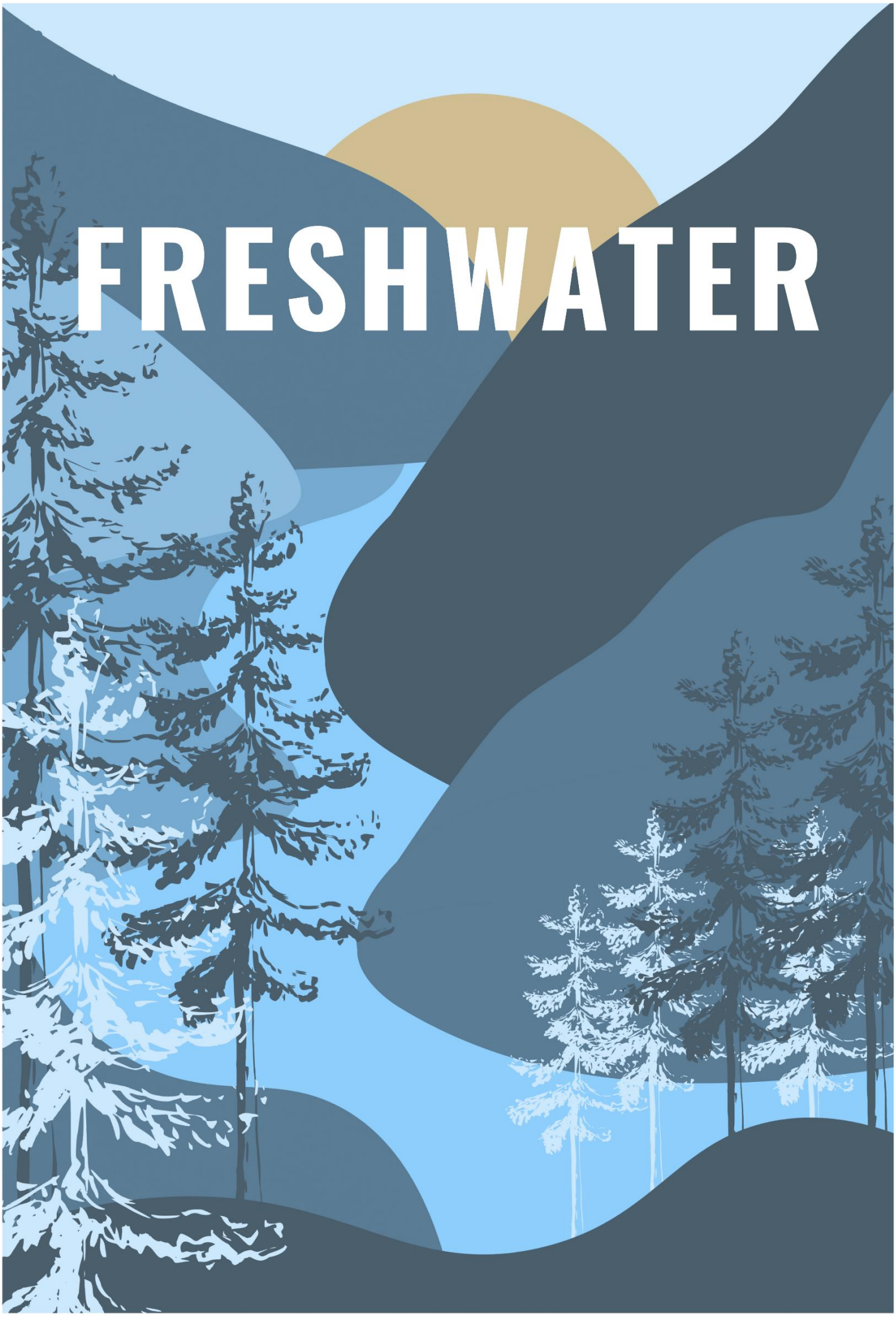

FRESHWATER

Freshwater ecosystems are some of the most diverse on our planet and are critical in sustaining our lives, for example contributing to food security and human health[1,2,3]. However, freshwater ecosystems are also amongst the most vulnerable, with their biodiversity declining faster than in oceans or forests[4]. In Europe, less than 40% of lakes, rivers, estuaries and coastal waters meet ecological and chemical pollution standards[5], and only 32% of EU rivers are in good ecological status[6]. This not only has impacts on the majority of freshwater species in Europe, but has been most pronounced in freshwater migratory fauna, which have suffered a decline of 93%[7]. The urgency to protect, preserve and restore healthy freshwater ecosystems is further testified by a series of international commitments, including the potential targets of the Post-2020 Global Biodiversity Framework[8].

This policy brief aims at highlighting the importance and the necessity of tackling each environmental problem holistically by using the Danube River as a case study. Safeguarding our rivers is crucial for freshwater ecosystems, oceans, and communities dependent on them, which is why this document will focus on the interlinkages between the Danube and the Black Sea. The Danube is one of the greatest waterways of the world and it has been the centre of many of the most memorable historic events in East Central Europe. Its waters, once reflecting a myriad of shades, changing from the crystal-white, youthful springs of the Black Forest into the bright "blue" Danube of the Vienna Woods, are now grey. We chose the Danube River as a case study for two reasons, namely (a) as the 2nd longest river in Europe it encompasses many bioregions and experiences many of the same ecological challenges as other European rivers and (b) it is important to both Eastern and Western Europe as the Rhine-Main-Danube (RMD) Canal connects the North Sea to the Black Sea and runs through 10 European Countries transporting freight and passengers. The river is also the home of six species of Sturgeons, migratory flagship species threatened throughout their lifespans[9].

While the legal framework of the Danube River Basins dates back to 1856, the single most important piece of legislation currently governing the Basin is the Convention on Cooperation for the Protection and Sustainable Use of the Danube (DRPC), signed in 1994. To achieve the objective of the Convention, the International Commission for the Protection of the Danube River (ICPDR) was established with goals for the preservation of the natural balance of those freshwater ecosystems, to address the risk related to pollution and to reduce the risk and damages caused by floods. This multilateral agreement is however only one piece of the complex mosaic that governs the river basin. Riverine States complemented the treaty with several legal instruments such as the Ramsar Convention on Wetlands, the UN Convention on the Protection and Use of Transboundary Watercourses and International Lakes, and the EU Water Framework Directive (WFD)[10].

As this brief also focuses on the marine environment, it is important to mention the Bucharest Convention, an agreement between the coastal Black Sea states on the protection of its marine environment. The prevention of pollution and sustainable management of marine living resources are the main objectives, that are operationalised through three protocols, which provide for measures relating to pollution from land-based sources, dumping, oil and other harmful substances. The main relevant policy provisions applied include pollution reduction from rivers, conservation of biological diversity and expansion of protected territories[11].

From the source to the sea

To better highlight the different pressures that negatively affect the Danube ecosystems, this policy brief will focus on the five key drivers of biodiversity loss, as identified by IPBES, that affect the river in all its parts. To begin with, invasive alien species (IAS) negatively affect socio-economic situations (e.g., health risks, biofouling etc.), ecosystem services, native species, and biodiversity in general[12]. Due to the RMD Canal, the Danube is a recipient and donor for invasions as it lies in the Southern Invasion Corridor[13]. It is therefore no surprise that IAS are a major threat to native biodiversity in the Danube River Basin and its tributaries[14] and it is likely to increase as the climate crisis alters environments, making them more conducive to invasion[15,16]. In order to combat this threat, IAS are given a high priority within the

Danube River Basin District Management Plan, that of its tributaries[17,18,19], and the Action Plan for the European Union Strategy for the Danube Region[20].

Hydrological engineering is changing the shape and the flow rate of the river, and hydropower installations alone have the single most significant impact on fish[21]. Navigation and irrigation systems, dykes, reservoirs and, above all, dams (namely, the Iron Gate I and II, and Gabcìkovo) are responsible for lack of ecosystem connectivity and loss of ecological diversity[22]. The resulting modifications of the water regime apply the heaviest pressure on freshwater ecosystems[23]. Physical barriers interrupt the migration of sturgeons and other species, and damage the health of fish populations by making spawning and feeding sites inappropriate[24]. As a consequence, many species that were commonly found in the river are now declining and becoming threatened, and this negative trend is likely to be exacerbated by concurrent factors like pollution and overfishing[25].

The degradation of the Danuban ecosystem is further aggravated by pollution and waste. Agriculture is one of the main sectors contributing to water pollution in the EU, having significant impacts on standing waters, rivers, ponds and marine habitats as well as on their species[26]. The Danube River Basin is highly polluted by inappropriate agricultural practices, such as the heavy use of fertilisers and pesticides, manure disposal and effluents from agro-industrial units[27]. Estimates from the ICDPR show that nutrient and organic pollution are responsible for 40% of the risk of failing good status for the Danube's surface water by 2021[28]. The Common Agricultural Policy (CAP) has failed its biodiversity conservation objectives[29] and in 2020 key amendments aimed at ensuring a more sustainable farming sector have been rejected by the European Parliament in the new CAP (2023 - 2027) discussions. Furthermore, the Council of the EU agreed that CAP investments in irrigation need not be compliant with the Water Framework Directive. GYBN Europe thus urges the EU Member States to align their CAP National Strategic Plans to the EU Green Deal and the European Commission to continue supporting the greening of agricultural policies in Europe.

Like many other rivers, the Danube is also polluted with large amounts of plastic. In Europe, plastic waste is mostly sent to landfills, but still, one way or another, enters first our rivers and then our seas. This phenomenon is influenced by many factors, including population density, levels of urbanization and industrialization within catchment areas, rainfall rates, and the presence of artificial barriers such as weirs and dams. In Europe, the Danube River releases 530–1,500 tonnes of plastic into the Black Sea annually[30]. Ecosystems are increasingly damaged when plastic litter mounds up waterways. With plastic litter now outnumbering fish larvae in the Danube, the food chain is likely to be disrupted from its very base[31]. Although threats to wildlife have been largely underestimated in freshwater ecosystems[32], they include entanglements and ingestion[33], with direct effects on survival[34]. This has spill-over impacts on other animals along the food chain, such as insects and other small animals, which are a primary source of food for higher carnivores and reptiles occupying wetlands.

The food web is also affected by direct exploitation of the fish stocks in the Danube River basin and the Black Sea. Fisheries are currently managed unsustainably, with dramatic declines in fish species such as sturgeons[35,36,37]. Fish stocks are overexploited as a result of illegal and unreported fishing, as well as poor regulations and management, including inappropriate quotas not based on long-term sustainability[38,39]. When talking about sturgeons in the Danube region it is also worth mentioning how this endangered species is also greatly threatened by poaching and illegal trade[40]. Additionally, other species like marine mammals and sharks are affected by the decline in fish species, as well as through bycatch from fishing gear[41,42]. As for all drivers of biodiversity loss above mentioned, climate change is also expected to exacerbate the negative impacts of overfishing[43].

Given the transboundary character of the river's ecosystems and of the environmental problems that are degrading it, it follows that not only transnational efforts are needed, but also an encompassing approach to tackle all the issues considered.

Implementing the EU Green Deal

The European Union, with its legislation and policies, has the potential to protect, preserve and restore the Danube ecosystems. The EU Biodiversity Strategy for 2030 highlights how EU environmental legislation is fit-for-purpose and ambitious, but previous efforts have lacked proper implementation. Through the EU Restoration Plan, the EU plans to restore at least 25 000 km of free flowing rivers by 2030[44], by removing obsolete barriers and restoring wetlands and floodplains. This should be done through boosting transnational cooperation and management of the Interreg project MEASURES that consists of identifying and mapping key areas for fish, identifying obsolete barriers and dams, creating green corridors, managing fish populations (which might include re-introduction or relocation) and carry out monitoring activities and tracking[45]. Furthermore, dam removal should be added as a key river restoration measure in the next cycle of River Basin Management Plans (period 2022-2027), as recommended in the Dam Removal Europe's COVID-19 Recovery Agenda[46].

The European Green Deal also includes two other strategies that are relevant for freshwater ecosystems: the Zero Pollution Action Plan for Air, Water and Soil and the Farm to Fork Strategy. The Zero Pollution Action Plan (to be adopted in 2021) aims at restoring ground and surface waters, and preserving biodiversity in lakes, rivers, wetlands and estuaries[47]. The Commission has committed to create measures to address pollution from urban and industrial wastewater, microplastics, chemical pesticides, pharmaceuticals, hazardous chemicals, while guaranteeing the involvement of industries, simplifying and strengthening the legal framework, and using better the EU agencies and scientific bodies[48]. To be effective, this zero-pollution ambition must apply the principle of "control at source"[49], possibly integrated with the principles of polluter pays and corporate responsibility. Standards for urban water cycle must be raised to prevent the circulation of hazardous substances, and collaboration between the scientific-technological and the water sectors must be enhanced[50].

The Farm to Fork Strategy specifically addresses the excess of nutrients in the environment, as it is one of the sources of pollution that has drastically contributed to the reduction of biodiversity in European waters. A reduction of nutrient losses by 50% and pesticides by at least 50% can be achieved only with an ambitious and enforceable integrated nutrient action plan, supported by the Member States. Ambitious and decisive measures must also be taken in regard to the CAP and the CAP strategic plans. Environmental safeguards, especially in the EU countries in the Danube Basin, should be put in place to ensure a more sustainable water management and a reduction in excess nutrients.

In line with the Youth Manifesto for Wild Rivers, we believe that young people should be taught about the value of rivers and catchments through schooling and have the opportunity to explore rivers and get practically engaged. Open and accessible information must be presented to everyone, and opportunities should be provided for youth to play a role in decisions around rivers and the development, monitoring and revision of water management plans. The EU offers several opportunities for young people to contribute to the development and improvement of the state of European river systems; in 2012, the "Youth for Rivers" YiA project brought 22 young Europeans from over 9 countries together for one week to learn about river ecosystem restoration and to create a youth networking space. The River CleanUp movement set up the goal of cleaning 1000 rivers and raising awareness by showing them that trash can be found, in and around the river where they grew up, live or work.

As GYBN Europe, recognizing that there is not a one-size fits all solution to the complex issues affecting the Danube River Basin, we want to highlight an issue of common concern and to propose a set of recommendations that encompass the youth as a key part of the way forward. Younger generations all over the continent are demanding a safer and more sustainable future, while at the same time joining the frontlines of environmental action and advocacy. The recommendation within this policy brief should, where applicable, be applied to all European rivers. While this brief

focused on the Danube, GYBN Europe will relentlessly work to improve the ecological status of freshwater ecosystems all over the continent. We want to contribute to the world of tomorrow, and since we do not yet have positions of power and decision-making, what we can do is to offer our time, skills and passion.

GYBN Europe Priorities

The recent evaluation of the EU WFD as "fit-for-purpose" and the declaration by EU Commissioner Virginijus Sinkevičius to focus on its implementation, without changing the Directive, confirmed once again the importance of effective environmental legislation[51]. The goal of having 100% of the EU's freshwater ecosystems in good health by 2027 at the very latest must be applied to the Danube Basin and must be considered a priority. This would also contribute to achieving the targets of the Post-2020 Global Biodiversity Framework, as they are currently suggested.

Therefore, GYBN Europe calls for an ever-stronger, inclusive and enforceable monitoring and governance framework at EU and CBD levels. The Youth are ready to work for a better, greener, and fairer tomorrow.

Utilizing ecosystem-based management

The Danube River basin and the Black Sea are affected by multiple stressors, each contributing towards reducing the resilience of the systems. To resolve these issues, we cannot look at these stressors in isolation and must take a holistic approach instead[52]. GYBN Europe therefore advocates for a comprehensive ecosystem-based management approach that integrates all stressors in all River Basin Management Plans to achieve the WFD's objectives during the 2022-2027 cycle.

Implementing robust financial means, including "polluter pays"

Currently the EU LIFE+ Programme funds multiple projects along the Danube River including the LIFE FOR DANUBE STURGEONS project which is managed by organisations from 5 different countries[53]. However, we should not only be looking at the EU to fund the € 1 billion euros per year for river protection, restoration, conservation and management that the European Rivers Programme 2027 Declaration calls for[54]. GYBN Europe recommends using a mosaic funding model that includes private sector funding through the polluter pays principle. By 2025, all management plans for the Danube River Basin should have a cost-recovery plan and by 2030 should use the tools to implement it, efficiently and justifiably[55].

Promoting a free-flowing Danube

The EU Green Deal and its components must be the guiding strategy to achieve a successful green transition and improve the state of nature in the EU. Following the Biodiversity Strategy to 2030, the Farm to Fork Strategy, and the latest draft of the Post-2020 GBF, GYBN Europe calls for the restoration of at least 800 km of free-flowing Danube and for the integration of concrete measures at all levels to adopt dam and levees removal in the upcoming fourth River Basins Management Plans. In line with this, GYBN Europe stresses the need to promote multilateral partnerships such as Dam Removal Europe, which aim at removing obsolete barriers and restoring our European rivers. This project, developed by Wetlands International, Rewilding Europe, WWF and other organizations has been successful also within the Danube Biosphere Reserve, in particular in Ukraine by removing 10 dams thus improving the ecological status of the delta[56,57]. Furthermore, increasing pressure will be placed on our European rivers due to the transition to greener forms of energy, such as hydropower. It is fundamental that a thorough Environmental Impact Assessment prior to their construction is carried out, while ensuring at the same time full compliance with the relevant EU environmental acquis.

Restoring ecosystem services

Rewilding Europe is currently involved in the rewilding of the Danube Delta, a unique ecosystem with abundant biodiversity that has previously benefited from restoration efforts enacted by Ukraine, Moldova and Romania. The goal is to re-establish and support ecosystem functions, including the reintroduction of the auroch as grazing species[58]. This programme should act as a best practice example for recognizing the importance of ecological restoration, and, in this context

GYBN Europe calls for the initiation of at least two other projects aimed at restoring ecosystem services in the Danube basin by 2025.

