
Pursuing Environmentally Sustainable Public Policies and Economic Activities: The EU Taxonomy Regulation

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Abstract: The effective and integrated response to critical contemporary global challenges, including sustainable recovery from the adverse effects of the pandemic crisis, depletion of natural resources, climate change and green transition, requires the adoption of coherent and forward-looking public policies and comprehensive implementing means and criteria. It necessitates the establishment of sustainable financing instruments and the reorientation of economic activities and investments into projects and actions that promote sustainable, resilient and inclusive growth. The utmost objective of this article is to highlight the fundamental principles, primary objectives and key financial aspects of the regulatory regime established by the EU Taxonomy Regulation, governing the classification of the environmentally sustainable economic and investment activities within the European Union. A detailed examination of the EU Taxonomy Regulation allows useful conclusions to be drawn about the form, content and multi-dimensional nature of the criteria and conditions on the basis of which the degree of environmental sustainability of public policies which set environmentally sustainable standards and requirements, and economic activities and investment projects based on them, are laid down and determined. Particular emphasis is placed on capturing and sketching the contribution a uniform system for classifying environmental economic activities can make to meeting a set of critical environmental goals and priorities set at global and EU level, relating to climate change mitigation and adaptation, protection and restoration of biodiversity and ecosystems, sustainable use of natural resources, and the circular economy. Drawing methodologically on the examination of the EU Recovery and Resilience Facility (RRF) and its consistency and interlinkages with the primary objectives and principles of the EU Taxonomy Regulation, the article seeks to enrich the scholarly debate and explore the extent and the degree to which key environmentally sustainable criteria, standards and requirements, are reflected and integrated in the process of designing, formulating and assessing structural reforms and public investments to be embedded in the national recovery and resilience plans of the EU Member States.

Keywords: Environmentally Sustainable Economic Activities, Sustainable Investments, EU Taxonomy Regulation, Do No Significant Harm Principle, EU Recovery and Resilience Facility (RRF), Recovery and Resilience Plans

1. Introduction

The global recovery from the adverse effects of the pandemic crisis, the building of resilient economies and societies and the integrated treatment of both climate change and depletion of natural resources, presupposes the adoption and implementation of all-encompassing and forward-looking public policies, at global and national level, supported by sustainable financial instruments fostering the promotion of sustainable economic activities and investments. A great number of international legal instruments and policy frameworks, including the Paris

Agreement [1, 2], the United Nations Sustainable Development Goals (SDGs) [3-6], and the European Green Deal [7-9], – lay the foundation for the guidance framework for a transition to more integrated sustainable development governance systems, the adoption of complementary policies and implementing means, the establishment of sustainable financing instruments, as well as the reorientation of economic activities and investments into projects and actions that foster sustainable, resilient and inclusive growth [10, 11]. At the heart of this guidance framework is the importance and added value of consolidating the environmental dimension of sustainable development in all public policies

and the initiatives and actions deriving from them, and of linking and creating cohesion between a series of environmental objectives and priorities set at global, regional and national level, with a series of other economic and social objectives and initiatives [3].

The consolidation of climate-resilient and resource-efficient development, along with the transition to a climate-neutral, competitive, innovation-friendly and circular economy, necessitates the formulation of coherent, coordinated and complementary public policies and requires measures and initiatives to be implemented which contribute, among other things, to multiple environmental objectives and promote the environmental dimension of sustainability in line with a wide range of international environmental agreements, relevant EU legislative and policy frameworks and national regulations. Given the multi-faceted nature of environmental issues, a comprehensive, integrated approach to environmental sustainability is needed so that both public policies and measures and activities based on them also address issues relating to biodiversity and ecosystem protection, climate change, the reduction of pollution and the shrinkage in natural resources [12, 13]. However, in order to properly evaluate and assess the contribution public policies are making to sustainable development from an environmental viewpoint, there needs to be a uniform understanding as well as an overall –rather than fragmented– approach to the extent to which the initiatives and actions based on them are considered to be environmentally sustainable and based on environmentally sustainable standards and requirements.