Nurturing collaborative governance

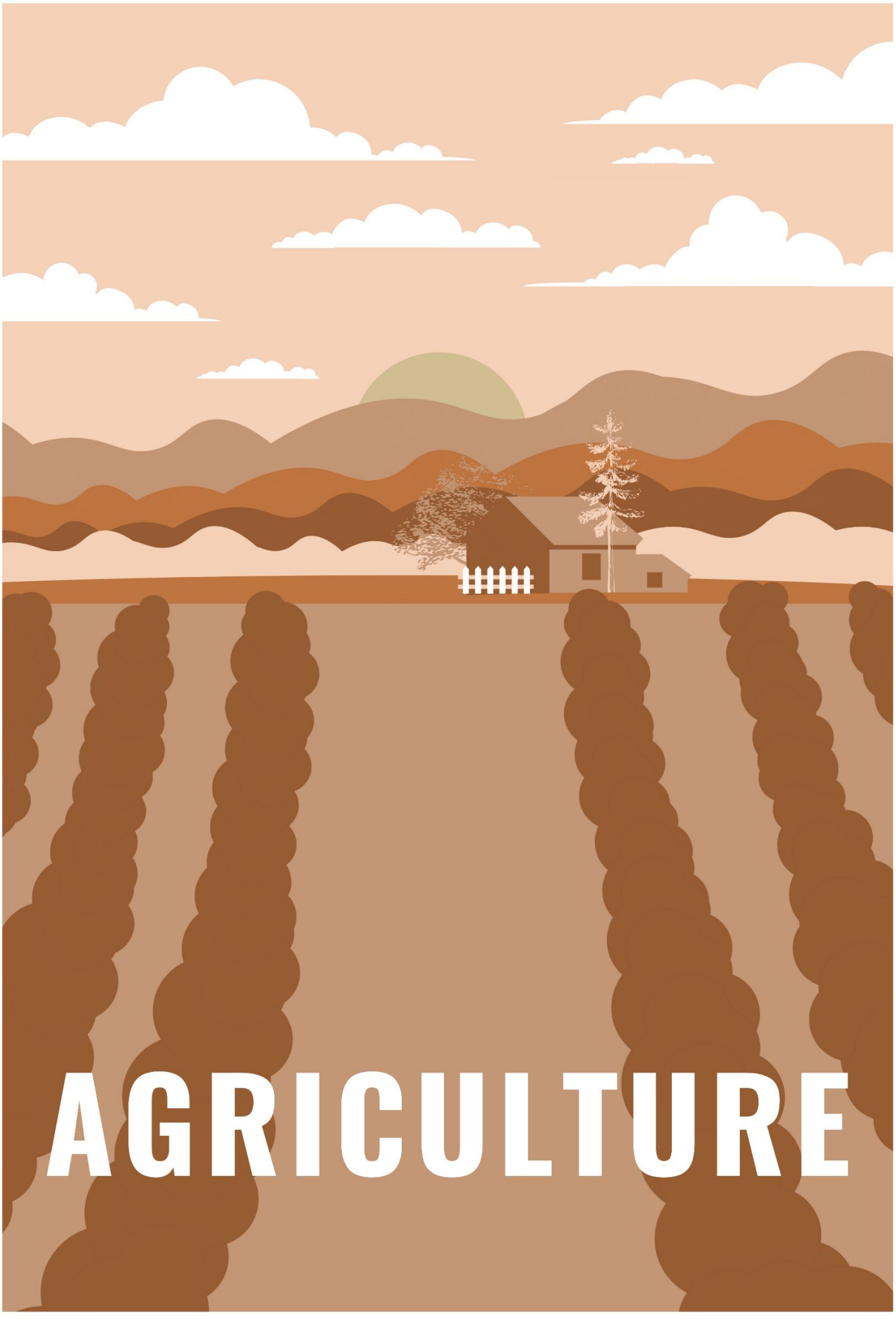
Stakeholder collaboration and participation in environmental governance can improve environmental outcomes, including in relation to river management[59,60,61]. However, this participation must be meaningful, as its positive effect on environmental outcomes is stronger when participants are given decision-making power and communication is high[62]. GYBN Europe therefore urges for a collaborative governance approach to river management, in which all stakeholders, including youth, are guaranteed a position in the decision-making process.

Breaking free from plastic

Plastic designed only for a linear life cycle is problematic. Several countries have already adopted the Break Free From Plastic Act, which tackles the most common forms of plastic pollution, saves taxpayers billions and holds large corporations accountable for waste: GYBN Europe demands to intensify the measures put into action by the Plastic Ban and extend it to all the plastics packaging placed on the EU market by 2025.

Exploring nature rights for rivers

Interest in giving rivers legal authority has increased in recent years[63]. As with everything else, its success lies in its implementation, but it does bring a sense of urgency, a new tool for enforcing the polluter pays principle which can reduce ongoing damage, and a more eco-centric perspective which can facilitate progressive and inclusive conservation measures. GYBN Europe recommends that the Danube River and its tributaries be granted legal status as per the Earth Law Centre's Universal Declaration of River Rights by 2030[63].


AGRICULTURE

The narrative of a *happy farm* has been the dominant discourse for so long, that the associated dramatic loss in biodiversity, the impact on climate and public health, as well as increase of socioeconomic risk due to the intensification of factory farming have been, in some cases willingly, overlooked. Over the past few decades, a rise in industrial farming under misguided trade and agricultural policies, coupled with unsustainable consumption patterns, has altered the food system across Europe with increased production and consumption of animal products. This confined thousands of animals in facilities with poor conditions, as well as endangered the livelihoods of small and medium sized farmers [1,2]. Over 71% of all the EU agricultural land, including arable land and grassland, is now dedicated to producing animal feed[3].

Currently, only 14% of the EU's habitats are in "good" condition, as assessed by the latest State of Nature report by the European Environment Agency (EEA)[4], and one of the main pressures is indeed our food system. Agricultural activities have been identified as the most dominant driver contributing to the degradation of habitats and species, together with land abandonment, urbanisation and pollution[5]. In addition, industrial farming has also been identified as a potential driver of zoonotic diseases[6]. The ongoing rapid modernisation and intensification of agriculture tends to maximise short-term productivity and profit, undermining the resilience of agroecosystems. This has led to the degradation of landscapes with semi-natural habitat elements and the establishment of large monocultures that threaten agrobiodiversity [7,8,9].

Two concrete examples of these concerning trends can be found in key indicator species such as farmland birds and butterflies. Regarding the former, Europe has lost 57% of its farmland birds since 1980 and the trends show no sign of recovery[10]. Similarly, grassland butterflies have declined by 39% since 1990 and studies have shown that fertilisers and pesticides negatively affect around 80% of the species [11].

We need to rethink the entire food value chain, promote sustainable agricultural practices, encourage and enable farmers to apply biodiversity-positive approaches, restore degraded agricultural landscapes, reduce the use of pesticides, protect our soils, invest in accessible healthy food for all and enable farmers to participate in nature conservation and restoration.

This document presents the main EU policies related to agriculture, highlights the potential benefits of one particular sustainable agriculture approach, agroecology, and outlines GYBN Europe's recommendations for a greener future. The choice of agroecology does not imply that this is the only way forward, nor that it is our preferred method. Rather it aims to provide an example for the reader of an alternative practice to intensive agriculture. It is important to remember that, for each scale of agriculture, it is possible to set up sustainable practices and alter the current harmful patterns and methods of production.

The EU Common Agricultural Policy

Launched in 1962, the Common Agricultural Policy (CAP) is the main instrument regarding agriculture in the EU. It is defined by the EU as a partnership between agriculture and society, as well as between Europe and its farmers. The goal of the policy is to support farmers, improve agricultural productivity, provide a stable food supply, aid rural areas, address the climate crisis and ensure the sustainable management of natural resources[12]. However, it is worth noting that environmental concerns became more prominent only in the 2014-2020 CAP.

Although the EU dedicates more than one third of the total EU budget to the CAP (€386 602.8 million for the 2021-2027 period) [13], this package of direct payments, market and rural development measures has not been delivering on its environmental objectives. In 2020, a European Court of Auditors (ECA) report [14] showed that the CAP was not effective in reversing the decline in biodiversity and that while some CAP schemes could have potentially improved biodiversity, the Commission and Member States favoured low-impact options. More recently, another ECA report[15] showed that the CAP funding destined for climate action, more than €100 billion, has not contributed to reducing greenhouse gas emissions since most measures supported by the Common Agricultural Policy have a low climate-mitigation potential, and the CAP does

not incentivise the use of effective climate-friendly practices. Two other reports from the court of auditors highlighted how better measures linked with the CAP could have been taken to protect the environment, in particular with regards to water management [16] and forestry[17].

We believe that the new CAP (2023-2027), agreed in the trilogues, and the CAP national Strategic plans need to be aligned to key policies and initiatives at the EU level, such as the EU Green Deal and its components, in particular the EU Biodiversity and Farm to Fork strategies. Furthermore, these plans shall support internationally relevant initiatives and strategies aimed at greening our food systems, such as the post-2020 Global Biodiversity Framework of the Convention of Biological Diversity (CBD), the UN Sustainable Development Goals (SDGs) and the Paris Agreement for Climate Change.

The EU Biodiversity Strategy

Recognising the crucial correlation between agriculture and biodiversity, the European Commission published the EU Biodiversity Strategy to 2030[18] jointly with the Farm to Fork Strategy. The alignment of these two documents is essential in guaranteeing a holistic approach to the successful achievement of the Green Deal vision. The agriculture-related goals in the Biodiversity Strategy include:

- Reversing the decline in pollinators.
- Reducing the risk and use of chemical pesticides by 50% and the use of more hazardous pesticides by 50%.
- Bringing back at least 10% of agricultural area under high-diversity landscape features.
- Dedicating at least 25% of agricultural land under organic farming management, and promoting the uptake of agroecological practices.
- Reducing the losses of nutrients from fertilisers by 50%, resulting in the reduction of the use of fertilisers by at least 20%.

Furthermore, a focus on the protection of soils and on agroforestry is highlighted and reiterated in the newly announced EU missions, in particular in the one regarding soil health, and in the EU Soil Strategy to 2030[19,20]. These targets are included in non-legally binding documents, thus relying on political will for their implementation. Even if most of these targets will likely not be achieved without a greener CAP, they underscore the EU's Commission will to change for the better and push Member states to translate commitments into action. GYBN Europe, composed of young people all over the continent, calls on national and subnational governments to be ambitious in implementing EU strategies and urges a swift and just transition towards a greener food system.

The potential of agroecology

Agroecology is an applied science, a set of practices and a social movement. As a science, it studies how different components of the agroecosystem interact. As a set of practices, it seeks sustainable farming systems that optimise and stabilise yields. As a social movement, it pursues multifunctional roles for agriculture, promotes social justice, nurtures identity and culture, and strengthens the economic viability of rural areas[21]. Several organisations tried to define the elements of agroecology, yet the two most renowned sets of principles are those from the IIED of 2014[22] and the 10 elements of agroecology developed within FAO processes [23].

In this policy brief, GYBN Europe used the theoretical framework elaborated by Gliessman[24], which identified five levels in agroecological transition towards sustainability:

1. Increase the efficiency of industrial and conventional practices in order to reduce the use and consumption of costly, scarce, or environmentally damaging inputs.
2. Substitute alternative practices for industrial/conventional inputs and practices.
3. Redesign the agroecosystem so that it functions on the basis of a new set of ecological processes.
4. Re-establish a more direct connection between producers and consumers.
5. On the foundation created by the sustainable farm-scale agroecosystems achieved at Level 3, and the new relationships of sustainability of Level 4, build a new global food system, based on

equity, participation, democracy, and justice, that is not only sustainable but helps restore and protects earth's life support systems upon which we all depend.

These levels highlight how agricultural biodiversity has to be supported on different scales, from local to global, and agroecological principles should be applied consistently. On a societal level, in the process of transformational change to mainstream these practices, all stakeholders have to be included and both gender and intergenerational equity have to be considered when developing new policies. The historical and regional differences in the agricultural landscape in Europe should also be taken into account. The switch to agroecological practices should be a means to both supporting livelihoods in rural areas and to safeguarding biodiversity.

When it comes to the practice, agroecology entails several methods. These include stimulating crop diversification through intercropping, agroforestry, polyculture, small and heterogeneous fields, rotations and fallows. At the landscape level, semi-natural-habitats (e.g., grasslands, woodlands and water bodies) should be promoted, as they play an essential role in supporting agrobiodiversity. Landscape structures such as hedgerows provide habitats for populations of insects for biological pest control and pollination, and function as ecological corridors and refugia. Furthermore, encouraging regional and local food circuits can rebuild the consumers' connection to the products, whilst also supporting agrobiodiversity and tackling food waste issues.

In the following paragraph we applied Gliessman's framework to two case studies to provide an overview of the benefits that agroecology can bring to people and nature.

Less (pesticides) is more (biodiversity): the example of BRUT

Felix Noblia (France, Atlantic Pyrenees) took over his uncle's conventional farm and decided to revolutionise it[25]. He considers that "by using pesticides we kill humans, and by working the soil we kill humanity". His challenge is to stop working the soil, while respecting organic farming standards. He chose to stop using pesticides to remove unwanted plants, combined plants and crops to enrich the soil, planted his seeds under a thick layer of mulch, and stopped tillage to avoid erosion and water pollution. In the beginning, it led to some difficulties related to plant fertility, but he considers it an excellent way to reconcile the production of nutritious and healthy food with stocking carbon, healing the planet, and preserving biodiversity and water resources.

Furthermore, he keeps small surfaces to experiment new practices. For example, he combines maize with Fabaceae (which fix nitrogen), pumpkins that crawl on the soil and beans that climb on the maize without disturbing it. The aim of these experiments is to understand the processes of mutualism and competition between these species and to know if it would be possible to implement this method at a bigger scale without any mechanical weed control. Thus, working initially from a conventional farm, Felix Noblia succeeded in being implicated in 3 of the 5 levels of transition to a sustainable management mentioned by Steve Gliessman. The agroecological farmer managed to achieve the first and second level, while he is still working on level 3.

From and for the community: the story of TERRA

"Terra is an agroecological canter in the heart of Luxembourg, and Luxembourg's first Community Supported Agriculture scheme. In a nutshell: no more wholesalers or middlemen, and no more financial and environmental cost of importing food from far away. Just the soil and seeds the way nature intended. Terra is bringing the food back to the people, and the people back to the soil"[26].

Terra's cooperative is based on three pillars: producing fruit and vegetables, education, and community building. Anyone who buys shares or social parts can participate in the decision-making. Thanks to this collective method, the stakeholders quickly brought enough money to make the cooperative work, and it now consists of 250 people, including refugees, people from all ages and different backgrounds, that are active 8 hours a day. The fact that they built a united team gives them the possibility to take

some weeks off and take care of themselves when it is needed. As they say, "do not do it alone, do it as a team, it divides the sorrows and multiplies the pleasures [...] find that balance between work and play [...], get nourished, not only in terms of what you eat but also in terms of the connections you're having"[27]. Thus, these cooperative respects the 3rd, 4th and 5th levels of the transition. On the foundation created by the sustainable farm-scale agroecosystems (Level 3), and the new relationships of sustainability between those who produce and those who consume (Level 4), a different global food system could be supported, based on equity, participation, democracy, and justice - a food system that is not only sustainable but helps to restore and protects earth's life support systems upon which we all depend (Level 5).

GYBN Europe Priorities

The case studies presented in this policy brief are examples of environmentally sustainable practices that can provide valid alternatives to our current, unsustainable agricultural system. To promote these green practices, there is a need for a common understanding and clarity, hence reports such as IUCN's Approaches to Sustainable Agriculture[28] are key to increase their uptake. Nonetheless, if we want to reconcile our flawed relationship with the natural environment we cannot continue with marginal improvements: we need systemic change at all levels. This transformation must include our food systems at local, regional, national and international scale. Young people all over Europe are demanding a more sustainable future, and while we wait for our time to be decision-makers, we will continue to use our time and passion to advocate for an ever-more just and green future. In line with this, we have identified the following priorities:

Implementing effective biodiversity-positive policies

Ensuring the full and effective implementation of the actions related to agriculture envisioned in the EU Biodiversity Strategy to 2030 and in the Farm to Fork Strategy is necessary. In particular, we welcome the target of reducing pesticides by 50%, the objective of at least 10% of agricultural area dedicated to high-diversity landscape features and the designation of at least 25% of agricultural land under organic farming management

Redirecting and reforming harmful subsidies

In the transition towards more sustainable agriculture systems, replacing socially- and biodiversity-harmful subsidies should be at the forefront. Subsidies should be incentivizing best practices, supporting sustainable farming systems with a higher amount of diversification, compensation for conservation measures, investment on crops that can support plant-based diets and overall measures promoting long-term resilience of the agricultural landscape. Policy makers should pay special attention to small and medium-sized agricultural farms, as they can face greater challenges shifting from conventional agricultural practices.

Addressing the environmental threats posed by the new CAP

We cannot refrain from condemning the latest developments in the future CAP. A Common Agricultural Policy that deliberately fails to include the objectives of the EU Green Deal is simply unacceptable. GYBN Europe advocates for a stronger emphasis on the environmental aspect of the CAP and for the inclusion of all goals of the EU Biodiversity and Farm to Fork Strategy in the CAP Strategic Plans. Furthermore, we recommend the alignment of this key environmental policy with the post-2020 GBF of the CBD and the Paris Agreement.

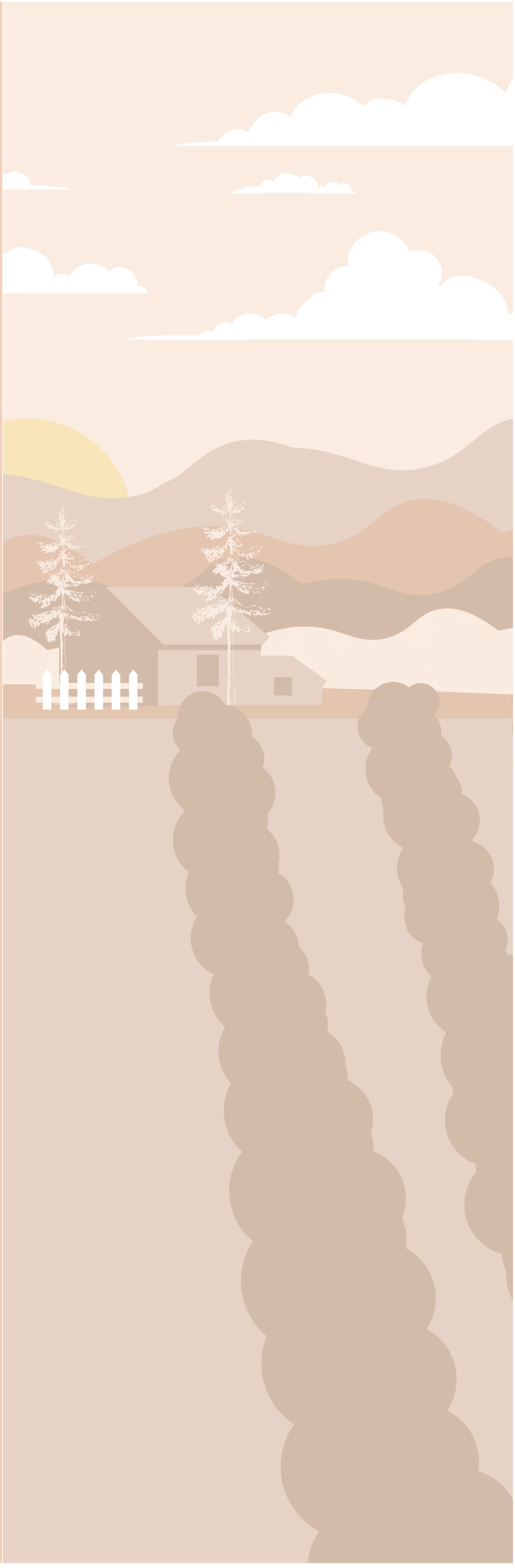
Adopting measures that support pollinator species

A topic of the utmost importance is reversing the decline in pollinators, since they are fundamental not only for cultivated crops, but also for all three levels of agrobiodiversity: genetic diversity, species diversity and agro-ecosystem diversity. Pesticides that are harmful to pollinators must be taken off the market and stricter testing of new agrochemicals is needed, for example testing that takes all life stages and (long-term) sublethal effects into account. Measures to protect and promote pollinators

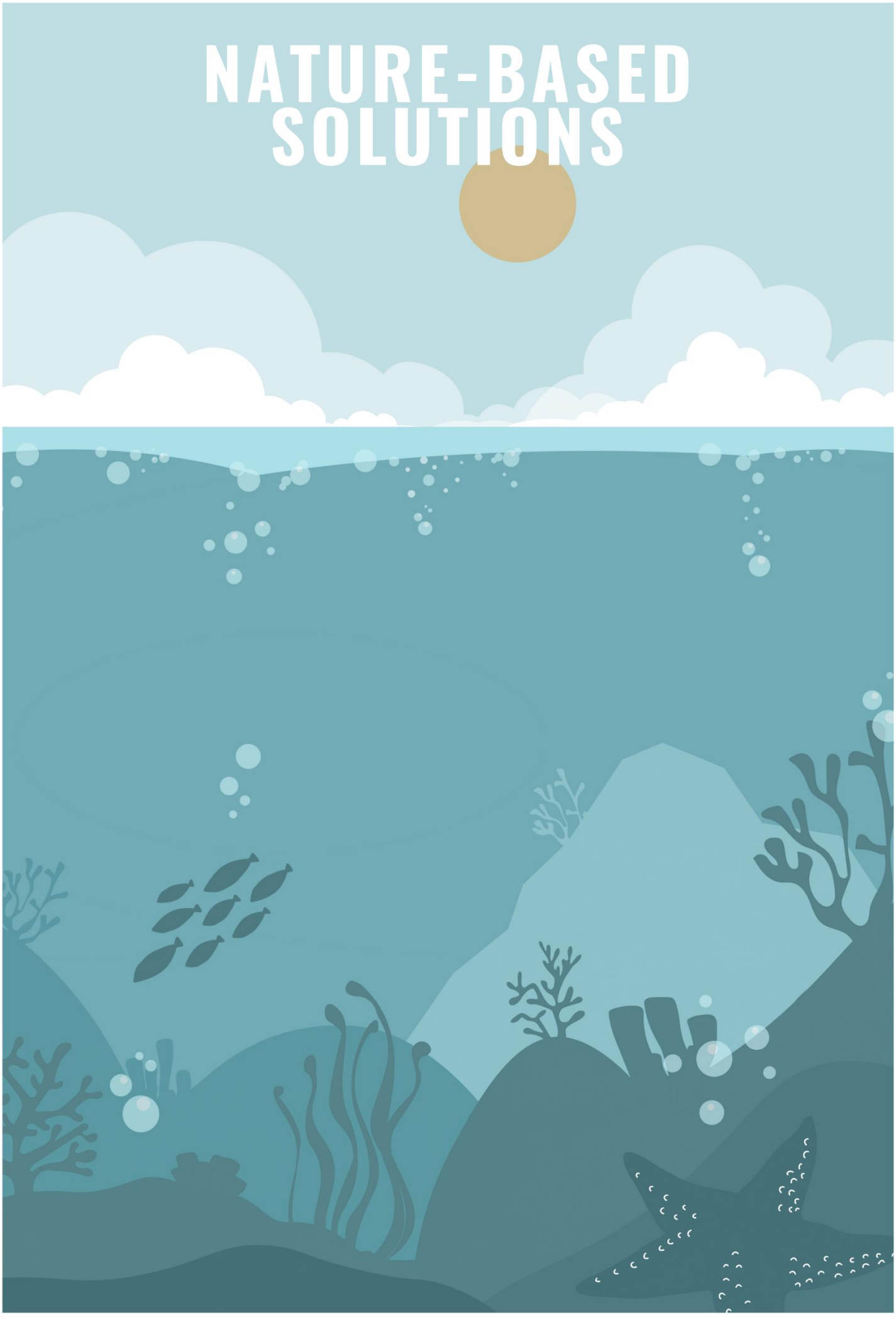
must go beyond providing pollen and nectar sources and consider the different ecological requirements especially of the developing and overwintering larvae of many species. This stresses the importance of enhancing structural diversity within the agricultural landscape to protect habitats for all stages of pollinator species. GYBN Europe recommends fully including the youth in the implementation of the EU Pollinators initiative and its corollary activities, both of the EU Commission and Parliament.

Fostering youth employment

GYBN Europe suggests the promotion of initiatives aimed at halting the exodus of young people from rural areas. Supporting biodiversity-friendly farming initiatives, circular models of agriculture, and the uptake of agroecological practices through funding opportunities and sector specific policies could constitute a win-win scenario. On the one hand, the EU could address one of the main drivers of biodiversity loss, land use, directly at the source. On the other hand, the agricultural sector could regain its attractiveness for young people, who have proven time after time their dedication to preserving and restoring the environment.



NATURE-BASED SOLUTIONS



The importance of nature to sustain human life on earth is widely recognised: the Leaders Pledge for Nature signed in preparation to the United Nations Biodiversity Summit[1] is yet another high-level recognition. Such pledges need to be interpreted as a strong signal for adopting systemic approaches to address the different environmental issues of today's world. Different, yet equally-urgent crises characterise today's interconnected world. Nature-based Solutions (NbS) have been gaining momentum, especially in international policy spaces for the last 5 years[2,3,4], as a notion that could potentially support the twofold objective of preserving the integrity of the natural world while providing effective responses to pressing social and economic needs[5].

The International Union for Conservation of Nature (IUCN) recently launched The Global Standard for Nature-based Solutions (2020), which defines NbS 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"*[6]. While this definition is considered the most accepted one to date, other sources highlight different elements that can be integrated when addressing NbS. Moreover, the concept of "natural solutions" is based on and supports other closely related concepts such as ecosystem thinking[7], ecosystem approach, ecosystem services, ecosystem adaptation and mitigation, and green and blue infrastructure[8].

NbS appear to arise from the necessity to view the complex human-environment relationship through a different lens: the actors and institutions welcoming NbS see in these solutions the much-needed capacity to deploy nature for tackling a wide range of societal challenges, including the climate crisis, disaster risk reduction, economic and social development, biodiversity loss, as well as human health, food and water security[9]. Many actors are bringing forward crucial considerations regarding the ownership and use of the NbS concept, including but not limited to concerns about co-opting and greenwashing[10], perpetuating offsetting, using monocultures and delaying decarbonization[11,12], as well as diverting finance from the ecosystem approach[13]. The evolving understanding of NbS makes it critical to carefully assess the needs of various stakeholders, including Indigenous Peoples, local communities, women and youth [14,15], in order to develop appropriate safeguards, and understand what inclusive and effective implementation actions could look like[16]. NbS have the potential to be the bridge we need to merge climate action and biodiversity conservation. Nonetheless, for the youth to fully support and endorse this new concept, the concerns addressed in this brief and the concerns of other actors, must be included and considered properly by policy-makers at all levels.

NbS in the EU Biodiversity Strategy

As part of the European Green Deal, the EU Biodiversity Strategy to 2030 demonstrates the European Commission's ambition in taking a leading role in developing NbS. The strategy only addresses NbS in relation to certain challenges: the climate crisis, biodiversity loss and the greening of urban areas. Yet, other areas NbS could potentially be used for are not mentioned. As outlined later in this brief, these include food security, water security and health. Moreover, the emphasis on their contribution in fighting biodiversity loss is not strong enough, and NbS should be recognized as an effective tool for the conservation and sustainable use of ecosystems, not only in the context of the climate crisis and urban areas.

Additionally, the EU Biodiversity Strategy 2030 focuses primarily on terrestrial NbS, in particular on urban greening and reforestation[17]. This policy gap is problematic because ocean-based solutions like seagrass meadows and salt marshes are among the most effective carbon sinks on our planet- including more so than terrestrial forests[18]. The narrow perspective of the EU on NbS could be consistently enriched if other areas of application are considered.

NbS are an interesting and innovative tool but to ensure that they can deliver what its supporters expect, appropriate mechanisms for NbS development and implementation are needed.

Currently, the EU Biodiversity Framework lacks reference to a strong monitoring framework, which includes social safeguards, that can keep track of the proper management of NbS. Secondly, while the Strategy clearly mentions the role of finance in redirecting investments towards NbS, it fails to address capacity-building as an important enabling factor for the successful uptake of NbS across all sectors of society, including small and medium-sized enterprises.

Opportunities: one tool, diverse issues

Although NbS as a notion has recently been gaining momentum, nature providing solutions is not a new concept. Communities around the world have long-established practices of using nature to benefit their livelihoods and landscapes[19,20]. In this section, we present seven different areas, where opportunities for NbS are currently being explored.

Biodiversity loss: Biodiversity loss is an important societal challenge, given that our economies and societies depend on ecosystems and the services they provide to people. Rewilding, habitat restoration and effective management of natural resources can help to tackle biodiversity loss[21].

Urban greening: examples of such solutions in cities are trees in open spaces (such as streets and squares), green roofs and walls, vegetated drainage basins, parks and urban green areas in general. The multiple benefits include reduction of street dust and noise, flood prevention, stormwater purification and a cooler microclimate during the summer months. Thus, developing green infrastructure in urban environments improves air quality, prevents water pollution and improves the quality of life for residents overall[22]. For example, in Lisbon, every euro invested into tree management brings 4.48€ for residents when considering energy savings, property values, air quality and CO2 sequestration[23].

Climate crisis: Conserving and restoring forests and coastal vegetation supports climate mitigation, as these ecosystems act as powerful carbon sinks[24,25,26]. In land use management, valuing and considering soil as an important carbon sink can be a win-win solution for climate and soil biodiversity. The conservation of peatlands is yet another example showing how the natural world is equipped with the right tools to store carbon[27].

Health: The need to make the most out of NbS to better regulate our interaction with ecosystems while improving human health, both physical and mental, is of utmost importance, now more than ever. The condition of the living environment affects our susceptibility to diseases and the spread of them[28,29]. Moreover, evidence shows that exposure to diverse nature and the associated microbial communities is connected to a healthier gut microbiome and lessened risk for autoimmune diseases[30]. The COVID-19 pandemic highlighted the need for nearby, high-quality, green and blue spaces, as these improve mental and physical health, especially for lower socio-economic groups like the youth and the elderly[31,32].

Food security: NbS such as reforestation, integrated natural resource management and sustainable soil management have shown positive results for both food production and environmental sustainability[33]. Coastal ecosystem restoration and the sustainable management of wetlands and rivers maintain or boost fish stocks and fisheries-based livelihoods, reduce the risk of flooding, and provide recreational and tourism benefits[34]. Furthermore, NbS can play an important role in maintaining soil biodiversity, conserving pollinators and regulating pests; these are all key elements in ensuring sustainable, long-term food productivity[35].

Water security: A NbS approach can also positively contribute to improving water management[36]. NbS such as green roofs,

retention ponds and vegetated drainage basins retain and purify stormwater, thereby reducing pollution of the receiving water bodies, while supporting local livelihoods[37].

Disaster risk reduction: Using natural coastal infrastructure such as barrier islands, seagrass meadows and oyster reefs to protect shorelines and communities from coastal flooding and reduce the impacts of sea-level rise are important solutions that provide synergies between nature and societal needs, including climate adaptation[38,39]. A specific example can be green infrastructure in cities that help reduce flooding related to extreme rainfall events[40]. Similarly, studies show that salt marshes can protect against storm surges through wave attenuation, while also protecting against erosion[41,42].

Risks and concerns for NbS implementation

As a requirement to the potential scaling up, financing and implementation of NbS, the following non-exhaustive list of preconditions and red-lines elaborated by global youth networks[43] should be carefully considered and further co-developed with all relevant actors, constituting an intrinsic part of the definition of NbS. Any project that does not meet these preconditions or crosses these red-lines, should not be classified as NbS and should by no means be eligible for NbS funding. The list reads:

- Preconditions for human rights, especially for environmental defenders, and from a gender perspective;
- Preconditions for Indigenous Territories, respecting the principle of Free, Prior and Informed Consent and the need to secure tenure and use rights of IPLCs over their lands, territories and resources;
- Preconditions to guarantee inclusiveness and the equitable and socially just distribution of co-benefits;
- Preconditions for Biodiversity and highly biodiverse ecosystems, ecosystem's structure and ecosystem functions;
- Preconditions for native species, preventing the introduction of Invasive Alien Species;
- Red-lines to avoid that NbS is used for greenwashing, offsetting, delaying decarbonization and carbon colonialism;
- Red-lines to prevent monoculture schemes.

In addition to the aforementioned preconditions, special attention should be paid in the risk of financialization of nature and the mainstreaming of the reductionist view that "nature" is merely the sum of marketable, monetizable and quantifiable services that nature offers to capitalist economies. Lastly, the scientific uncertainty related to the use of NbS for climate crisis mitigation should stay within our radar, particularly on the actual extent od the carbon storage and sequestration NbS are able to hold, as this depends on a series of other factors that cannot always be determined and quantifies with precision a priori.

GYBN Europe Priorities

Understanding NbS in the EU Biodiversity Strategy

It is important that the right policies are in place to ensure that all potential opportunities that NbS could create, will provide benefits to both people and ecosystems in Europe. Therefore, we have identified areas where the EU Biodiversity Strategy 2030 needs to be improved. First, the strategy should address all societal challenges where NbS can provide a practical solution and name them clearly. Concerning the application of NbS, the strategy could provide a clear link in the implementation of NbS for water management, food security and disaster-risk reduction especially in the current context of the climate crisis.

When it comes to the climate crisis in particular, the strategy could clearly state the important connection between NbS and Nationally-Determined Contributions (NDCs)

within the framework of the Paris Agreement. Furthermore, in a Post-COVID19 era, human health is a major concern, especially mental health. The strategy should highlight that our health can be positively influenced by greening urban and peri-urban zones but also should be committed to everyone having an equal access to nature. While acknowledging that it is impossible to change the text of the strategy, it is not too late to include these considerations in its implementation.

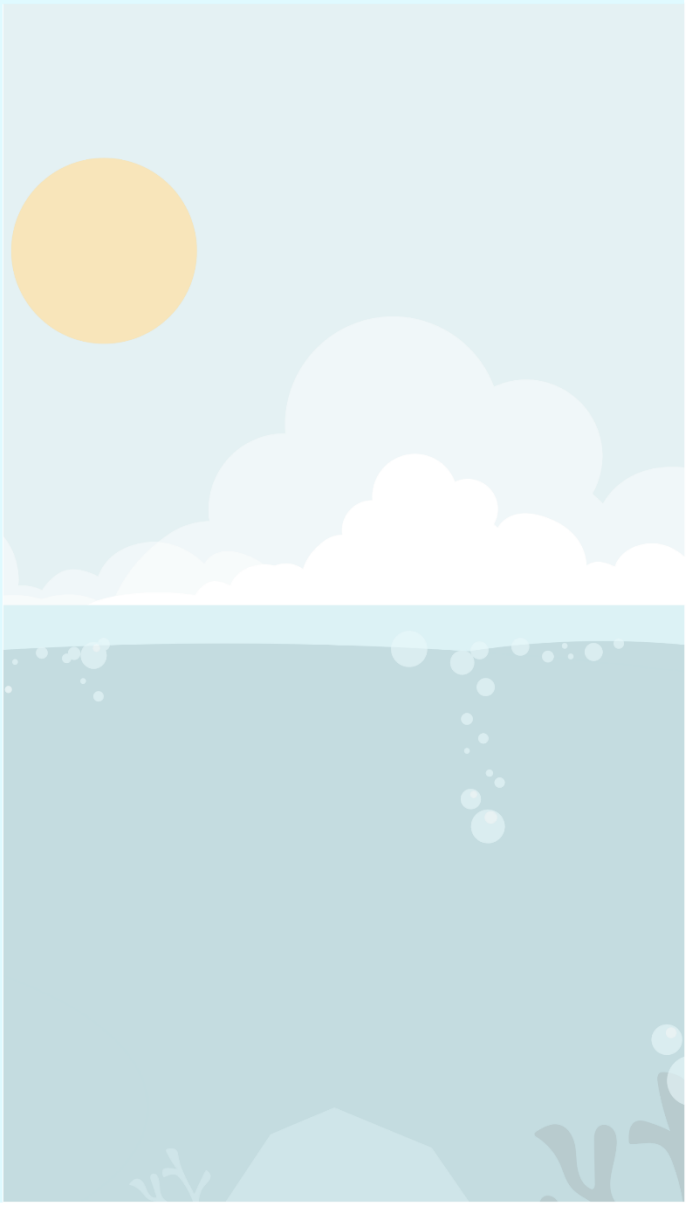
Second, youth have demonstrated the active commitment for a sustainable society. The strategy should be clear about which mechanisms and spaces will be created to help youth to become active stakeholders. This includes a more relevant role for youth in decision-making, policy-relevant knowledge generation and implementation. Finally, it is not yet clear in the strategy how the EU intends to monitor and implement NbS in the European Union. The strategy could instead provide clear information and methods to address this issue effectively.

Ensuring youth participation

NbS could potentially be a powerful tool to ensure future access and long-term sustainability of natural resources while addressing today's societal challenges. Moreover, NbS have the potential to strengthen their capacity to actively contribute to environmental management and secure employment in green jobs. However, the EU Biodiversity Strategy lacks a proper reference to the role of youth in developing and implementing NbS. More specifically, inclusive and participatory mechanisms that can improve the youth's active contribution to knowledge and implementation are still absent in the EU Biodiversity Strategy. This gap is relevant to research and education in order to advance a generationally-inclusive understanding of NbS.

In line with intergenerational justice, the European youth should be actively involved into the discussions regarding NbS development and implementation. The European youth is already active in the NbS sphere, in both research and activism. The consultation of young researchers is needed to have an inclusive representation of views in policy-relevant knowledge systems. Furthermore, by actively partaking in the development and implementation of NbS, young people in Europe could hold other actors accountable for failing to provide necessary safeguards and inclusion mechanisms.

To prove our active engagement in the NbS discussion, the global youth coordinated over the past months and carried out a survey that gathered more than 1000 youth voices from 118 countries. These efforts led to the Global Youth Position Statement on Nature-based Solutions, which you can find it here.




RESTORATION

According to the last European Environment Agency (EEA) State of Nature report, 81% of European habitats have poor or bad conservation status compared with 75% in the previous report[1]. Multiple reports have also highlighted the lack of progress towards global climate and biodiversity targets, including but not limited to the Global Biodiversity Outlook 5 (GBO5)[2]. The report states how none of the 20 Aichi Biodiversity Targets - adopted in 2010 to support governments in curbing biodiversity loss - has been met.

As a response to these results, on March 1st 2019 the United Nations (UN) General Assembly declared 2021-2030 the UN Decade on Ecosystem Restoration to acknowledge and act upon the *"need to accelerate global restoration of degraded ecosystems, to fight the climate heating crisis, enhance food security, provide clean water and protect biodiversity on the planet"* [3,4]. With the momentum growing and the global environmental community embracing language around ecosystem restoration, including the environmental policy spaces, the opportunity has never been greater to mainstream an umbrella narrative for people and the planet[5].

This brief aims to be an entry point to the ecosystem restoration narrative, by providing an overview of the current discussions at the global and the EU level, and highlighting the relevant priorities of GYBN Europe. These priorities also reflect the outcomes of a two-day workshop co-created by GYBN Europe, Youth and Environment Europe (YEE) and the Youth in Landscapes Initiative (YIL), delivered during the IUCN Global Youth Summit 2021.

Ecosystem restoration in a nutshell

According to the Society for Ecological Restoration (SER), ecosystem restoration intentionally works towards a historic trajectory and not a historic condition, *"to create the conditions needed for recovery so the plants, animals, and microorganisms can carry out the work of recovery themselves"*[6]. This brief joins many ecologists in supporting a pluralist approach to ecosystem restoration as a science and a practice, including but not limited to metrics that consider species composition and ecosystem functions and services, as well as opposing practices such as planting monocultures for carbon offsets[7,8].