In this context, it is vitally important to establish, at cross-border or national level, a coherent framework of uniform criteria and requirements that determine the degree and extent of environmental sustainability of the activities undertaken to implement public policies, in the form of sustainable structural reforms, economic activities and investments. In light of that, classifying both policy measures which lay down legal and technical requirements for the operation of the economy and financial markets, and economic activities and investment projects themselves, based on a clearly defined, common set of criteria relating to environmental sustainability, is a valuable tool for the entire international community –states, international institutional entities and economic operators– in their efforts to contribute to sustainable, resilient and inclusive growth. It provides recipients of public policies, such as businesses and investors, with a clear, transparent, comparable and integrated sustainability framework which allows them to adjust and fully align their governance model with the critical environmental imperatives of sustainable development, drawing on the benefits of sustainable financing [14].

Against this background and in the context of shaping an overarching strategy for financing activities and actions that support the sustainable and inclusive development, on 8 March 2018 the European Commission adopted an Action Plan on Financing Sustainable Growth [15]. The Action Plan proposes a comprehensive roadmap setting out a number of policy actions and initiatives aimed at further interlinking

economic activities and the operation of the whole financial system within the EU with the environmental dimension of sustainability¹. It was adopted with the view to improving the enabling environment for the public and the private sector to facilitate the green and sustainability transition of public policies and economic and investment activities, in line with the EU's policy and legislative framework on sustainable development², the Paris Agreement and the UN Sustainable Development Goals (SDGs). Among other things, the focus of the Action Plan's objectives is the reorientation and the shift of capital flows towards more sustainable activities, investments and financial systems³. In order to achieve this objective, the Action Plan called for the establishment of a common and unified classification system identifying and determining the activities and actions, which are considered environmentally sustainable and contribute to a broad range of widely-supported environmental objectives. Based on the recommendations provided by the Action Plan, the European Union proceeded to establish a unified and comprehensive regulatory regime, reflected in the Regulation (EU) 2020/852 governing the classification of the environmentally sustainable economic activities and investment projects.

The overriding objective of this paper is to highlight the fundamental principles, primary objectives and key financial aspects of the regulatory framework contained in Regulation (EU) 2020/852 which governs the carrying out of environmentally sustainable economic and investment activities within the European Union. A detailed, yet targeted, examination of the Regulation allows useful conclusions to be drawn about the form, content and multi-dimensional nature of the criteria and conditions on the basis of which the degree and extent of environmental sustainability of public policies which set environmentally sustainable standards and requirements, and economic activities and investment projects based on them, are laid down and determined. Particular emphasis is placed on capturing and sketching the contribution a homogenised, uniform system for classifying environmental economic activities can make to meeting a set of critical environmental goals and priorities set at global and EU level, relating to climate change mitigation and adaptation, protection and restoration of biodiversity and ecosystems, sustainable use of natural resources, and the circular economy. In this context, this paper focuses on the added value that one of the fundamental principles on which the regulatory regime under the EU Taxonomy Regulation operates –the principle of 'do

¹ The EU Action Plan on Financing Sustainable Growth (2018) was based on a set of recommendations included in a report produced on 31 January 2018 by a High-Level Expert Group on sustainable finance (HLEG). This HLEG, which was established in 2016 by the European Commission, was comprised by 20 senior experts coming from academia, the financial sector, civil society and international and EU institutions.

² This includes, among others things, the EU 2030 Energy and Climate framework, the Energy Union, the Circular Economy Action Plan.

³ Other key objectives of the Action Plan, include: (i) mainstreaming sustainability into the management of financial risks associated with environmental degradation and climate change, and (ii) fostering transparency and long-termism in economic activities and the functioning of financial systems.

no significant harm⁷— generates for comprehensively assessing the scope and objectives of an environmentally sustainable activity. Drawing methodologically on an examination of the EU Recovery and Resilience Facility (RRF), established by the EU to support sustainable and public investments in its Member States, and its consistency and interlinkages with the overarching principles and objectives of the EU Taxonomy Regulation, the paper seeks to enrich the scholarly debate and shed light on the extent and the degree to which key environmental sustainability criteria, standards and requirements, are reflected and integrated in the process of designing, formulating and assessing structural reforms and public investments to be embedded in the national recovery and resilience plans of the EU Member States.

The outline of this paper is as follows: Section 2 provides an overview of the core purpose, scope, key environmental objectives and fundamental principles of the EU Taxonomy Regulation [Regulation (EU) 2020/852] governing the classification of the environmentally sustainable economic activities, focusing on the principle of "do no significant harm". Section 3 constitutes the empirical part of the paper, paying specifically attention to the way in which the primary objectives and fundamental principles of the EU Taxonomy Regulation are integrated into and applied in the regulatory regime established by the EU Recovery and Resilience Facility (RRF), including the recovery and resilience plans adopted by the EU Member States to foster sustainable reforms and public investments. The final section draws some conclusions about the instrumental role played by the unified EU classification system in advancing environmentally sustainable economic activities and achieving overarching environmental objectives, and sets out some recommendations for future research in this field.