Degraded landscapes and seascapes are a threat not only to planetary health, but also to human health and well-being[9]. Therefore, ecosystem restoration should not be considered merely an ecological issue, but a socio-ecological one, embracing the complexity of landscapes and seascapes[10,11,12]. Transdisciplinary knowledge and cross-sectoral collaboration is needed to understand and advance ecosystem restoration in the 21st century, through ecological and social criteria, with the latter including, among others, resilience principles, relational values and challenging unsustainable societal goals[13]. A definition, that encompasses many of these elements and builds upon the core concepts of the SER definition reads as follows: "ecosystem restoration is the process of assisting the recovery of a degraded, damaged, or destroyed ecosystem to reflect values regarded as inherent in the ecosystem and to provide goods and services that people value"[14,15,16].

Restoration and the Convention on Biological Diversity

Most of the Aichi targets have predominantly focused on halting the loss of biodiversity and habitats[17], with solely target 15 explicitly mentioning *restoring at least 15% of degraded ecosystems*[18]. With the UN Decade on Ecosystem Restoration having officially started on the 2021 World Environment Day, it remains to be seen how the Post-2020 GBF might contribute to the global restoration efforts. As things stand, there is likely to be a standalone target for 2030 on ecosystem restoration (Target 3) and possible further integration into other targets[19], including Target 1 and Target 2.

Supported by science and the traditional knowledge of Indigenous Peoples and local communities and well-funded through private and public sources, a worldwide restoration

effort could potentially address the climate crisis through carbon sequestration, contribute to halting biodiversity loss and advance the transition to a low-carbon economy[20]. At the same time, financial and non-financial benefits expected from successful restoration initiatives at international level significantly appear to outweigh the costs of investing in nature restoration. Since planetary and human health are deeply interconnected, natural regeneration is not only a goal unto itself but is also important for human survival on this planet[21] – and it should be prioritized at the earliest stage possible in the post-2020 period.

Restoration and the EU policies

The new EU Biodiversity Strategy for 2030 includes strategies and action plans addressing both protecting nature, by further developing the existing network of protected areas across Europe, and restoring nature, by designing and implementing the EU Nature Restoration Plan [EU NRP or Nature Restoration Legislation (NRL)][22].

A legal tool for restoration

Most of the commitments in the Strategy are voluntary, with one exception: the European Commission's commitment to "put forward a proposal for legally binding EU nature restoration targets in 2021 to restore degraded ecosystems, in particular those with the most potential to capture and store carbon and to prevent and reduce the impact of natural disasters." This is providing an opportunity to develop a legal tool for ecological restoration practices across the European landscapes and seascapes.

The first step in the process has been to assess the possible environmental, social and economic impacts of potential restoration targets. As part of this assessment, a public and stakeholder consultation was completed on April 5th, 2021. Extensive campaigns were launched and carried out by the European Environmental Bureau (EEB), Client Earth, WWF Europe, Birdlife Europe and a broader coalition of other environmental NGOs operating at the EU level, including among others the *#RestoreNature Campaign*, which supported the participation of 104,188 citizens in the consultation[23].

In a position report released in October 2020, a coalition of EU environmental NGOs joined their expertise and voices to highlight objectives, targets and criteria that the restoration law should include[24]. The main objective proposed stresses that the upcoming law must be developed in a way that can "contribute to halting and reversing biodiversity loss, resulting in the restoration of habitats, species and ecosystem functioning, connectivity and resilience at landscape level across the EU". The report also proposes a supportive objective to include synergies between healthy biodiversity and healthy climate in the law, to multiply benefits and enhance cost-effectiveness in the implementation phase. It should also be noted that due to the area-based nature of the obligations that the legislation should introduce in order to be effective, it is uniquely placed to support achievement of non-binding commitments of EU Biodiversity Strategy, accentuating the co-benefits of restoration and conservation initiatives. Such commitments include but are not limited to the improvement of Natura 2000 sites' connectivity, 10% strict protection, recovery of wild pollinators, as well as adaptation and mitigation of the climate crisis.

It is important to highlight here the need for urgent action, through the development and adoption of EU legislation that is actionable, easily implementable and enforceable, as soon as possible. The legislation should provide for restoration measures to be taken as soon as possible, and the format of the legislation should enable challenging Member States' inaction at an early stage, while at the same time avoid using the 2030, 2040 and 2050 deadlines as a means of postponing action from Member States to a later date.

Regarding the legally binding EU targets for nature on land and sea, the report emphasizes that they "should be expressed in quantitative and similar terms for each Member State" and

proposes specific EU-level overarching targets. These targets are set against a 2020 baseline, and include restoring by 2030 at least 15% of the landscapes and seascapes of the EU, at least 15% of rivers to a free-flowing state and last but not least to consider a target for CO2 removal by sinks, separate from the EU 2030 emission reduction target. On top of the broader impacts of nature degradation, special attention should be put to the local ones, amplifying the need for ecologically representative restoration across the EU and ensuring that different ecosystem types across different Member States will be restored. This, in turn, should prohibit schemes such as "effort-sharing", habitat banking and meeting the restoration targets through financial mechanisms.

The report also proposes five criteria for passive and active restoration actions to be considered in the restoration law. The first refers to restoration measures resulting in permanent change toward resilient landscapes and seascapes. The second suggests that restoration measures must result in significant management change while the third recommends that restoration action should take place both inside and outside of existing protected areas. The fourth criterion highlights that restoration actions should increase connectivity between habitats. Lastly, the fight criterion encourages restoration action that focuses on restoring natural processes.

The legislative proposal from the European Commission is expected to arrive in the first quarter of 2022, after each service in the Commission has evaluated the proposal. For a restoration law to be adopted, it will first pass through a series of readings in 2022 by the Member States in the European Parliament, who have the right to review and potentially propose amendments to the proposed text.

Other elements of the NLR

The NLR is quite encompassing and includes other elements beyond the commitment for strengthening the legal framework for nature restoration across the EU. It fully recognizes the profound influence of biodiversity on the functionality of Earth's life-sustaining systems, its interconnectivity with climate change, as the second most threatening planetary crisis, and its impact on human welfare. In many aspects it is clearly faithful to scientific recommendations on land degradation and restoration and thereby encompasses given features of effective restoration policies[25].

The pressure of intensive agriculture on the natural environment is highlighted; in this regard, the NLR emphasizes the implementation of sustainable agricultural practices and organic farming, including agroecology (25% of the total), the conversion of at least 10% of agricultural area in high-diversity landscape, and the reversal of pollinators decline. Soil and its complexity as an ecosystem is also addressed, pointing to its essential role for key ecosystem services and human health and the fact that it is often overlooked by environmental legislation. If the EU is serious about ecosystem restoration, then an assessment on whether the Common Agricultural Policy (CAP) and the Common Fisheries Policy (CF) are appropriate for delivering sustainable use and management of natural resources. The effects of any and all restoration initiatives are bound to be seriously hampered if the agriculture and fisheries sectors continue business-as-usual. Increasing the quantity of forests and improving their health and resilience is another big priority of the NLR. New forest biomass sustainability criteria are proposed to be developed, under the auspices of decarbonizing the EU energy system and focusing on renewable and biodiversity-friendly energy to enhance restoration efforts. The NLR includes greening cities as part of their commitments.

Another element of the NLR is the restoration of marine ecosystems. The need for stronger action is all the more acute as marine and coastal ecosystem biodiversity loss is severely exacerbated by the climate crisis. The implementation of EU's Common Fisheries Policy, the Marine Strategy Framework Directive and the Birds and Habitats Directives are seen as essential. In terms of freshwater ecosystems, restoration activities according to

the NLR should focus on re-establishing free-flow, with a goal of at least 25,000 km, and removing obsolete and/or harmful barriers. As the ecological restoration of rivers, lakes and other habitats is constrained by the presence of invasive alien species, another aspect of the EU NRP is to regulate their population and dispersion by upscaling the EU Invasive Alien Species Regulation. Lastly, the NRL should introduce obligations that are additional to those created by the Birds and Habitats Directives, the Water Framework Directive and the Marine Strategy Framework Directive, otherwise it risks undermining some of the strongest pieces of EU environmental legislation. Under this light, measures should only towards the delivery of the legally binding restoration targets, if they are additional to those measures already required by the aforementioned pieces of legislation.

Restoration and youth

Youth is considered a crucial stakeholder in the UN Decade on Ecosystem Restoration Strategy, with action 9 being exclusively about youth: *"Youth and future generations who are most impacted by the consequences of the current rapid destruction of ecosystems. They also stand to benefit the most from the creation of sustainable jobs based on a restoration economy. The UN Decade's strategy makes a direct link between the wellbeing of youth and the goals of restoration. Education for restoration will turn today's children into ecosystem ambassadors, provide skills for sustainable jobs and ensure that the UN Decade's achievements far outlive its timeframe*."

Many international organizations that are official partners of the UN Decade on Ecosystem Restoration are currently making efforts to upscale existing restoration action on the ground, especially action led by youth. Such programs, include among others, the "Restoration Stewards" program[26], developed by the Youth in Landscapes Initiative (YIL) and the Global Landscapes Forum (GLF), as well as the "#GenerationRestoration Youth Challenge", aimed at promoting restoration initiatives from young "ecopreneurs", and designed by the World Economic Forum (WEF) and the 1t.org. However, seed and other small funding from non-governmental international organizations cannot be considered adequate resource mobilization towards restoration efforts. While language like the one currently used by the UN Decade on Ecosystem Restoration is more than welcomed by youth organizations, it is important that it is followed up with decisions and implementation processes, as well as funding opportunities that can put words into action on the ground.

Regarding restoration in the EU, the development of National Restoration Plans (NRPs) could be one of the most relevant features for youth engagement and one of the few instruments able to amplify youth voices in biodiversity governance at Member State level. The NRL should stipulate such NRPs as a comprehensive national planning and implementation instrument to ensure that each Member State is doing their best in taking proactive and effective restoration action, and that these actions are adequately funded and in line with best available science. On top of that, NRPs should cross reference other relevant actions taking place in restoration areas and may affect the delivery of restoration outcomes (both to avoid double counting and to make spatial planning more efficient). Lastly, Member States should utilize NRPs to increase transparency in biodiversity governance and showcase how civil society, especially the most affected stakeholders such as youth, are properly consulted and actively engaged at all levels of the process.

GYBN Europe Priorities

Supporting a robust and legally binding EU Nature Restoration Plan

Youth and environmental NGOs across Europe have been campaigning and continue to advocate for a strong and ambitious EU Nature Restoration Plan. GYBN Europe stands behind the adoption of a bold overarching target for restoration as discussed in previous sections of this brief. Furthermore, GYBN Europe supports

adopting targeted legally binding obligations for Member States for restoring landscapes and seascapes on a large-scale. Together with other five EU youth environmental NGOs, GYBN Europe has contributed to a youth position paper on EU Nature Restoration Law, that advocates for major youth inclusion and empowerment in restoring European nature as a matter of intergenerational equity and urgent environmental action. Much stronger civil society engagement in biodiversity governance should be considered through dedicated processes anchored in law. Member States should take due account of the youth's opinion and actively strive to mobilize youth engagement in biodiversity governance by developing appropriate fora for multi-stakeholder engagement, mirroring the whole-of-society approach that the post-2020 GBF puts forward.

We expect and encourage all Member States to robustly support the new legislation during all upcoming stages and ensure it will have real impact on the ground. Member States are also encouraged have clear milestones, monitoring frameworks and specified indicators for implementation of the plan. GYBN Europe also anticipates that the restoration law will reflect and strengthen the necessary synergies between the biodiversity and climate crisis agenda. Additionally, simple objectives and clear definitions are necessary, to encourage implementation and to prevent greenwashing tactics prevailing over qualitative and quantitative progress. Lastly, it should be specified that the restoration law is complementary to existing legislation and EU Directives, and it should be ensured that key areas outside of the Natura 2000 network will be tackled in a timely manner.

Creating opportunities for youth

Students and young professionals are ready to take an active role in ensuring that nature restoration will continue beyond the 2030 timeframe, and work towards not only recovering but transforming our relationship with nature. Political will and actions must create the necessary circumstances for an inclusive restoration movement that could also foster resource mobilization and the creation of green jobs across Europe and worldwide. GYBN Europe firmly supports that over the next decade and beyond, local restoration projects led by young people should be upscaled instead of imposing top-down restoration projects.

Prioritizing qualitative outcomes

Restoration efforts in different places of the world have highlighted that ecological, cultural and social aspects should always be considered in restoration work to provide qualitative outcomes. A big challenge for ecosystem restoration is that benefits often take many years to be visible. Ecosystem restoration should always incorporate the needs of the local community; local people should be consulted at all stages of a project and benefits should be relevant to their cultural values, livelihoods and landscapes. GYBN Europe encouraged European policy makers, environmental organizations and practitioners to focus on qualitative outcomes for restoration instead of only quantitative area-based targets for restoration, including but not limited to equitable and effective management, fair governance and ecological representation.


URBAN

For far too long we have been waging a war against nature through an uncontrolled urbanisation of the European landscape. With over 70% of the EU population living in urban areas[1], there is a critical need to remodel our cities to unleash the potential benefits from green and blue spaces and mitigate the harm to our mental and physical wellbeing of a highly built environment. At the same time, we need to reduce the harm to surrounding environments and biodiversity.

Urbanisation is related to several negative impacts on ecosystems and on human health. It has been associated with a rise in non-communicable diseases and other health issues related to poor diet, decreased physical activity, reduced contact with biodiverse ecosystems and their healthy microbial communities, and increased exposure to environmental pollution, especially among low-income communities[2]. Overall, urbanisation often reduces biodiversity through fragmentation and loss of habitat, both in quantity and quality (e.g., water pollution, non-native species, disturbance, drier and lighter forests). Habitat loss via construction of housing is especially significant close to the urban fringe[3] and biodiversity hotspots such as conservation areas or parks[2], but it also occurs via urban consolidation or soil sealing in the more urban areas. While there are many initiatives encouraging cities to address the climate crisis, biodiversity issues are often neglected, and urban biodiversity is considered inferior to more “pristine ecosystems". Fortunately, the value of urban nature is increasingly acknowledged through its associated ecosystem services such as flood regulation, water purification, temperature regulation and health benefits for citizens[4]. In the urban areas, access to good quality green and blue spaces alleviates stress, encourages social interaction, play and physical exercise, while the exposure to a diversity of microorganisms improves immune functioning and reduces the risk of developing autoimmune diseases[2,3,5,8].

Cities can host a surprisingly high species richness, which needs to be maintained and enhanced. For example, numerous endangered species listed in the Habitats Directive[9] inhabit cities, including the Siberian flying squirrel and the European hamster. It is important to remember that high levels of biodiversity and endangered species management can occur not only in remnants of natural ecosystems (e.g., forests, mires and grasslands) but also in hybrid ecosystems (e.g., parks, urban green spaces, agricultural areas and gardens) and highly anthropogenic habitats such as rooftops, built-up and ruderal areas, including brownfields (i.e., vacant, potentially contaminated industrial or commercial land)[10].

To achieve a mutually beneficial relationship with nature in cities, we must incorporate the value of urban biodiversity and the associated ecosystem services in urban planning and environmental policies. Educational programmes aimed at explaining to citizens from all ages about the pivotal contribution of biodiversity to our daily lives must be properly funded and supported. A new design for our cities would allow us to better cope with the climate crisis and pursue the vision of the UN Convention on Biological Diversity for 2050[11] – “living in harmony with nature”.

This brief gives an overview of some of the current policies related to urban biodiversity, highlighting deficiencies and positive developments, and presents the vision and suggestions of GYBN Europe.

Global and regional policies

Sustainable Development Goals (SDGs)

The most ambitious and inclusive international agenda regarding sustainability is without a doubt the United Nations 2030 Agenda for Sustainable Development[12]. As the framework is intended to end poverty, protect the planet and improve life conditions of all, the urban dimension is intrinsically embedded in the framework. The agenda aims to “make cities and human settlements inclusive, safe, resilient and sustainable” under the SDG 11. For example, it mentions air pollution, waste management, equal access to good quality green spaces, and climate change adaptation and mitigation. While the UN wishes to “support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning”, SDG 11 fails to highlight the role of ecosystem services and biodiversity, thereby undermining their value. The same applies to SDG 3 (health) and most

other SDGs, although many of these address the indirect drivers of biodiversity loss. For example, SDG 6 (water) aims to reduce pollution and protect and restore water-related ecosystems, striving to tackle wastewaters and also urban runoff, although the latter is not mentioned. SDG 15 (terrestrial ecosystems) aims to protect various ecosystems and the associated benefits. Albeit cities are not mentioned, target 15.9 states "By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts". The importance of urban landscapes in today's world is not well accounted for in the strategy and there is little to no indication that the framework aims to promote a new paradigm where nature and cities are not in a constant conflict. GYBN Europe believes that linkages between the natural environment and human wellbeing needs to be internalised throughout, as well as the better recognition of the ecosystem services' value. Nevertheless, we acknowledge that, as we enter the UN Decade of Action, some positive signs have been shown by the UN such as the adoption of a new framework that includes the contributions of nature when measuring economic prosperity and human well-being[13]. This is clearly the direction to follow on our way to a better future for people and nature.

In addition to the SDGs, the UN has been working to improve the liveability of cities by establishing in 2016 the New Urban Agenda[14], a strategic document that sets a vision for housing and sustainable urban development. Regarding urban nature, it stresses the need for equal access of high-quality green spaces (incl. gardens) and waterfronts, underscoring the associated economic, migration related to the climate crisis and health benefits of these features. It also encourages sustainable consumption, transport modes, spatial planning (e.g., appropriate compactness, polycentrism and mixed land-use, sprawl prevention, connected green infrastructure), reduction in pollution and noise, and renewable energy. Thereby, it highlights the role of cities as consumption hotspots, and the fact that the ecological footprint of cities extends far beyond urban boundaries. Sustainable production and consumption scored as the most popular priority theme in the recent Summary of the European Youth Perspective on Biodiversity carried out by GYBN Europe. Despite the ambitious goals, a roadmap and a follow-up scheme, the New Urban Agenda remains unbinding and ambiguous, most likely not leading to any significant improvements.

Post-2020 Global Biodiversity Framework

Under the umbrella of the UN Convention on Biological Diversity (CBD) governments and a wide range of stakeholders are negotiating a new plan to bend the curve of biodiversity loss and put nature on a path to recovery. The Post-2020 Global Biodiversity Framework aims to holistically address the factors threatening the planet's ecosystems, as well as enhancing a fairer and more sustainable socio-economic paradigm.

Due to the failure of the Strategic Plan for Biodiversity 2011-2020 and its Aichi Targets[15], the previous decade-long strategy of the CBD, the first draft of the Post-2020 GBF[11] makes an effort to have SMART targets (specific, measurable, achievable, reasonable and time-bound), as well as a renewed focus on implementation. On the subject of urban biodiversity, the first draft's proposal states that within the next decade we need to "*Increase the area of, access to, and benefits from green and blue spaces, for human health and well-being in urban areas and other densely populated areas*". The inclusion of a focus on urban nature is a significant improvement from the 2011-2020 plan, yet the current draft of the framework doesn't specifically acknowledge that urbanisation is one of the most transformative trends of Anthropocene[14]. Also, despite SMART targets, it remains to be seen how they translate into effective policies and which indicators will be used to measure this target, so that it can bring about transformational change[15].