2. The EU Taxonomy Regulation

2.1. Main Purpose and Scope

On 22 June 2020, the European Union (EU) adopted the Regulation (EU) 2020/852 on the establishment of a framework to facilitate sustainable investment (hereinafter «EU Taxonomy Regulation») [16]. The EU Taxonomy Regulation, which entered into force on 12 July 2020, establishes the world's first common classification system for sustainable economic activities and investment operations, on the basis of distinct and uniform criteria and requirements. It sets out a clearly defined framework for identifying and understanding activities and actions which are considered to be environmentally sustainable and contribute to achieving environmental objectives, for the benefit of both the decision makers and of the investors and companies, in their effort to promote the environmental dimension of sustainability. The regulatory regime set out by the EU Taxonomy Regulation lays the foundation for: formulating policies and adopting legislative measures, which support sustainable, resilient and inclusive development, consistent with the scope and objectives of international legal and policy

frameworks for sustainable development; cultivating a secure, clear and transparent regulatory environment for private investors and companies; reorienting investment funds towards projects which stand out for their particularly positive impact on the climate, natural resources and the environment; adapting financial system - services and products - to sustainable financing and the pursuit of environmental objectives; and enhancing the resilience of economies and societies in addressing the adverse and multidimensional effects of environmental and climate crises. The EU Taxonomy Regulation lies at the core of the legislative acts of the EU, which play an instrumental role in achieving the climate and energy objectives of the European Green Deal (2019)[7], the new growth strategy of the EU that lays the groundwork for making Europe the first climate-neutral continent in the world by 2050⁴.

The primary objective of the EU Taxonomy Regulation is to identify and determine a common framework of criteria and requirements, on the basis of which it can be presumed whether, and the degree to which, one or several economic and investment activities pursued within the European Union, are considered environmentally sustainable⁵. This common framework of criteria will be applied to measures adopted by the EU or its Member States, when introducing standards and requirements at national and EU level for the conduct of economic activities, and to enterprises and investors participating in the financial markets. In particular, as defined in Article 1 (2) of the EU Taxonomy Regulation: «This Regulation applies to: (a) measures adopted by Member States or by the Union that set out requirements for financial market participants or issuers in respect of financial products or corporate bonds that are made available as environmentally sustainable; (b) financial market participants that make available financial products; and (c) undertakings which are subject to the obligation to publish a non-financial statement or a consolidated non-financial statement»⁶. The key criteria established by the EU Taxonomy Regulation that an investment and economic activity has to fulfil in order to qualify as environmentally sustainable fall into four main categories. In particular, it should be proved that an economic and investment activity⁷: (i) plays an instrumental role and contribute substantially to the achievement of at least one of a set of environmental objectives laid down in Article 9 of the EU Taxonomy Regulation, (ii) does not significantly harm any of the environmental objectives set out in Article 9, (iii) is

⁴ The European Green Deal, which was adopted by the European Commission in 2019, constitutes the EU's new growth strategy EU, setting out a number of policy initiatives and measures aimed at transforming the EU into a climate-resilient, climate-neutral, resource-efficient and competitive economy, decoupling economic growth from environmental degradation and resource use, and ensuring a fair, prosperous and inclusive society.

⁵ Article 1 (1) of the EU Taxonomy Regulation (EU) 2020/852.

⁶ Directive 2013/34/EU of the European Parliament and of the Council of 26 June 2013 on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings, amending Directive 2006/43/EC of the European Parliament and of the Council and repealing Council Directives 78/660/EEC and 83/349/EEC (OJ L 182, 29.6.2013).

⁷ Article 3 of the EU Taxonomy Regulation (EU) 2020/852.

conducted in compliance with a number of minimum - mainly social - safeguards provided by the EU Taxonomy Regulation⁸, (iv) and complies with a framework of technical screening criteria to be adopted by the European Commission for the purpose of assessing the substantial contribution or the significant harm of an economic activity⁹.

2.2. Key Environmental Objectives

On the basis of the EU Taxonomy Regulation, determination of the environmental sustainability of an economic activity and an investment project is based on a comprehensive assessment of the degree to which a set of environmental objectives enshrined in global, EU and national legal and policy instruments have been achieved. These environmental objectives are inextricably linked with issues related to: the mitigation and adaptation to climate change, the protection and sustainable management of marine and water resources, the transition to sustainable patterns of production and consumption, in line with the circular economy model, the prevention and control of various forms of pollution, and the protection, conservation and restoration of biodiversity and ecosystem services. Specifically, as stipulated explicitly by Article 9 of the EU Taxonomy Regulation: «For the purposes of this Regulation, the following shall be environmental objectives: (a) climate change mitigation; (b) climate change adaptation; (c) the sustainable use and protection of water and marine resources; (d) the transition to a circular economy; (e) pollution prevention and control; (f) the protection and restoration of biodiversity and ecosystems».

2.2.1. Climate Change Mitigation

For the purpose of considering the valuable contribution of

⁸ According to Article 18 of the EU Taxonomy Regulation and paragraph 35 of its preamble, in order for an investment and economic activity to be characterized as environmentally sustainable, it should be in line with the principles of the European Pillar of Social Rights (2017) and consistent with a broad range of international labour and human rights related guidelines agreed in the context of the United Nations, the International Labour Organisation and the Organisation for Economic Cooperation and Development.

⁹ The technical screening criteria, which are subject to regular revisions by the European Commission, serve to specify the performance requirements for any investment and economic activity that estimate and consider under which conditions that activity: contributes substantially to one of the environmental objectives of the EU Taxonomy Regulation, and does not cause significant harm to all the other environmental objectives. Article 19 (1) of the EU Taxonomy Regulation lays down a comprehensive list of requirements for the establishment of the technical screening criteria. According to this list of requirements, the technical screening criteria shall, among others things: i) identify the most relevant potential contributions to one of the environmental objectives of the EU Taxonomy Regulation, ii) determine the minimum necessary requirements to avoid significant harm to the relevant environmental objectives, iii) include quantitative and qualitative parameters, iv) utilize sustainability indicators, v) take into consideration the scale and nature of an economic activity, vi) be based on high-quality and conclusive scientific information and the precautionary principle, vii) take into account the whole life cycle of an economic activity, viii) include all relevant economic activities within a specific sector, and ix) be defined in a manner that facilitates the evaluation of their compliance. The technical screening criteria should be based on the recommendations and input received by a Multi-stakeholder Platform on Sustainable Finance established by the European Commission, under Article 20 of the EU Taxonomy Regulation.

an economic activity to the mitigation of climate change, that activity shall play a prominent role in stabilizing the greenhouse gases emissions, through avoiding or reducing them or increasing their removals. Within this framework, any investment and economic activity carried out within the EU should be entirely in line and consistent with the overarching objectives of the mitigation regime enshrined in the Paris Agreement, including above all its long-term temperature goal¹⁰. In parallel, the environmental objective of mitigating the climate change, in the context of an economic activity, should be approached and interpreted in accordance with the relevant legislative framework of the EU¹¹. In particular, as provided for in Article 10 (1) of the EU Taxonomy Regulation, an investment and economic activity should qualify as supporting substantially the mitigation of climate change where that activity promotes: «the generation, transmission, storage and distribution or use of renewable energy, the improvement of energy efficiency¹², the increase of climate-neutral and clean mobility, the transition to sustainably sourced renewable materials, the use of environmentally safe carbon capture and utilisation (CCU) and carbon capture and storage (CCS) technologies, the strengthening of land carbon sinks, including through avoiding deforestation and forest degradation, restoration of forests, sustainable management and restoration of croplands, grasslands and wetlands, afforestation, and regenerative agriculture, the creation of sustainable energy infrastructure, or the production of efficient and clean fuels from renewable or carbon-neutral sources».

In order to assess and evaluate the impact of an economic activity on the achievement of the environmental objective of climate change mitigation, the European Commission is adopting a set of technical screening criteria in the form of delegated acts. In effect, based on those criteria it will be possible to determine the degree and extent to which an economic activity contributes to climate change mitigation or the corresponding worsening of the overall environmental objectives of the EU Taxonomy Regulation¹³. On 4 June 2021, the European Commission adopted the first delegated act on sustainable activities for climate change adaptation and mitigation objectives¹⁴. Annex I of that delegated act sets

¹⁰ According to Article 2 (a) of the Paris Agreements, the primary long-term objective of the agreement is to hold the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

¹¹ This includes, among others, Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006, OJ L 140, 5.6.2009, and Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources, OJ L 328, 21.12.2018.