European Union

Overall, the regulation of the European Union (EU) surrounding urban environmental issues and biodiversity is fragmented and often plagued by ambiguity, legally non-binding status and lack of enforcement [16,17]. The EU does

not have official competence for urban development and land-use planning even though the European Commission (EC) proposed it in 1991; an idea which was rejected by the member states[16]. However, urban biodiversity has recently been included into the Biodiversity Strategy 2030[18] and sustainable urban development is now one of the objectives of the Cohesion Policy[19], which designates significant funding to abatement and adaptation (incl. ecosystem-based approaches), and environmental protection (e.g., reducing noise, water and air pollution, ecosystem restoration, green infrastructure, regeneration of brownfield sites). The new Cohesion Policy 2021-2027[20] promises to further increase investment into urban sustainability goals.

Biodiversity conservation in the EU is mainly established through the Habitats Directive[9] and Birds Directive[21]. The appropriate measures included to conserve and restored the listed species and habitats are welcomed and acknowledged. As some of these listed species appear to thrive in cities, human-wildlife conflicts arise, and this has led to a call for a more flexible approach in species conservation[22]. More research is needed on whether and how this may be achieved without threatening the viability of these urban populations[23]. However, GYBN Europe suggests that the strong focus of these directives on natural and semi-natural habitats could be enhanced with complementary legislation and regulation aimed at promoting the potential of novel and man-made habitats (e.g., green roofs and walls, buildings and brownfields with rubble), that can mimic valuable habitats, such as semi-natural dry grasslands or rocky habitats. The Birds Directive does mention "re-creation and creation of biotopes", but we stress the need for better consideration on how urban biodiversity could be preserved and enhanced.

With regards to urban ecosystems and water management, the EU has several policies addressing this issue. The Floods Directive[24] states that land-use changes can cause flooding and recommends reducing such risks. However, we suggest that nature-based solutions, correctly implemented and with the necessary safeguards, should be explicitly mentioned here to promote their use as a tool for both flood control and increased biodiversity among other benefits. The Water Framework Directive[24] and the Urban Wastewater Treatment Directive[25] lay a solid ground for water protection in the EU, but do not consider pollution from urban stormwater (e.g., nutrients, microplastics and plastic litter) nor emerging pollutants (e.g., pharmaceuticals and other chemicals). Furthermore, many cities still have combined sewers (both stormwater and wastewater), which can overflow during heavy rainfalls and result in a significant nutrient release not regulated in these directives. Albeit these sources of pollution can be difficult to monitor and regulate[27], we consider it necessary and especially for highly populated settlements.

The European Commission has launched the Urban Agenda in 2016 as a non-binding strategy and platform to encourage partnerships and sharing of information between cities, national governments, private sector and the EU[28]. It aims for concrete actions, better regulation, funding and knowledge on sustainable urban development aligned with the UN New Urban Agenda[14]. Among other goals, it encourages the use of nature-based solutions and brownfield regeneration (not mentioning their potential biodiversity value). The impact of the EU Urban Agenda has been disputed[17], but it may improve with increased funding. The European Commission has also launched two awards (European Green Leaf, European Green Capital) that aim to motivate cities towards sustainability and to disseminate their know-how. From 2022, having an urban greening plan will become more central for winning[18].

The Biodiversity Strategy 2030[18] aims to put nature on path to recovery and to promote a system change capable of enhancing the resilience of European ecosystems to threats such as the impacts of the climate crisis, forest fires, food insecurity or disease outbreaks. The new biodiversity strategy also specifically acknowledges the value of urban nature, and the ecosystem services it provides (incl. for health and opportunities for businesses). It highlights the need for green infrastructure and nature-

based solutions (e.g., green roofs and walls), limiting soil sealing and urban sprawl, tackling invasive non-native species and pollution, specifically mentioning pharmaceuticals, pesticides and plastic pollution.

Furthermore, it notes that urban areas can be a refuge for wildlife and urges cities with more than 20000 inhabitants to develop Urban Greening Plans by the end of 2021. Although this strategy aims to facilitate achieving the goals via a new knowledge-sharing Platform for Urban Greening, it is still a non-binding strategic document. In 2023, it will be assessed whether its new 'whole-of-society' cooperation-based approach is sufficient, or whether there is the "*need for an enhanced, legally-binding or other, approach to biodiversity governance*". Although we welcome this step-by-step monitoring process, clearer and binding responsibilities could have already been set for Member States in the new plan.

GYBN Europe Priorities

Supporting educational programmes

To ensure the development of a new approach to urban nature there is the need to teach the wider population about the benefits that urban green and blue spaces provide to citizens. It is paramount that both adults and children learn how to create biodiversity oases in their urban areas, from their own backyard to green roofs and communal gardens. GYBN Europe calls on the Parties to the Convention on Biological Diversity to include in all primary school programmes a module on urban biodiversity, which shall be supplemented by several field trips with experts to explore the potential of urban green areas and of nature-based solutions.

Furthermore, each Member State, in alignment with the relevant target the Post-2020 Global Biodiversity Framework should allocate adequate funding to urban biodiversity educational projects for adults and seniors, such as night classes, conferences and open webinars. GYBN Europe also calls for all cities to grant access to green areas to their citizens within walking distance (1 kilometre) from their homes. Moreover, specific programmes, based on scientific and other types of knowledge, aimed at promoting pollinator conservation in the urban environment should be promoted at all levels.

Introducing legally binding regulation

Achieving the above mentioned environmental goals is highly dependent on stronger regulation and more specific, measurable, ambitious but realistic targets, and scalable and comprehensive criteria (SMART based)[15]. GYBN Europe calls for an overall better integration of values of natural resources in the decision-making spheres. We acknowledge the effort that the EU has invested into creating a soft policy approach through funding opportunities and the Urban Agenda[28] around urban sustainability, but as the European Commission proposed in 1991[16], we wish that the EU would have more official competency. We call for better integration of urban environmental issues into the existing legal framework. For example, as mentioned above, this should involve regulation and requirements around urban stormwater, and chemical (incl. pharmaceuticals) and plastic pollution in the Water Framework Directive[25] and the Urban Wastewater Treatment Directive[26]. We recommend that the urban targets envisioned by the EU Biodiversity Strategy to 2030[18] should be made legally binding by 2023 and supported by a strengthened governance framework.

Fostering healthy, resilient and biodiverse cities

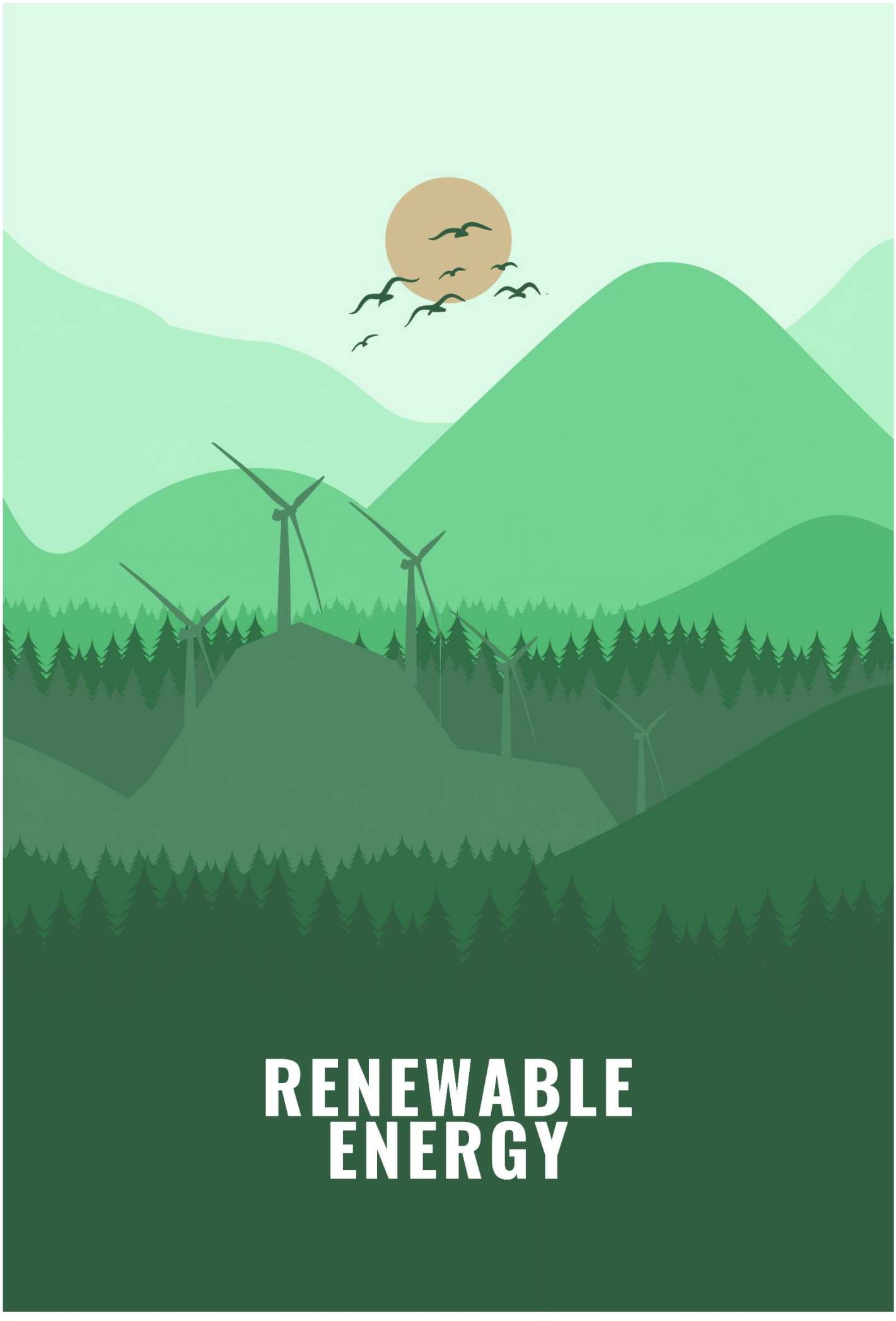
Given the importance of cities as our living environment, attaining a good balance between built and green infrastructure is crucial. For higher species richness, the green infrastructure should comprise sufficiently large patches of remnant natural ecosystems and connecting corridors or stepping stones9. Embracing innovative approaches to human-nature relationships, such as the landscape approach29, convivial conservation30 and the internet of nature31, can offer great insights for supporting urban biodiversity. Importantly, private green areas (e.g., gardens and vacant plots) sustain significant species richness in cities. We thus call for funding criteria, at the

EU and local level, that considers such stakeholder involvement. Building upon existing initiatives and city networks to create a healthy living environment and sustainable urban landscapes, including but not limited to the ICLEI Biodiversity & Nature-based Solutions32, can be instrumental in aligning, sharing knowledge and aggregating efforts towards sustainable cities[33].

Furthermore, funding should be allocated only to housing development projects that incorporate sustainable urban structure (e.g., minimising soil sealing, mixed use, nature-based solutions). Brownfield revitalisation projects should consider potential biodiversity values, and if needed, create compensating habitats such as green roofs with similar habitat characteristics. Funding should be increased for research on the quantity and quality of urban nature linked to the associated benefits and ecosystem functioning. These recommendations need to be considered in the EU Cohesion Policy [18,19] and the linked initiatives and funds (e.g., European Regional Development Fund, Horizon Europe), LIFE projects, and in regional and local city greening plans.

Enabling inclusive urban sustainability and green jobs

On top of the need for stronger regulation regarding urban ecosystems, GYBN Europe also welcomes the partnership approach of Urban Agenda and the increased role of cities in funding schemes and policy-making. As mentioned in the previous paragraphs, the value of private real estate for urban nature and sustainability is significant. Therefore, the recruitment of private sector, both businesses and non-governmental organisations, should be required in funding schemes. We also call for projects that aim at generating green jobs in and around European cities, with special care for creating job opportunities for youth employment.


RENEWABLE
ENERGY

The climate crisis, threatening people, biodiversity, and the very foundations society depends upon, is to a great extent the result of activities and systems that depend on burning fossil fuel (coal, oil, gas)[1]. Developed countries, including the EU, with their wealth, historical responsibility and limited dependence on fossil fuel production should be the first to embrace the necessary energy transition away from a fossil-dependent economy. This transition is essential if we are to have any chance of meeting our climate goals and ensuring a stable and liveable planet for current and future generations[2]. Globally, the EU is one of the leaders on renewable energy, which made up 19.7% of the energy consumed in 2019[3]. Unfortunately, despite progress, much more must be done to reach the announced target of 32% renewables by 2030[4].

Although renewables are undoubtedly the way forward, it is vital that the energy transition is managed in a way that considers other environmental risks, including its relation to biodiversity. Renewable energy can negatively affect biodiversity through habitat disturbance, fragmentation, and degradation, noise pollution, and other indirect impacts such as those from material extraction[5,6,7].

Indeed, these energy sources are significantly more material intensive than fossil fuel energy, requiring substantial amounts of metals, including aluminium, cobalt, lithium, nickel and rare earth metals. Current mining practices for metals severely damage the local environment. For example, copper and lithium mining in Chile has depleted local groundwater resources across the Atacama Desert, and extraction of rare earth elements (REE), including neodymium and dysprosium for wind turbines, pollute water with ammonium sulphate and ammonium chloride in China. Not to mention the lack of adequate social and health safeguards for miners in many of the developing countries where these metals are extracted. Since the EU uses between 70% and 97% of the global environmentally 'safe operating space' related to resource extraction impacts and accounts for 25% of the global primary demands of minerals[8,9], it is key that its renewable energy projects undergo rigorous environmental and social risk assessments, from sourcing to decommission.

The transition towards renewable energy must be done holistically, in a way that balances our needs for climate action with our needs for biodiversity and ecosystems that thrive. Degradation of ecosystems on the one hand will not only contribute to the climate crisis (e.g., loss of blue carbon, forests)[10,11], but also reduce the resilience of society against impacts and disasters related to the climate crisis[12].

EU policies and strategies

Within the plethora of policies, regulations and legislation surrounding renewable energies in Europe, this policy brief focuses on two particular strategies. Firstly, the brief investigates how renewable energy is integrated in the EU Biodiversity Strategy to 2030[13], the main reference of this policy booklet and a future key pillar of environmental governance in the European Union. Secondly, the brief will explore offshore wind as a case study by presenting and analysing the recently released EU strategy on offshore renewable energy.

In the EU Biodiversity Strategy, the issue of renewable energies impacts on biodiversity is considered only marginally. The European Commission states in chapter 2.2.5. how it will: "*prioritise solutions such as ocean energy, offshore wind, which also allows for fish stock regeneration, solar-panel farms that provide biodiversity-friendly soil cover, and sustainable bioenergy".* Yet, the rest of the text focuses on the use of forest biomass for energy production and points to the Renewable Energy Directive and to the Regulation on land use, land use change and forestry (LULUCF). There is little to no mention on the potential impacts that other energy sources and technologies could have on biodiversity.

In the EU strategy on offshore renewable energy[14] biodiversity is mentioned several times throughout the document, underscoring good policy coherence by the EU Commission.

Already in the introduction, the Commission states how, in order to achieve the EU's climate target of 2030, the offshore wind industry will need to cover 3% of the European maritime space, highlighting that this will be compatible with the goals of the EU Biodiversity Strategy of protecting 30% of Europe's seas. The strategy then goes on calling for a long-term framework for business and investors that promotes coexistence between offshore installations and the protection of the environment and biodiversity.

A crucial paragraph in the strategy reaffirms how the development of offshore renewable energy must comply with the EU environmental acquis and the integrated maritime policy. It continues stating that the designation process of sea spaces for offshore energy exploitation should be compatible with biodiversity protection, as well as consider socio-economic consequences for sectors relying on good health of marine ecosystems.

The document continues specifying how, in the national maritime spatial plans, Member States should carry out an Environmental Impact Assessment as envisioned by the Birds and Habitats Directive to protect the Natura 2000 sites, the network of nature protection areas in the territory of the European Union. In line with this, the Commission also published on the same day an extensive guidance document[15] on wind energy development and EU nature legislation. Furthermore, the EC committed to *develop with Member States and regional organisations a common approach and pilot projects on MSP at sea-basin level looking at risks at sea, the compatibility with nature protection and restoration (2021-2025).*

Lastly, the strategy recognises the need to invest in research and innovation to enhance the circularity of this technology, critical raw material substitution, and the environmental impacts of offshore technologies.

Case study: Offshore wind energy

While planning a new offshore wind energy structure, its impacts on biodiversity need to be considered at all phases: from site characterisation to decommission. This chapter will outline the main risks for biodiversity including the risk of collision mortality, displacement due to disturbance, barrier effects, habitat loss, and other indirect ecosystem-level effects[16].

The lifecycle of an offshore turbine can be divided into four phases: site characterisation, construction, operation and decommissioning. To have little to no negative impacts on biodiversity throughout these stages, governments and companies should take into consideration implementing the mitigation hierarchy proposed by The Biodiversity Consultancy (TBC). This framework includes four steps: *avoidance, minimization, restoration and offsetting*. While *avoidance* aims to entirely avoid adverse impacts on ecosystems, *minimization* reduces those that cannot be avoided. These are considered preventive measures. Subsequently, TBC categorised the remediating measures: *restoration* and *offsetting*. Restoration means restoring ecosystems as much as possible after adverse impacts. Offsetting compensates for the impacts not covered by the previous measures[17]. When considering this framework, it is crucial to emphasise that avoidance is the most important step, and that offsetting should be considered only to mitigate any remaining impacts on ecosystems.

During the lifecycle of offshore wind structures, underwater noise may have a significant impact on marine life. Little is known about its impacts on many species, such as turtles and, to a smaller extent, fish. The latter group can suffer temporary displacement and, in some cases, death[18]. A possible solution to mitigate this issue is to have a vessel with marine mammal observers (MMO) informing the operators on when these species are in close proximity so that activities can be temporarily halted.

The site-characterisation phase requires an iterative process of *avoidance* and *minimization*. Optimising *avoidance* and *minimisation* early on reduces the need for

expensive restoration and offsetting. For example, areas to be avoided in the project design are: Marine Protected Areas, migratory corridors, habitats of threatened species, and nursing habitat. *Avoidance* of activity during sensitive periods of species' life cycles is also pivotal[19]. Furthermore, there is a risk of collision between vessels and marine mammals (especially whales and turtles), often fatal. Appropriate speed regulations are expected to reduce the risk of collision with whales by 30% (*minimization*)[20].

The operation of an offshore wind turbine also has several impacts. One is collision of birds and bats with the turbine blades, especially combined with light and particle pollution, which impedes their ability to recognize the danger of the turbine blades. A key factor to estimating this risk is knowing their flying altitudes. Additionally, although empirical evidence for this is lacking, bats might experience barotrauma, an injury caused by a sudden change in the air pressure, near the turbine blades[21].

Wind farms cause barrier effects and electromagnetic fields (EMF). Barrier effects arise when animals' regular movements through the farm area, such as migration routes, are changed due to the farm. The power cables give rise to an EMF that can potentially disturb species such as eel, salmon, sharks and lampreys, dependent on natural EMF for navigation and sensory reception. More research into specific and quantitative impacts of these effects is needed[22].