¹² In this regard, the EU Taxonomy Regulation exempts those energy production activities that utilise solid fossil fuels as they are not considered environmentally sustainable activities.

¹³ Article 10 (3) of the EU Taxonomy Regulation (EU) 2020/852.

¹⁴ European Commission, Commission Delegated Regulation (EU) .../... supplementing Regulation (EU) 2020/852 of the European Parliament and of the

out all technical control criteria which are necessary: to lay down the conditions and requirements under which an economic and investment activity is considered to play a key role in mitigating climate change, and to determine the extent of the significant harm that this economic and investment activity may entail in relation to any of the other environmental objectives of the EU Taxonomy Regulation. The main sectors of economic activity covered by the technical criteria for controlling the achievement of the climate change mitigation target, include: forestry, manufacturing, energy, water supply, sewerage, waste management and remediation, transport, construction and real estate activities, information and communication, and professional, scientific and technical activities.

2.2.2. Climate Change Adaptation

Likewise, an investment and economic activity which seeks, among other things, to achieve the objective of adapting to climate change must ensure a significant reduction or prevention of the negative impact of existing or expected climate conditions on both man, natural resources and assets and on the activity itself¹⁵. The main guidance framework for interpreting and approaching this objective will be the overall EU legislative framework governing climate change at EU level and the Sendai Framework for Disaster Risk Reduction (2015-2030) at international level¹⁶. Assessment and ranking of adaptation initiatives and actions should be based in each case on the use of best available data and information relating to the climate. In this context, it is particularly important to outline and evaluate the negative impact of climate change in relation to the specific location, environment and specific context within which an economic activity is carried on¹⁷.

As in the case of climate change mitigation, the assessment of the positive or negative impact of an economic activity on climate change adaptation is based on a set of technical screening criteria, which are adopted by the European Commission in the form of delegated acts. Based on these criteria, it is possible to determine either the major contribution of an economic activity to adaptation to climate change or the potential significant harm it entails on one or more of the other environmental objectives of EU Taxonomy Regulation. On the basis of the delegated act on sustainable activities for climate change adaptation and mitigation objectives, which was adopted by the European Commission on 4 June 2021¹⁸, a framework of technical screening criteria has been laid down for economic activities that are positively or negatively linked to achieving the goal of adaptation to

climate change. These activities, which are listed in Annex II of the delegated act, include, among other things: manufacturing, energy, water supply and waste management, transport, construction and real estate activities, and professional, scientific and technical activities.

2.2.3. Sustainable Use and Protection of Water and Marine Resources

According to Article 12 of the EU Taxonomy Regulation, an economic activity makes a decisive contribution to the protection and sustainable use of marine and water resources through a series of individual objectives. These objectives, which must be in line with and compatible with a series of EU environmental legislation¹⁹, are intimately bound up with the good condition of surface and ground waters, the prevention of pollution of water bodies, and the quality level and good status of marine waters. The positive or negative impact of an economic activity on marine and water resources will be presumed by analysing and evaluating the contribution of that activity to individual environmental aspects associated with the marine and water system²⁰.

In this context, economic activity should contribute to protecting the marine and water environment from the harmful impacts of industrial and urban wastewater discharges, including microplastics and pharmaceutical residues and products. At the same time, special care should be taken to ensure that any investment and economic activity does not have a negative impact on human health from potential pollution of drinking water and the introduction of hazardous substances and micro-organisms into it. In addition, it should be ensured that different economic activities play a key role in enhancing efficiency and improving water management through: long-term protection and sustainable use of water and marine resources and systems, reduction of polluting substances in ground and surface waters, and mitigation of the impacts of droughts and floods. Lastly, particular importance should be attached to the interface between economic activity and protection of the marine environment and ecosystem, focusing primarily on ensuring sustainable management of marine ecosystem services and on preventing and limiting the introduction of

Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives, C(2021) 2800, 4.6.2021.

¹⁵ Article 11 of the EU Taxonomy Regulation (EU) 2020/852.

¹⁶ UN General Assembly, Sendai Framework for Disaster Risk Reduction 2015–2030, A/RES/69/283, 3 June 2015.

¹⁷ Article 11 (2) of the EU Taxonomy Regulation (EU) 2020/852.

¹⁸ See footnote 14.

¹⁹ Examples of these EU legislative acts, include: Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC (OJ L 354, 28.12.2013), Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000), Directive 2006/7/EC of the European Parliament and of the Council of 15 February 2006 concerning the management of bathing water quality and repealing Directive 76/160/EEC (OJ L 64, 4.3.2006), Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration (OJ L 372, 27.12.2006), Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive) (OJ L 164, 25.6.2008).

²⁰ Article 12 (1) of the EU Taxonomy Regulation (EU) 2020/852.

harmful pollutants into the marine environment²¹.

2.2.4. *The Transition to a Circular Economy*

Identifying and evaluating the impact and contribution of an economic activity to the transition to sustainable production and consumption standards, in the context of circular economy, lies at the heart of the environmental objectives set out in the EU Taxonomy Regulation. It is a fact that investment and economic activity and its entire lifecycle are intimately bound up with various important environmental aspects and dimensions of the circular economy, which are highlighted and enshrined in law in a wide range of EU legislative acts²². As stressed in Article 13 (1) of the EU Taxonomy Regulation, achieving the transition to the circular economy in the context of an economic activity requires that natural resources be used throughout the entire production process in a sustainable and efficient manner, by limiting the use of primary raw materials or by increasing the use of secondary raw materials and by-products, as well as by ensuring energy efficiency. Moreover, in order for an economic activity to be characterised as 'environmentally sustainable' for the purposes of the circular economy, it must be based on production models that promote the durability, reuse, reconstruction and upgrading of products, and ensure that the amount of harmful ingredients and substances in products and manufacturing materials, in particular, is limited.

At the same time, an assessment of the positive or negative impact of an economic activity in relation to achieving the goal of transition to a circular economy must also be evidenced by the extent to which it contributes to the adoption of business models that promote both product and waste recycling, encourage the use of secondary raw materials and avoid waste generation. Lastly, emphasis is placed on the need for economic activities to be guided by the prevention and reduction of waste generation over the entire life cycle of a product (e.g. production, processing, packaging) and by the development of innovative waste management infrastructure²³.

²¹ The EU delegated act regarding the technical screening criteria for determining the contribution of an economic activity to the objective of sustainable use and protection of water and marine resources will be adopted by the European Commission in 2022.

²² The main EU legislative acts on circular economy, include, among others: Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste (OJ L 190, 12.7.2006), Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (OJ L 312, 22.11.2008), Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) (OJ L 334, 17.12.2010), Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (OJ L 174, 1.7.2011), Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment (OJ L 155, 12.6.2019), and Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste (OJ L 182, 16.7.1999).

²³ The EU delegated act on the technical screening criteria for determining the contribution of an economic activity to the objective of the transition to a circular economy will be adopted by the European Commission in 2022.

2.2.5. *Pollution Prevention and Control*

In accordance with Article 14 of the EU Taxonomy Regulation, the measures and actions taken in the context of carrying on an economic activity must be compatible with the achievement of a series of primary objectives associated with the control and prevention of environmental pollution, which are enshrined in EU environmental legislation²⁴. These objectives include preventing and reducing the production of harmful emissions of pollutants other than greenhouse gases into air, water or land, and ensuring a high level of protection and improvement of the quality of air, water and land. At the same time, any investment and economic activity which seeks, inter alia, to achieve the objective of preventing and controlling pollution should ensure: the prevention or minimisation of any adverse impact on human health and the environment of the production, use or disposal of various harmful chemicals, and the avoidance and, where necessary, removal of all forms of pollution, and in particular waste²⁵.

2.2.6. *Protection and Restoration of Biodiversity and Ecosystems*

On the basis of the regulatory regime established by the EU Taxonomy Regulation, the environmental sustainability of an economic activity and an investment project must be evaluated and determined based on its contribution to protecting, maintaining and restoring biodiversity and improving the quality of ecosystems²⁶. To achieve this environmental objective, which is legally enshrined in a wide range of EU legislative acts²⁷, all economic and investment activities must

²⁴ The relevant EU legislation, includes, among others: Directive 2004/35/EC of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage (OJ L 143, 30.4.2004), Directive 2004/107/EC of the European Parliament and of the Council of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air (OJ L 23, 26.1.2005), Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe (OJ L 152, 11.6.2008), Directive (EU) 2016/802 of the European Parliament and of the Council of 11 May 2016 relating to a reduction in the sulphur content of certain liquid fuels (OJ L 132, 21.5.2016), Directive (EU) 2016/2284 of the European Parliament and of the Council of 14 December 2016 on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC (OJ L 344, 17.12.2016).