An offshore wind turbine requires substantial infrastructure. In the so-called developed countries, which constitute a majority of Europe, the turbines can be connected to an existing local power grid, which carries little risk of electrocution of birds and species of bats perching on pylons (*avoidance)*[23]. Disturbance of natural ecosystems, by for example introduction and proliferation of invasive alien species (IAS), is another risk. IAS from tools and the hulls of vessels can make habitats in the foundations of turbines[24]. The construction of the turbines' foundations can also lead to permanent loss, or degradation, of benthic habitats, in an often relatively small area[25].

Despite negative impacts, wind farms might also constitute a habitat and provide refuge for marine life at least as effectively as Marine Protected Areas by excluding fisheries (*restoration/offsetting*)[26]. They can also act as artificial reefs, increasing species abundance. The hard foundations of bottom-fixed turbines attract benthic organisms and fish, followed by animals of a higher trophic level and thus provide the basis for an ecosystem. This can constitute another *effective area-based conservation measure* (OECM)[27], as defined by the CBD and IUCN in 2018. Some of the structures may be left when dismantling a turbine, possibly contributing to a continued refuge effect due to safety restriction in fishing near these structures (*restoration/offsetting)*[28].

GYBN Europe Priorities

The fossil fuel era must end, and society needs to radically shift to renewable energy sources. To accelerate this process, while ensuring a just and fair transition, GYBN Europe joins the call by WWF to increase the EU's target for renewables from 32% to 50% by 2030[29]. However, this shift must place biodiversity at its core and not place additional stressors to habitats and species.

Investing in circularity

For renewable energy sources to be truly circular, recycling of their constituent metals needs to be increased. GYBN Europe calls on businesses and policy makers to invest in the creation of infrastructure for efficient recycling of metals, especially for those with a comparatively low recycling rate such as lithium, platinum and tin. This should be a key priority for the EU in securing sustainable, renewable energy generation.

Building on an inclusive process

A transparent, inclusive and cross-sectoral stakeholder consultation must be ensured before establishing new offshore wind energy

infrastructure. Indigenous Peoples and local communities must be consulted throughout the entire process. Furthermore, the latest scientific evidence, including traditional knowledge, should underpin rigorous environmental impact assessments (EIA) and strategic environmental assessments (SEA). In conclusion, we strongly encourage all policy-makers to implement an ecosystem-based approach for all renewable energy projects.

Striving for policy coherence

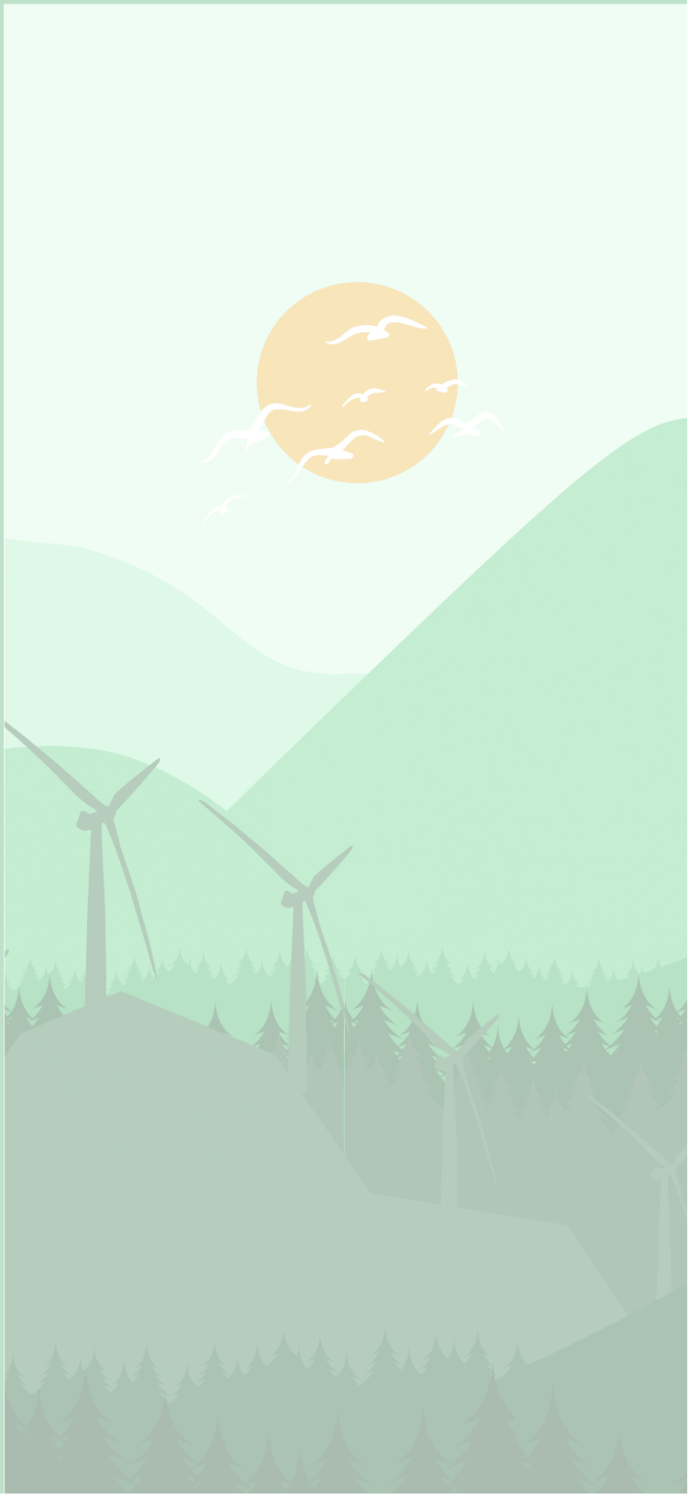
The lack of considerations of the impacts of renewable energy structures in the EU Biodiversity Strategy and the fact that the word "energy" is not mentioned once in the first draft of the post-2020 Global Biodiversity Framework of the UN Convention on Biological Diversity underscores a severe gap in these strategies. At the global level, we suggest to Parties to include a specific mention on the issue under the indicators of Target 14[30]. At the EU level, we call on the European Commission, especially on DG ENV and DG ENER to boost their cooperation in the implementation of the strategies mentioned in this paper.

Facilitating public-private partnerships

GYBN Europe calls on policy makers at national and European levels to develop an investment framework that facilitates businesses in integrating biodiversity in their operations on offshore wind renewable energy. This framework should be developed in conjunction with leading environmental organisations in the field such as UNEP-FI, IUCN, WWF, Birdlife International, The Biodiversity Consultancy and many others. Public-private partnerships could also be useful in developing innovative technological solutions to certain environmental impacts. An example of this are noise mitigation measures like air bubble curtains and 'Hydro Sound Dampers[31].

Monitoring biodiversity

Research gaps remain regarding offshore wind impacts on biodiversity, such as in the case of the effects of EMF and underwater noise. GYBN Europe advocates for close in situ monitoring of species before, during, and after offshore wind development. We further recommend that these monitoring efforts are standardized across projects throughout the EU[32]. This will allow for direct comparison between projects, providing further insight into how best to manage offshore wind projects.




EDUCATION

The biodiversity and climate emergency that our planet is facing, is driven by our inherently unsustainable practices. One of the major root causes of these problems is human behaviour, which is something we need to address in order to transition towards the 2050 vision of "living in harmony with nature." Education has been identified as an important aspect in this transition[1], and a means of ensuring this behavioural change[2]. While education has always been at the core of most proposed global goals and actions[3], the importance of environmental education remains under-emphasised. According to the IPBES Global Assessment, global funds and investment into environmental education from the period of 2010-2020 has been decreasing.[4]

The effects of environmental education are known – it supports people in gaining knowledge, harbouring pro-environmental attitudes and behaviours[4,5], as well as equipping communities to deal with the present and future challenges of the biodiversity and climate emergency.[4,5] It is also essential in forming a society of informed, aware and active citizens who can create awareness, enable discussion and inspire positive change[6]. Alongside education, meaningful childhood experiences in nature are an important step in shaping conscious and empathetic human beings[4]. Positive relationships with nature need not be restricted to childhood learning, and can also be facilitated and enhanced throughout one's life, showing the importance of lifelong learning[4,6]. This policy brief highlights the key role of biodiversity and environmental education in our society.

Global and regional calls for environmental education

Sustainable Development Goals (SDGs)

SDG 4, which focuses on Quality Education lacks clear targets which link it with nature or natures contributions to people. Such relationships have been identified as complex, and they are not captured in targets and indicators, despite the increasing amount of research and evidence. SDG Target 4.7 states "By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development[3]." Under the SDGs, this target is the only one which mentions sustainable development, thus showing that there is an underrepresentation of positive linkages between nature and education. These linkages range from well-known impacts such as shaping of values, skills and knowledge; to the lesser known effects of being able to access (urban) green spaces on cognitive and mental health[4,5].

Furthermore, the relationships between the Goals on education and environment fail to be captured in SDG 14 (life under water) and SDG 15 (life on land), with no targets or indicators which report on positive human-nature relationships, or the ways in which education can tackle environmental challenges.

The Post-2020 Global Biodiversity Framework

Although the first draft of the Post-2020 Global Biodiversity Framework mentions the importance of education in Target 20 "*Ensure that relevant knowledge, including the traditional knowledge, innovations and practices of indigenous peoples and local communities with their free, prior, and informed consent, guides decision-making for the effective management of biodiversity, enabling monitoring, and by promoting awareness, education and research.*", there has been criticism that education is inadequately reflected in this framework[13].

EU Biodiversity Strategy

The European Union Biodiversity Strategy for 2030[7], section 3.3.4 acknowledges the importance of environmental education across all learning institutions, and the importance of investing in research, innovation and knowledge exchange. The Action Agenda proposes a Council Recommendation on encouraging cooperation in education for environmental sustainability in 2021. However, we as GYBN Europe believe that this is too broad. Throughout this policy brief, the specific

areas that we believe need more attention and implementation at the EU level are highlighted.

There is an urgent need for action from European policy makers, educational institutions, and the private sector to take responsibility by recognizing the importance of environmental education, and mainstreaming lifelong environmental education in all aspects of our life. This includes encouraging and supporting youth to create or participate in the creation of environmental initiatives for education, as well as concrete measures and targets on transformative education with clear action steps. GYBN Europe therefore highlights the following four priorities which require concrete actions:

Formal education: Through a restructuring of the formal educational system, students at all levels (primary, secondary and tertiary) must be equipped with sufficient knowledge about environmental issues. They should also be able to access resources ensuring they make conscious choices by understanding the benefits of living sustainably, and empower long-lasting lifestyle changes through education. A stronger focus is also required on their educational curricula, which must incorporate environmental and social justice issues across courses, levels and disciplines [8,9].

Non-formal and informal education: The importance of positive experiences and relationships with nature can foster pro-environmental attitudes in people[4]. Thus, engagement with nature through informal and recreational educational activities is essential to inspire people of all ages to lead sustainable lifestyles and value nature for lifelong learning.

Sustainability of educational institutions: Educational institutions should be required to become carbon neutral and follow principles of no-harm towards biodiversity[8]. Retrofitting and making educational institutions environmentally sustainable provides a great opportunity for environmental education[6]. Incorporating this process into the learning curriculum and connecting people with their built surroundings can build engagement and provide case-based experience.

Engagement of educational institutions with local communities: Educational institutions go beyond the roles that they play in the education of students, towards influencing the communities around them. Thus, they need to claim a larger role in engagement with local communities in order to raise awareness, combat misinformation, promote sustainable solutions and empower local citizens to take action.

Through education, we are provided with an opportunity to reform our connection with nature. It is therefore important that we translate this into actions which can be implemented across Europe. Throughout this policy brief, we as GYBN Europe have highlighted the core components of education which we believe require focus, and have provided recommendations on how to tackle these issues. While we understand the challenges of doing so, we also recognise that we must all work together so that we can "live in harmony with nature."

An action plan for education

At the European level, the recommendations of this brief should be considered in the work and strategies of the EU. This includes the work of the EU Commission's Directorate General for Education and Culture (DG EAC), the European Parliament's Committee on Culture and Education (CULT), and the Education, Youth, Culture and Sport Council (EYCS). It includes EU-funded programmes, such as Erasmus+ and Horizon Europe. Furthermore, these recommendations should be also considered in the work of the Council of Europe (CoE) and the European Higher Education Area (EHEA).

We wish to see comprehensive and ambitious European strategies on environmental education and institutions' responsibilities in the current climate and biodiversity crises. We wish to see these designed and implemented at EU, CoE and EHEA level; and we wish these to be developed with full and equal participation of all relevant stakeholders, including students and pupils.

Cooperation between European countries to support best practices sharing should be strengthened through the creation of a dedicated

online database. At the national level, national and local strategies on education should consider these recommendations. This includes in the work towards implementation of the Post-2020 Global Biodiversity Framework, and the development of concrete targets on transformative education, with clear action steps. At the institutional level, education institutions should actively consider and implement the points put forward by this briefing.

GYBN Europe priorities

Addressing formal education

Educational modules and programmes must be revised and reformulated to integrate environmentally relevant content, across all disciplines and all levels of formal education[8]. This is an important step, which should go beyond science-based subjects to include biological and cultural diversity, social justice, and reflect norms of intersectional environmentalism. Additionally, multidisciplinary approaches and project-based education must also be promoted[9]. This should be done with meaningful involvement of students and teacher representatives.

The staff of educational institutions must also be provided adequate and relevant training on the biodiversity and climate emergency, and must be provided with teaching resources for all levels of education. Along with this, staff must also be trained to identify, help and support students facing eco-anxiety[6].

The level of support to educational institutions, including funding and investment from states must be made higher, and specifically directed towards environmental research [4,8]. This is necessary so as to up-scale the level of research and innovation, training, and capacity-building on matters of nature and biodiversity-related areas. This is important especially for higher education institutions, but investments must also be made to support environmental programmes of primary and secondary education.

Lastly, formal education must make it a priority to advocate for accessibility and transparency of research, as well as its effective communication. This includes free flow and access through active cooperation between governments, educational institutions and civil society, for e.g., enhancing citizen science programmes is one way to bridge the gap between science and civil society.

Addressing non-formal and informal education

The contributions of non-formal and informal educational activities as a means of providing exposure to people and students about environmental challenges has been identified as extremely essential, and hence requires official recognition by governments and decision-makers. Learning about the intrinsic and cultural value of nature that goes beyond nature's contributions to people and ecosystem services must be strengthened [4,5]. This is possible through promoting value-based learning in informal environments. For example, this can be done by having programmes on nature education outdoors, to encourage students to form deep connections with nature[9].

Furthermore, support must also be given for participating in youth organizations [9]. This can be done by providing adequate funding and supporting youth organizations at a local, regional, national and global level, as well as empowering youth as equal partners in advocating for sustainability[8]. We can ensure that students and youth engage meaningfully with nature-related topics and learn from those experiences. Such actions will also ensure engagement from parents and teachers in social and environmental action.

Another area which requires mention are international exchange and student mobility programmes. The current and future efforts of programs such as Erasmus+ to become more environmentally friendly and reduce the emissions from transport must be promoted and supported[11,12]. This is essential in order to inculcate pro-environment and conservation attitudes in students. These programmes could, for example, also financially support students to choose environmentally-friendly means of transportation, and provide more sustainable travelling options[11,12].

Lastly, the importance of intergenerational learning programmes such as community

centres and citizen science groups where people advocate for biodiversity and sustainability across generations must also be promoted.

Investing in the sustainability of educational institutions

Education institutions should develop concrete local environmental action plans to function sustainably. These plans should be holistic and include all areas managed by the institutions, from ensuring energy efficient infrastructure, to providing environmentally friendly food. These action plans should be developed including teacher and student representatives. National governments should provide funding to support the institutions' implementation of these plans. These plans must be created in a transparent manner.

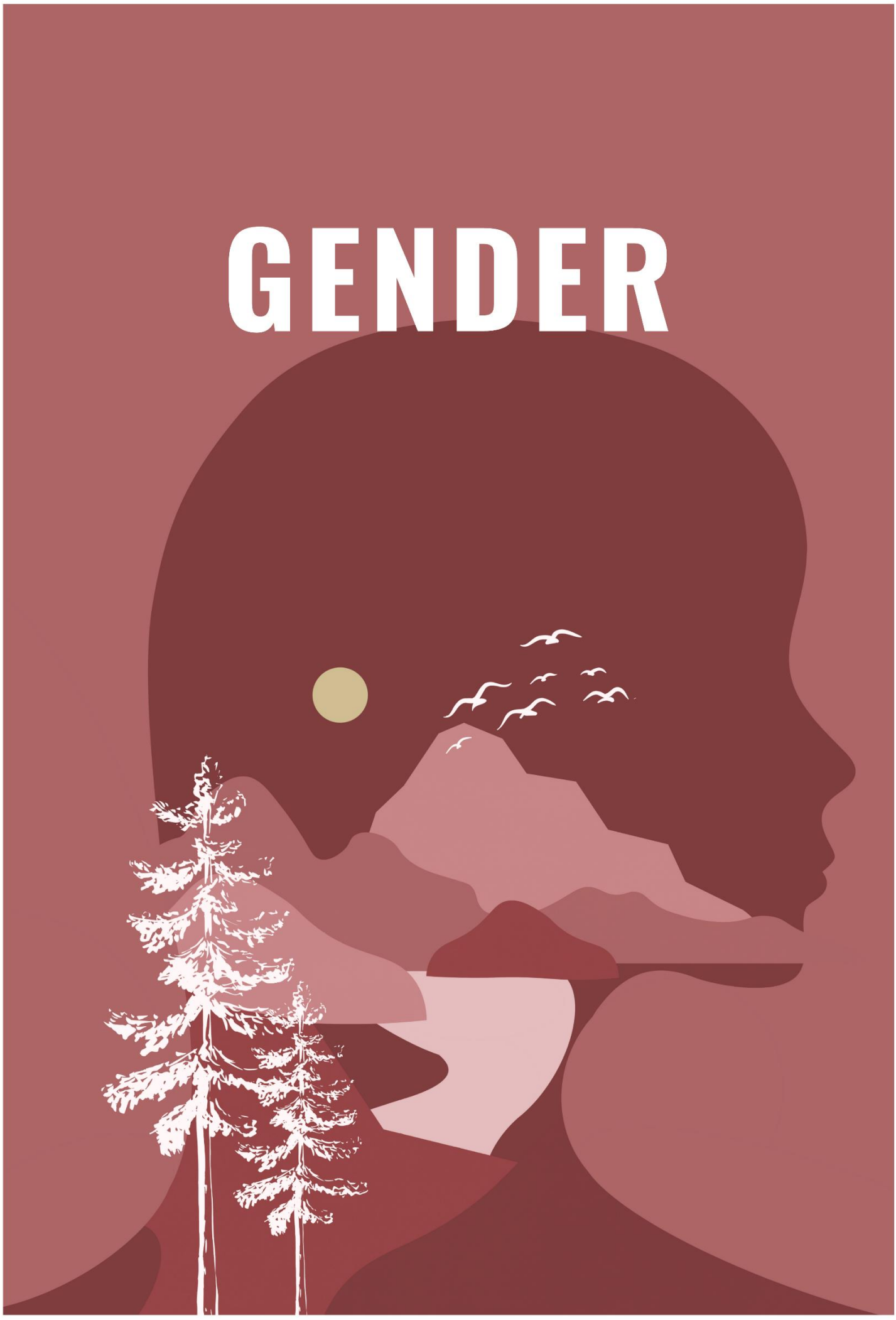
Education institutions should not have investments placed in stocks that are not environmentally sustainable. Institutions which do have assets in fossil fuels or other industries harmful towards biodiversity, should immediately divest these and reinvest them in sustainable projects[8]. Therefore, institutions must be provided with references and ethical guidelines for how they should reinvest, and must also have proper control mechanisms in place, paying attention to greenwashing.