²⁵ The EU delegated act on the technical screening criteria for determining the contribution of an economic activity to the objective of the pollution prevention and control will be adopted by the European Commission in 2022.

²⁶ Article 15 of the EU Taxonomy Regulation (EU) 2020/852.

²⁷ The EU legislation on the protection and restoration of biodiversity and ecosystems, comprises, among others, the following legislative acts: the Regulation (EU) No 511/2014 of the European Parliament and of the Council of 16 April 2014 on compliance measures for users from the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union (OJ L 150, 20.5.2014), Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014), Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (OJ L 20, 26.1.2010), Council Regulation (EC) No 338/97 of 9 December 1996 on the protection of species of wild fauna and flora by regulating trade therein (OJ L 61, 3.3.1997), Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (OJ L 206, 22.7.1992).

meet certain specific criteria and environmental protection standards. At the heart of these specifications lies the need to ensure that an economic activity contributes to: maintaining the good quality of natural habitats and marine and terrestrial ecosystems, preventing their degradation, and bolstering and enhancing their capacity to provide ecosystem services. Moreover, care should be taken so that all economic activity is based on the use of sustainable agricultural methods and practices and seeks overall to ensure sustainable management and use of land. In this context, particular importance is attached to the contribution economic activities make to a high level of protection and improvement of the quality of forests and vulnerable ecosystems, and to the rational, sustainable use of forested areas²⁸.

2.3. The “Do No Significant Harm” Principle (DNSH)

One of the fundamental principles on which the regulatory regime established by the EU Taxonomy Regulation is based is the principle of «do no significant harm» (hereinafter «DNSH principle»), from an environmental viewpoint, from carrying on an economic activity. This principle is based on and explained in detail in Article 17 of the EU Taxonomy Regulation, which sets out a series of conditions and requirements from which the degree and extent of degradation of the environmental objectives contained in the Regulation by an economic activity can be determined. The overall application of the principle, and in particular the procedure for determining and laying down the conditions for environmental degradation, focuses on two aspects: capturing and evaluating the potential harm both from the economic and investment activity itself and from services and products deriving from it over their entire life cycle (production, processing, sale, use). The harm done by an economic activity, in relation to the environmental objectives set out in the EU Taxonomy Regulation, will be assessed using technical screening criteria, established by the European Commission to assess the positive environmental contribution of an economic activity²⁹.

In relation to the two climate objectives contained in the EU Taxonomy Regulation (climate change mitigation and adaptation), the harmful effect of economic activities must be determined and evaluated based on whether two conditions are met: the contribution economic activities make to increasing the production of greenhouse gas emissions, thereby harming the mitigation objective, and to increasing the negative impact of existing and expected climate conditions on natural resources, man and the activities themselves, thereby undermining the adaptation objective. Likewise, when it comes to the objective of protecting and ensuring sustainable use of marine and water resources, application of the «do no significant harm» principle is intimately bound up with an assessment of the extent to

which an economic activity has a negative impact on the ecological potential and status of both marine waters and groundwater and surface water systems.

As far as the interlinkages between economic activities and the circular economy are concerned, the EU Taxonomy Regulation focuses on three conditions for determining the harmful impacts of those activities. In light of those conditions, an economic activity harms the transition to the circular economy if it contributes to: the insufficient use of natural resources and materials, to the detriment of the durability, upgradability or recyclability of the products made; increased production, incineration and disposal of waste; and continuous, long-term and environmentally harmful waste disposal. As far as the objective of preventing and controlling pollution is concerned, particular importance should be attached to assessing the extent to which economic activities are responsible for increasing levels of pollutants harmful to the environment into the air, water, or land. Lastly, the EU Taxonomy Regulation highlights two key conditions to be used to analyse and evaluate the harmful impact of an economic activity on biodiversity and ecosystems. These conditions are associated with the extent to which each investment and economic activity has a negative impact on: the resilience and good condition of ecosystems, and the protection and conservation of natural habitats and their species.