Education institutions should also support student-led initiatives for promoting solutions for environmental sustainability. One example of these initiatives is the Green Office Movement[10], where students are supported with office spaces and budgets to lead different awareness-raising campaigns and projects for implementation of environmentally sustainable solutions in education institutions. The Green Office Movement was first started in Maastricht University in the Netherlands, and has now spread all over Europe including Germany, Belgium, Belarus, Italy, UK and Sweden.

Educational institutions also play a key role in engaging with local communities. They must ensure that they promote active citizenship and engagement towards biodiversity conservation, carbon neutrality, and environmental justice[8]. Institutions should also engage parents, promote information campaigns about environmental sustainability, combat disinformation, participate in public projects, while engaging with their communities to ensure that they have the necessary tools to work for a more sustainable future. Communities must also be equipped with the necessary tools to adapt to the climate crisis and the biodiversity crisis[6]. Since young people today are growing up in a world with increasing environmental challenges and difficulties, we need to be provided with the knowledge to understand how the ecological and climate crisis will affect our futures and impact our lives. Youth and communities must therefore be provided with the skills not only to live sustainably, but also be prepared on how to adapt to and mitigate the current crisis.

Finally, education institutions should support through lifelong learning initiatives the re-education of people working in professions that are unsustainable. Changing our economies to become more sustainable means that jobs in enterprises that are damaging for climate and biodiversity will become obsolete or in less demand. Education institutions need to play an important role to ensure that people that used to work in such activities and cannot do it longer can gain new skills and adapt their experience towards new and more sustainable activities. In order to transition to a sustainable future, more green training must be provided for reskilling the current workforce to aid in the smooth transition to green jobs[6].

GENDER



According to a 2017 publication[1] from the European Institute for Gender Equality, gender should be considered particularly relevant in climate protection policies, specifically in the design and implementation of adaptation and mitigation strategies as responses to climate change". The same consideration holds true about the intersection between gender and biodiversity, both in terms of the ways women are leading the conservation and restoration of landscapes[3] and the linkages between women's rights and environmental issues[2]. The question "*what does gender equality have to do with the environment?*" is one that continues to be asked from environmental sciences classrooms to international meetings, despite the mounting evidence[3] articulated by academia, think tanks, activism spaces and others, which clearly showcase that addressing the environmental crisis must go hand in hand with addressing the systemic, deep-rooted issues around gender.

This brief seeks to open a discussion around biodiversity policy in the EU, that is designed in a gender-sensitive way, and aims to destabilize prevalent dichotomies that are often used to exclude language relevant gender, human rights and other intersections from spaces that seek to address the environmental crisis. Biodiversity policies that embrace and address the complexity and cross-cutting nature of the biodiversity crisis, have the potential to call for a profound socio-ecological transformation towards an environmentally just and socially sound society.

The EU Biodiversity Strategy

The values upon which the EU is built are enshrined in its fundamental legal pillar, the Treaty on the European Union. Article 2 recites: *The Union is founded on the values of respect for human dignity, freedom, democracy, equality, the rule of law and respect for human rights, including the rights of persons belonging to minorities. These values are common to the Member States in a society in which pluralism, non-discrimination, tolerance, justice, solidarity and* ***equality between women and men prevail***[4]. Gender equality is thus both an objective and a key prerequisite to join the EU, something agreed upon by all its Member States. Nonetheless, despite some progress compared to the rest of the world, we are still far away from a gender-equal society. On March 5th 2020, the European Commission (EC) renewed its efforts in this area by publishing the Gender Equality Strategy 2020-2025, a document which strives to *"systematically include a gender perspective in all stages of policy design in all EU policy areas, internal and external"*[5]. However, it is rather curious how this commitment has been widely neglected in documents published by the Commission only two months later, especially in the environmental policy arena. While in the abovementioned strategy a few explicit references to gender and climate were made, it remained silent on biodiversity.

The EU Biodiversity Strategy to 2030 mentions ***women*** only once, in the context of the post-2020 global biodiversity framework negotiations, and the word ***gender*** appears at the very end of the strategy in a vague and generic commitment[6]. Similarly, in the Farm to Fork Strategy, gender is to be found on a single occasion in the "Promoting the Global Transition chapter"[7]. From reading these two components of the EU Green Deal, one would think that gender-equality in the environmental sector is to be achieved solely outside the EU. As stakeholders call for coherence between the EC strategies, GYBN Europe calls for coherence between the gender and biodiversity commitments.

UN Convention on Biological Diversity

To improve gender mainstreaming in the environmental policy arena[8], the EU could follow the well-established programmes of the UN Convention on Biological Diversity (CBD). In 2008, the CBD became the first[9] multilateral environmental agreement to have a Gender Plan of Action[10], developed by the CBD Secretariat in collaboration with the Senior Gender Advisor at IUCN. The plan was then followed by the Parties in 2014 with the 2015-2020 Gender Plan of Action, adopted through decision XII/7[11]. This document outlines the role that the CBD Secretariat will play in stimulating and facilitating efforts to overcome constraints, as well as take advantage of opportunities to promote gender equality within its work[12]. As the 2015-2020 plan came to a conclusion, parties decided to continue the promotion of a gender-based approach to conservation and thus agreed to review the implementation of the plan by drafting a gender

plan of action for the post-2020. This is a crucial component of the ongoing negotiations to agree on a new way forward for the CBD and its Parties. Furthermore, Draft 1 of the post-2020 global biodiversity framework includes several references to women and gender.

The theory of change that underpins the plan acknowledges the need for appropriate recognition of gender equality, women's empowerment and the need for gender-responsive approaches in the implementation of the plan. Target 21 states: "*Ensure equitable and effective participation in decision-making related to biodiversity by indigenous peoples and local communities, and respect their rights over lands, territories and resources, as well as by women and girls, and youth"*. Lastly, the achievement of gender-equality and the empowerment of women are described as key conditions for a successful outcome in the enabling conditions sections[13].

Despite these developments in international policy, there is the need to step up efforts at the national level. Member States must mainstream gender in all of their environmental policies and take bolder actions to recognise the vital contribution that women play in biodiversity conservation. A recent analysis of the National Biodiversity Strategies and Action Plans by IUCN[14] showed how 93% of the countries did not have gender equality as a primary goal, only 18% of them had gender equality within objective, and 4% described women as agents of change. If we are to achieve the 2050 vision of living in harmony with nature, recognising the role of women and girls will be fundamental.

Case study: The CBD Women Caucus

The CBD Women Caucus[15] is a self-organized network with around 400 organizations from all over the world which continuously provides input into the global policy processes of the Convention on Biological Diversity. This platform has the objective to bring into attention women's human rights and works towards strengthening a gender perspective in the policy framework of the Convention on Biological Diversity. The main objective of the platform includes strengthening the voices of women that are grounded in the local and national realities through advocacy, policy and capacity building; in order to adopt good governance processes and lead to gender equality and equity. The caucus also aims to bridge the various knowledges and experiences to amplify the voices of women from all over the world on biodiversity to ensure a just and equitable participation of women in any process under the CBD at international and national levels.

Amelia Arreguin, representing the CBD Women Caucus, shared in the interview conducted for this policy brief (June 2021), that the integration of gender perspectives in biodiversity policies could be beneficial for people and the planet. *"First, it must be done for justice;"*, she mentioned, *"to recognize, honour and reward the unique knowledge, practices and contributions that women and girls have, resulting from socially assigned gender roles"*. Due to this cultural dynamic, women generally have a very strong care ethic, and therefore the decisions, attitudes and actions they undertake are more prone to sustainability. By integrating their voices and hands into the work of the CBD, the contributions of half the human population to conservation and sustainability can be officially recognized.

The CBD Women Caucus is working to ensure that the people involved in and the processes around the CBD are aware of the impacts and differentiated needs of women with respect to the objectives of the Convention due to the socially constructed gender. Parties to the CBD should be developing a post-2020 Global Biodiversity Framework (GBF) that addresses the violence and burdens those women and girl already face. The post-2020 GBF should be an instrument of international public policy that fully integrates respect for women's rights, recognizing their differentiated knowledge and practices and acknowledging women as key agents of implementation, not just as beneficiaries or victims.

When asked to share some learnings that could support the mainstreaming of gender in biodiversity discussions in Europe, Amelia brought up the collective knowledge and the learnings that the CBD Women Caucus holds, predominantly rooted in the work that women in the Global South have so far led.

The first is *to raise awareness for the women defenders of biodiversity around the world*. Indigenous, local, Afro-descendant, from the urban periphery, women defenders are violated and killed for defending nature, their territory, their community, and life for all species.

The second is to *centre intersectionality in environmental policy*. It is urgent to think about the violence and different burdens that women experience in their bodies and spirits, which tends to increase when combining oppression faced from gender together with discrimination by ethnic origin, age and class.

The third is to *create spaces for ecofeminism and anti-capitalism discourses to be explored*, since according to the data the CBD Women Caucus holds, the environmental crisis and violence against women are the result of an economic and political system that prioritizes extraction, wealth and dispossession.

And last but not least, *the Global North needs to make concrete steps towards post-coloniality in biodiversity policy*. This can be done by recognizing and valuing with the same weight the different systems of knowledge, as well as prioritizing the rescue of traditional knowledge and practices that Indigenous, local and urban women possess.

GYBN Europe Priorities

Taking into consideration the fundamental rights of women and girls, their role in safeguarding biodiversity, as well as the need to realize social justice, GYBN Europe has identified key areas requiring concrete actions to improve environmental governance and achieve gender equality.

Strengthening gender and biodiversity intersections in EU policy

Realizing the biodiversity ambitions of the EU by 2030 will require the complete recognition of women's and girls' rights, as well as the centering of the fundamental role they play in protecting and restoring landscapes and seascapes. This makes the mainstreaming of rights, gender issues and biodiversity intersections in EU biodiversity strategies critical for a successful implementation. To this end, we are calling on the European Commission to add a specific action to the implementation of the EU Biodiversity Strategy on establishing a platform similar to the Climate Pact for biodiversity that specifically includes the role of women.

Mainstreaming gender strategies in the environmental sector

All international environmental organizations that operate in the EU and abroad need to develop, if not already present, a gender strategy, striving for equal internal opportunities as well as external representations. Furthermore, we encourage all environmental organizations to invest in building gender strategies that go beyond the dominant discourse of dualism that is used to describe gender identity, gender expression, sex characteristics and sexual orientation, to hold space for the proper participation and representation of LGBTQIA+ folks in the environmental movement. Moreover, organizations should monitor the implementation of these strategies to ensure goals are being met and progress is being made towards gender equality and equity within and beyond the biodiversity and climate realm.

Learning from and supporting movements in the Global South

Generations of women across cultures and places in the Global South are holding roles as harvesters, collectors, farmers, specialists in medicinal plants, as well as ecologists, conservationists, activists, defenders and many more. Women of colour and women in the Global South, including Indigenous women, have been and continue to be leaders of defending biodiversity. The same women are often systematically excluded from biodiversity governance mechanisms, poorly represented in budget allocations, strikingly underrepresented in academia and are experiencing intersecting forms of discrimination including but not limited to gender, race, ethnicity and class. And yet they are persisting and leading the environmental justice movements in the Global South.

GYBN Europe encourages the EU bodies of governance, the European Universities and the

international environmental organizations operating in the EU and beyond, to create safe spaces for the participation of women in the international spaces that the EU participates in, centre their voices and genuinely interact, seek collaboration in equal foot and learn from the unique bodies of knowledge, skills and experiences that women in the Global South hold


TRADE

Forests all over the world are under an increasing amount of pressure due to unsustainable anthropogenic activities and the ever-growing number of environmental disasters. The 2019 fires in Indonesia [1] and the 2020 fires in the Amazon Basin[2] - two areas which together contain some of the world's most critical carbon sinks and biodiversity hotspots - are just the tip of the iceberg[3]. Expanding cropland, pasture and plantations for industrial meat and dairy production, palm oil, soy for cattle feed, and other commodities that subsequently enter the global supply chains have caused the highest deforestation rates in the Amazon Rainforest in 13 years[4].

At the same time, land clearance for industrial agriculture in many cases results in the displacement of Indigenous Peoples and Local Communities (IPLCs) that depend on the forests for their livelihoods[5]. Furthermore, tropical deforestation is the second largest contributor of anthropogenic GHG emissions[6]. In 2020, the COVID-19 pandemic has highlighted how deforestation is pushing humans and wildlife into closer contact, increasing the chances for outbreaks of new zoonotic diseases with serious effects for our health, ecosystems and economies[7]. The combination of all these threats is hindering forests' invaluable contribution in the fight against the climate crisis and is preventing forests from fulfilling their irreplaceable role as biodiversity refuges.

The following brief focuses on a key driver of deforestation: the international trade of agricultural and forestry commodities. In particular, this document analyses the role that the EU can and should play at the global stage to minimise its external environmental footprint. An overview of the existing policies and legislation will further clarify the issue and contextualise better GYBN Europe's policy recommendations on this topic.

The EU and deforestation

The European Union is the world's largest economic bloc, and it is the second biggest importer of deforestation globally, responsible for 16% of deforestation associated with international trade. Some EU policies have been drivers of the import of embedded deforestation, including a previous iteration of the Renewable Energy Directive that incentivised the use of biofuels with high land use change risk8 and the Common Agricultural Policy that incentivises EU farmers to produce meat over grain, which increases the need for the import of high-risk agricultural commodities, while failing to encourage the local production of protein crops[9].

Other EU policies, on the contrary, have aimed to limit deforestation in third countries, most notably the Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan and subsequent EU Timber Regulation (EUTR). Rather than focusing on sustainable forestry, the regulations target illegal logging from both a supply and demand perspective. The EUTR prohibits the placement of illegal timber on the European market, while bilateral trade agreements known as Voluntary Partnership Agreements (VPAs) between the EU and timber-producing countries promote legal forestry activities. In this market-based approach, trade is used as leverage to improve law implementation, enforcement and compliance[10]. A similar framework does not exist to target deforestation driven by crop and livestock production, while these are larger drivers of deforestation[11]. Yet, the new European Commission's proposal for a regulation on deforestation-free products could provide that.

The European institutions only recently re-raised the issue of imported deforestation, through the European Parliament's legislative-initiative report and the EU Biodiversity Strategy to 2030. Nonetheless, these processes will face great political and economic obstacles in the upcoming months. This policy brief therefore aims to contribute to civil society's call for a display of the EU's green leadership worldwide and not only within its borders. As the #TogetherforForest campaign and the historic response to the open consultation on deforestation have proven, citizens across the European Union are calling for bolder, swifter and stronger actions. To achieve the mission of putting nature on the path to recovery, there is

an urgent need to halt harmful trade policies and to implement socio-environmental safeguards able to ensure a greener future.

Case study: EU-Mercosur trade agreement

The EU - Mercosur free trade agreement aims to extend trade between the European Union and four countries in Latin America (Brazil, Argentina, Paraguay and Uruguay). Discussions about the deal started more than 20 years ago, but between 1999 and 2016, talks foundered due to European farmers, who feared that beef coming from Brazil would undercut their prices[12]. In June 2019, the partners finally reached an agreement in principle, but the texts have not been finalised, signed or ratified, which means that the agreement has not entered into force yet[13]. On October 7th, 2020, the European Parliament voted against the EU-Mercosur agreement in its current form14. Moreover, several countries, such as Germany, Austria, Ireland, Slovakia, the Netherlands, and Belgium showed increasing concern about the negative environmental impacts of this trade agreement[15].

The reduction of tariffs would increase trade of different goods between the two regions, thus allowing the EU to export more goods (e.g., cheese, skim milk powder, machinery, transport equipment, chemical and pharmaceutical products), whereas the Mercosur region would export more agricultural products, such as tobacco, meat, vegetables (including soy) and coffee. While the agreement includes several environmental clauses to ensure the implementation of the Paris Agreement and avoid deforestation in the Mercosur countries, these conditions remain very vague and lack enforcement mechanisms.

The environmental impact of such an agreement could be disastrous: experts state it could lead to the destruction of 700 000 extra hectares of forest within 5 years[16]. This would mean an increase of 25% compared to the current situation. In addition, a recent analysis from the University of Oxford on the Mercosur deal also discovered how it fails to meet three core principles of sustainable trade agreements: (1) the inclusion of local communities, (2) the inclusion of transparency mechanisms to trace commodities and provide open-access information, and (3) enforcement to legally uphold sustainability commitments[17].

The implementation of the EU-Mercosur trade agreement would therefore clearly become an added driver of biodiversity loss in the Amazon region. If leading by example is the mantra of the European Commission in the international environmental arena, one would assume that efforts of the European Union will not perpetuate the externalization of land demands to non-EU countries through international trade.

The EU Biodiversity Strategy to 2030: a possible turning point

The EU Biodiversity Strategy addresses deforestation in two different sections[18]. Firstly, the Commission promotes the strict protection of all EU's remaining old-growth forests, pledged to advocate for the same at the global level and to ensure that EU actions do not result in deforestation in other regions of the world. Secondly, the strategy states how the European Commission will work to better assess the impact of trade agreements on biodiversity and strengthen the biodiversity provisions of existing and new agreements. In line with this, the Commission presented a legislative proposal and other measures to avoid or minimise placing products associated with deforestation or forest degradation on the EU market, and to promote forest-friendly imports and value chains.

While these actions are much needed and commendable, they should not be left on paper but rather be supported by a set of effective legal mechanisms. The European Parliament's recent initiative and the Commission's upcoming legislative proposal cannot be side-tracked by trade agreements ratified by Member States[19, 20].

GYBN Europe priorities

In the absence of proper regulations and mechanisms that can ensure implementation, international trade can contribute to the destruction of valuable ecosystems as well as being detrimental for Indigenous Peoples and Local Communities (IPLCs). GYBN Europe is strongly against any trade deal that could have detrimental effects on biodiversity, such as the Mercosur agreement in its current state, and has developed a set of recommendations to encourage coherence between the EU trade policy and its environmental ambitions.

Introducing biodiversity legal clauses in trade agreements

The EU's renewed focus on deforestation, reiterated at the One Planet Summit 2021, and confirmed by the European Commission's intent to propose a new deforestation law, highlights the need for a legal approach to this issue. The trade agreement should include clauses that allow for its suspension in serious cases on noncompliance with the sustainability chapter. This chapter could, for example, introduce bans on the trade of commodities until they comply with international standards. Alternatively, tariff reductions for partner countries that live up to sustainability commitments could encourage compliance, as proposed by the Dutch and French Trade ministers[21]. To facilitate enforcement, the current exemption of the sustainability chapter from the dispute settlement mechanism should be omitted. As international environmental agreements, including the Paris Agreement and the Convention on Biological Diversity lack enforcement mechanisms, trade could potentially become a powerful policy tool.

GYBN Europe thus strongly supports the inclusion of legally binding biodiversity conservation principles in any existing and future trade agreement ratified by the EU. Incorporating the goals outlined by regional (EU Biodiversity Strategy to 2030) and international (Post-2020 Global Biodiversity Framework) initiatives can strengthen forest conservation globally and reduce forest degradation significantly. The Paris Agreement and the UN Sustainable Development Goals are already, to an extent, considered as prerequisites of major trade deals, therefore we do not see why biodiversity criteria should not be granted the same level of importance.

Fostering transnational forest governance

Responsible and equitable forest governance should foster the engagement of all relevant forest stakeholders across governance levels and aim to build collaborative bridges with other sectors that might affect and be affected by forest policies and practices[22]. The EU should further invest in strengthening transnational forest governance measures that promote the legality and sustainability of timber and other forest commodities, as well as halt land grabbing and deforestation. At the same time, the EU should avoid inflicting EU socio-ecological standards and instead stand in solidarity with a sustainable development discourse owned by the forest communities. In that line, GYBN Europe welcomes the efforts behind the FLEGT initiative, yet remains critical of the state discourse that it perpetuates[23,24].

We call for upscaling the participation of local communities across action plans in order to report issues on the ground, contribute to setting domestic targets and indicators for measuring progress towards them, as well as hold government authorities accountable. Cooperative projects for the monitoring and mapping of monocultures, plantations, pasture, intact forest areas and other elements of a landscape, with the Free, Prior and Informed Consent as well as the full and effective participation of indigenous peoples and local communities, could be a practical example of how sustainable and responsible forest governance can be promoted across states[25].

Utilizing supply chain governance

The EU should address both ends of the supply chain: the supply of forest and agricultural commodities that can be traced back to deforestation through legally binding sustainability clauses in trade deals, and the exit of such commodities on the demand side. The

European Parliament and the Institute for European Environmental Policy suggest making market access conditional upon due diligence obligations for the importer, similar to the EUTR, the EU Regulation to end illegal, unreported and unregulated fishing and the EU Regulation on Conflict Minerals[26,27]. On a national level, legislation could require supply chain transparency and reporting on the chain of custody for all activities performed under the terms of the trade agreement. Tracking tools, such as Transparent Supply Chains for Sustainable Economies and Global Forest Watch, should be embraced and further developed.

EU Member States, civil society, and the private sector have put forward multiple voluntary commitments and certification schemes, centering around certain commodities (e.g., the Roundtable of Sustainable Palm Oil, the Round Table on Responsible Soy), end uses of commodities (e.g., The Roundtable of Sustainable Biomaterials and the International Sustainability and Carbon Certification) or geographical areas (e.g., Tropical Forest Alliance)[28]. Presuming that social negative externalities for small-scale farmers are also addressed in these initiatives[29], these efforts should be applauded, but there is an urgent need for legislation and legal clarity to create a level playing field.

The legislation could be targeting commodities such as palm oil, soy and cacao, in which the EU has a large global share of import. However, it would be less attractive for exporting countries for commodities such as beef, in which the EU only has a smaller global share. For such commodities, GYBN Europe calls for the EU to open a dialogue with large importing countries, including the US, China and India to prevent diversion and leakage[30]. Research by the Forest 500 Initiative found that 43% of the 500 companies and financial institutions in forest-risk supply chains do not have deforestation commitments[31]. Of these, financial institutions performed particularly bad with 63%. GYBN Europe urges banks and export credit agencies to adopt a deforestation policy and a robust due diligence strategy, as these institutions have large influence on the supply chain through their financial leverage over lenders.

Upholding Human Rights

Beyond incentivizing biodiversity criteria, as well as the legality and sustainability of agricultural and forest commodities in trade deals, the EU should put greater emphasis in criteria that recognise the customary and traditional rights of IPLCs who safeguard forest ecosystems and agrobiodiversity, as well as recognise and protect the rights of traditional forest users and smallholder farmers[32]. GYBN Europe advocates for upholding human and tenure rights through trade deals, fostering the potential to upscale local stewardship of biodiversity to the landscape level, while at the same time enabling small producers, whose livelihoods depend upon the forests, to own the sustainable development discourse[33].

To facilitate this, we also strongly urge the EU to systematically consult IPLCs in the negotiation phase of future trade agreements, which was done insufficiently with the Mercosur trade agreement despite two decades of negotiation[34]. Furthermore, trade agreements could be used as levers to foster the implementation of provisions related to benefit sharing, workers' rights and the abolition of child labour, and thereby address issues raised by both the Post-2020 Global Biodiversity Framework and the UN Sustainable Development Goals.

Holding youth and civil society dialogues

GYBN Europe strongly advocates for broader civil society dialogues and consultations for trade agreements, as well as mechanisms to ensure the participation of youth in these processes. When the issue of trade agreements is presented to the public arena, two tendencies emerge. The first one is to shift the responsibility, and in some cases the blame, on consumers and their consumption patterns. The second one is to consider trade agreements too complicated to be explained to the citizens. While we acknowledge the importance of our daily action and advocate for sustainable personal choices, GYBN Europe calls for a

systematic change in the top-down approach to trade agreements. One that dedicates a higher priority to biodiversity and its sustainable use. With this policy brief we display our strong will to partake in these discussions and to shape our future - a fair and sustainable future for all.

ECONOMY & FINANCE

GLOBAL YOUTH BIODIVERSITY NETWORK EUROPE

The latest Living Planet Report[1] released by WWF in 2020 comes close to finding the words to describe the relationship between the degradation of the biosphere and the economy, but fails to hit the nail on the head. While the section signed by Inger Andersen, the Executive Director of UNEP, clearly points out to the need of rethinking and reshaping the "*standard models of economic growth and development*" and reflecting on the fact that "*our current economic systems, fuelled by unsustainable production and consumption, would require 1.75 Earths"*, the overall report shies away from naming the elephants in the room: the mainstream economic system that encourages different sectors to simply maximize profit[2] and the unaddressed blindsides of the green growth narrative[3]. The reluctance to name the capitalistic economic system, within which 25 corporate and state-owned entities[4] have operated to produce more than half of global industrial emissions produced in the last decades, is harmful. Such an approach largely and falsely assumes[5] humanity as a homogenous group with equal access to resources and equally responsible for biodiversity and the climate crises.

Abstract references to "production", "consumption" and "humanity" cannot be the foundation of developing biodiversity and sustainability policies that focus on human well-being and ecosystem restoration[6]. The language we use to approach these discourses and translate them into actions, needs to be transformative in nature. For example, the widely welcomed Dasgupta Review[7], has faced equally wide criticism for, among others, utilizing language directly deriving from neoliberal economics to frame ecosystem degradation and for not providing enough data to robustly support its flagship idea of allocating nature an economic value[8,9].

The debates regarding the relationship of biodiversity, policy and economics appear to be moving beyond their usual academic and civil society spaces. For example, a recent publication by the European Environmental Agency[10] has provided an endorsement to altering the narrow focus on Gross Domestic Product (GDP) – a development that we can only consider as hopeful. The thorough analysis conducted by the report indicates, among other findings, that there is no empirical evidence to support that economic growth is ever likely to be decoupled from the associated environmental pressures[11], as the green growth is suggesting[12,13]. Furthermore, in 2020, already a few months into the COVID-19 pandemic, WWF EU, released a comprehensive report responding to the recovery package proposed by the EU which is not in line with a "green recovery"[14]. Among others, the WWF report highlights that the EU needs to move beyond the green growth narrative, while at the same time urges policy-makers to shift towards a "wellbeing economy" which prioritizes human and ecological wellbeing over GDP[15]. This approach, largely influenced by the post-growth discourses in academic circles, has been supported in 2019 by Member States[16] and in 2020 by the European Commission's Strategic Foresight Report[17].

Our current economic system and the constant pursuit of profit and growth have led us to consider the Earth, and thus biodiversity, as an infinitely exploitable asset[18]. In this policy brief we aim to take a quick look at the European ambitions for "putting nature on path to recovery", as well as briefly explore diverse discourses and routes of addressing the relationship between biodiversity and economics that should be considered from policy-makers in scenario planning for a sustainable future. A case study on pollinators is presented to highlight the intimate relationship between nature, our well-being and our economy.

Ambitions for "living in harmony with nature" and the biodiversity funding gap

The need to change and restructure our economic system in order to protect the environment does not only come from narratives challenging the idea of green growth. Rather it appears to also be present in the spaces predominantly undertaken with efforts to protect our economies. In the latest World Economic Forum Global Risk report,[19] the top 5 risks by likelihood are, for the first time, all environmental risks: extreme weather, climate action failure, human environmental damage, infectious diseases and biodiversity loss. The perverse subsidies that we have allocated to activities which are harming, if not destroying, entire habitats and ecosystems are at the root of

the crisis and must undergo a dramatic shift[20]. To achieve the 2030 mission of putting nature on a path to recovery and the 2050 UN vision of "living in harmony with nature" governments must redirect all economic incentives towards nature-positive practices, as well as dedicate a substantial new number of resources to protect and restore biodiversity[21].

This shift has gained political momentum over the last few years, both at regional and international level. The Parties to the UN Convention on Biological Diversity are indeed discussing targets to align their economic and financial systems to the objectives of the Post-2020 Global Biodiversity Framework. Furthermore, in an unprecedented decision[22], the United Nations decided to include nature contributions in their framework measuring economic prosperity and human well-being.

At the EU level, the von der Leyen Commission has placed the environment at the heart of its mandate through the European Green Deal and in the shaping of the Next Generation EU. As a testimony of that, the EU Biodiversity Strategy[23] to 2030 commits to dedicate at least €20 billion a year to nature, a significant proportion of the 25% of the EU budget dedicated to climate action to biodiversity and nature-based solutions, as well as establishing a dedicated natural-capital and circular-economy initiative capable of mobilising at least €10 billion over the next 10 years under the InvestEU scheme[24]. The National Recovery Plans, on the other hand, will have to set aside at least 37% of their total to the green transition[25].

The European Union is also showing its will to better finance biodiversity with the new Multiannual Financial Framework (the EU budget) which from 2024 will spend 7.5% of the annual EU budget on biodiversity and from 2026, this biodiversity expenditure will rise to 10%.[26] Nonetheless, everything that shines isn't always gold. Stark resistances towards a nature-positive economy are at work to prevent changing an economic model which is favouring specific actors, as in the case of the EU sustainable finance platform[27].

Staying within planetary boundaries

The debate on how to achieve and sustain wellbeing while remaining within the planetary boundaries[28] from an ecological and economic perspective, is a fairly rich one. Taking into consideration that economics can be an overwhelming area to get into and in order to help the people entering this space for the first time, in this section we are presenting in a nutshell four sets of concepts that attempt to provide the means for fostering an equitable society, stewarding a healthy planet and moving towards a clean and resilient economy.

As mentioned in our introduction to this booklet, the purpose of these briefs is not only to inform decision-makers about the youth's priorities, but also to support our members that are eager to learn more about how biodiversity interconnects with different areas of policy.

Governing Commons & The Tragedy of the Commons

The economic theory of the "tragedy of the Commons" was introduced to science by Hardin (1968)[29]. It refers to the simple theory that if multiple people have open access to a public resource, they will inevitably deplete it because the individual benefit is much higher than the shared cost. However, there are ways to manage this. Ostrom[30] presented 8 guiding principles for how a common resource can be well managed, including clear definitions for users and non-users which fit to the local social and environmental context and a monitoring system for accountability.

Such principles are in line with custodianship as practiced by Indigenous Peoples who have been better at conserving their lands as government regulated conservation areas[31]. However, the larger the scale of the common resource, the more difficult it is for people to see themselves as part of a custodian community. For example, global commons like the high seas and the atmosphere need effective governance strategies which ensure a sense of ownership and/or ensure the cost to the actors of depleting the resources are greater than the benefits.

Green Growth & Degrowth

Green growth is commonly understood as the theory proposing that economic growth (as measured by GDP) can be decoupled from carbon emissions and exploitation of natural resources[32]. Green growth has been promoted in policy over the last decade, especially after its spotlighting at the 2012 Rio+20 Conference[33,34]. UNEP has strongly proposed that green growth is feasible only with the absolute decoupling between GDP and environmental impact[35].

On the other hand there is degrowth suggesting that throughput (extraction, transport, distribution and use of energy and materials) cannot be reduced to the extent needed to address the biodiversity and climate crises, while maintaining a growing GDP[36,37.] Instead, sustainable degrowth puts forward the idea that it is feasible to achieve both a macro-level transition for economic and political institutions and a micro-level transformation of personal values[38,39]. The growing chorus around degrowth narratives and altering the dependence of our societies on growth measured by GDP - while focusing on well-being, conviviality and social changes towards sufficiency instead of purely technological changes - could offer policymakers the tools and confidence to address both the people's needs and the ecological limits[40,41].

Circular Economy

The European Commission adopted the new Circular Economy Action Plan (CEAP) in March 2020, as a major part of the EU Green Deal to ensure climate neutrality by 2050)[42]. The objective of the CEAP is to accelerate the transition of the economy to a regenerative growth model and sustain all human activities within planetary boundaries[43,44]. According to the Ellen MacArthur Foundation (EMF), the circular economy is "*based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems*"[45].

To connect the theory with the practice, the EMF & Kate Raworth's Doughnut Economics (DE)[46] focus on developing insights and learnings on how to move beyond the current linear economy model. Among other issues to be addressed, the DE & EMF conclusively state that in order to stay within the planetary boundaries, societal and environmental factors need to be embedded in our economic models, the public and private sectors should be reformed to reduce production waste and pollution, as well as to curb the extraction and use of finite resources, and the living systems must be regenerated (DE ActionLab, EMF learning hub)[47,48].

Natural Capital & The Value of Nature

Even traditional economic institutions are starting to realise that the environment is an asset that we have and continue to horribly mismanage, leading us to the ecological crisis of today. The OECD defines[49] natural capital as "Natural assets in their role of providing natural resource inputs and environmental services for economic production", while the Natural Capital Coalition (NCC) has a more nuanced understanding of the context defining it as "the stock of renewable and non-renewable natural resources (e.g., plants, animals, air, water, soils, minerals) that combine to yield a flow of benefits to people"[50]. The Dasgupta review[51] acknowledges how our economies are embedded in nature and not external to it. Another key framework is the Natural Capital Protocol[52], developed by the Natural Capital Coalition, which provides organisations with a methodology to identify, measure and value their direct and indirect impacts and dependencies on natural capital.

The EU has also been quite engaged in developing methods for Natural Capital Accounting[53], for example through its INCA project[54], and most recently the European Commission announced that it would propose the revision of the Regulation on European Environmental Economic Accounts (EEEA)[55] to expand its coverage to include a new module on natural capital accounting, following the recommendation[56] of the European Court of

Auditors. While some fear that renaming nature with economic terms will further distance us from an ecocentric view of our planet, those in favour of INCA see it as an opportunity to make nature conservation more appealing to other sectors and stimulate green investments.

Regardless of whether one is in favour or against the financialization of nature, it is clear that natural capital accounting has been systematically and grossly undervaluing the value of nature, natural resources and ecosystem services, with major impacts on decision making[57].

Case study: the pollinators of Europe

Animal pollinators (insects, bats, birds) play a key role in maintaining healthy ecosystems, and contribute to food production as crops require animal pollinators[58]. Bees alone provide an ecosystem service in the form of crop pollination estimated to be 22 billion Euros a year in Europe[59]. Our current economic models and financing schemes incentivise practices that are harmful to pollinators. A good example is the oil production with the monoculture of canola, whose yield is increased with bee pollination[60]. While the crop is in full bloom, an enormous part of the landscape will turn yellow, and we can enjoy looking at and taking pictures of.

However, for pollinators, there is a bitter-sweet consequence. When the fields all bloom at once there is a bee buffet. After blooming, an incredibly extensive area in the landscape is left with nothing, meaning that bees will starve unless nearby food sources (e.g., pockets of natural vegetation, or other flowering crops) are made available within reaching distance from their nest (depending on the bee species and their size, they can travel up to 500 m and 1.5 km)[61]. Due to pesticide use, climate change and habitat loss, insects (and therefore many pollinators) have been dramatically declining. Politicians, businesses and the public are realising the dire consequences this can have environmentally and economically. Multiple citizen engagement initiatives, new policies and business collaborations are attempting to tackle this issue, including the EU pollinators initiative and the IUCN Guides to Conserving Pollinators [62].

GYBN Europe Priorities

Moving beyond green growth

Building upon a growing literature that points out the lack of evidence for the potential of an absolute decoupling of GDP growth from all environmental impact, GYBN Europe supports that policy makers in Europe should explore ecological, including but not limited to biodiversity conservation and restoration, as well as social welfare paradigms that shift away from a GDP focused economic growth. Echoing the 2019 EEB publication "Decoupling Debunked", GYBN Europe urges European policy makers to encourage the developing diversity of alternative discourses to the green growth narrative. Such an endeavour could potentially support policy makers with novel tools to design, implement and evaluate ambitious policies, in order to foster and pursue sufficient and transformative change.

Redirecting harmful subsidies

It is not feasible to reform our economic system in a way that benefits biodiversity and human wellbeing if governments and international institutions continue to derogate harmful subsidies to biodiversity. GYBN Europe, is calling for an immediate halt to all incentives and subsidies across all sectors, including but not limited to mining, oil and gas extraction, food production and others, that do not have a positive impact on nature and redirect them to nature conservation and restoration. In establishing which activities should not be supported, both direct and indirect drivers of biodiversity loss should be addressed.

Addressing production & consumption

Among the themes put forward by young people around Europe that contributed to GYBN Europe's report "A Summary of the European Youth Perspective on Biodiversity" is addressing unsustainable production and consumption as one of the main drivers of biodiversity loss and ecosystem degradation. GYBN Europe encourages policy makers to

introduce regulations, laws and nature-positive incentives that can address the unsustainable production practices of several sectors, including but not limited to food systems, transportation and energy sources, that harm the European landscapes and seascapes as well as contribute to externalizing land demands through trade deals. At the same time policies and regulations should make sustainable choices more affordable to all and support European citizens in having access to transparent information.

Intergenerational Equity

We, as young people in Europe, believe in the fundamental importance of ensuring that all European policies of the present and future put at the centre the principles of intergenerational equity.

We understand intergenerational equity as recognizing that we have only one planet and that we shall share it with past, present and future generations. Therefore, all generations hold the responsibility of passing on to their successors a planet that is, at least, not in a worse condition than how it was inherited. Intergenerational equity means, in other words, to ensure justice among generations in the way we conserve our environment and use its natural resources. We must operate on a principle of no harm, as otherwise this would mean that those that live today on the planet and those who will come after us have to live with the negative consequences of such actions.

The world we inherited, a world in the middle of an only worsening climate and biodiversity crisis, is the result of decades of political decisions that did not take intergenerational equity into account. Past and present generations of decision-makers have legislated and continue to legislate in ways that perpetuate discourses and actions that put profit over people and nature.

Now, more than ever, we need genuine, transformative change. It must no longer be acceptable that the decisions we take today harm those who live on the planet today and those that will come after us; that we do not take responsibility for our impact on our planet. We need all policies in Europe, across all sectors and at all levels, to carry the principles of intergenerational equity at their core, as only then will we live in a truly sustainable and fair region.

This set of policy briefs reflect a first approach to conceptualize our vision on how to do so. These are our recommendations on how to ensure that the European region moves away from business-as-usual and takes instead into account the rights of the younger generations and those yet to come.

These policy briefs are our current vision for an intergenerationally equitable Europe.

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