3. The Case of the EU Recovery and Resilience Facility (RRF)

3.1. The RRF Regulation

On 2 February 2021, the European Union adopted the Regulation (EU) 2021/241 establishing a comprehensive and innovative financial instrument to support sustainable reforms and public investments in its Member States, known as the Recovery and Resilience Facility (hereinafter «RRF»)³⁰. The primary general objective of the RRF, which entered into force on 19 February 2021, is to provide the EU Member states with direct and wide-ranging financial support, in the form of loans and grants³¹, to deal with the devastating social and economic effects of the coronavirus pandemic, ensuring a sustainable, inclusive and resilient recovery of the EU tailored to the green and digital transition and the social, territorial and economic cohesion of the EU³². By providing financial support to the EU Member States and the achievement of its primary objectives, RRF is attempting to cover six (6) fundamental policy areas which lie at the core of the EU's strategic priorities and objectives. According to Article 3 of the Regulation (EU) 2021/241, these policy areas are linked to: (a) the green

²⁸ The EU delegated act on the technical screening criteria for determining the contribution of an economic activity to the objective of the protection and restoration of biodiversity and ecosystems will be adopted by the European Commission in 2022.

²⁹ See footnote 9.

³⁰ Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility, OJ L 57, 18.2.2021.

³¹ The RRF will provide the EU Member States with of €723.8 billion (at current prices) to financially support reforms measures and investments initiatives. Of this amount, €338 billion will be in the form of grants and €385.8 billion in the form of loans.

³² Article 4 of the Regulation (EU) 2021/241.

transition, (b) digital transformation, (c) smart, sustainable and inclusive growth, including economic cohesion, jobs, productivity, competitiveness, research, development and innovation, and a well-functioning internal market with strong SMEs, (d) social and territorial cohesion, (e) health, and economic, social and institutional resilience, crisis preparedness and crisis response capacity, and (f) policies for the next generation, children and the youth, such as education and skills.

Based on the regulatory regime established by the Regulation (EU) 2021/241 (RRF Regulation) and the financial support provided by the RRF, EU Member States are called upon to adopt national recovery and resilience plans (NRRPs) tailored to their specific needs, challenges and priorities³³. Those plans put forward a coherent and comprehensive package of public policy and reform measures along with public investment initiatives to be undertaken by each EU Member State by 31 December 2026³⁴. In particular, all national recovery and resilience plans should provide fully documented data and information about how the proposed reform measures and initiatives are in line with Article 3 of Regulation (EU) 2021/241 and contribute decisively to³⁵: the green transition, focusing on combating climate change and biodiversity loss, in line with the European Green Deal, the Paris Agreement and the UN Sustainable Development Goals (SDGs)³⁶, the digital transformation of economies and societies³⁷, social cohesion, increased employment, promotion of equal opportunities and gender equality; strengthening the economic, social and institutional resilience of each Member State; addressing the adverse effects of the pandemic crisis, and preventing and combating corruption³⁸. The reform measures and investment initiatives proposed by the national recovery and resilience plans are to be assessed by the European Commission, on the basis of specific qualitative and quantitative indicators and criteria translated in specific milestones and targets, and finally approved by the Council of the European Union³⁹.

3.2. *The Integration of the EU Taxonomy Regulation Principles and Objectives*

Achievement of the environmental objectives enshrined in the EU Taxonomy Regulation, and above all the application of the fundamental DNSH principle, lies at the core of the

regulatory regime established by the RRF. The main environmental objectives and priorities of the EU Taxonomy Regulation (such as mitigation and adaptation to climate change, transition to the circular economy, protection and restoration of biodiversity) must be integrated, in a comprehensive and balanced manner, into all reform measures and investment initiatives in the national recovery and resilience plans, which are intimately bound up with the scope and achievement of the central objectives of Regulation (EU) No 2021/241 (the RRF Regulation) such as the green transition, climate neutrality and sustainable development⁴⁰. However, in addition to linking the environmental objectives of the EU Taxonomy Regulation with the RRF Regulation's central objectives, the RRF governance system attaches particular importance to ensuring full compatibility and alignment of national recovery and resilience plans with the primary DNSH principle contained in the EU Taxonomy Regulation. The integration of the DNSH principle into the RRF governance framework can be seen in three important areas that relate to: the RRF's horizontal principles, the content of the national recovery and resilience plans, and the evaluation criteria for them.

In addition to the scope, primary objectives and RRF financing framework, Regulation (EU) 2021/241 also lays down two basic horizontal principles, which must be respected when preparing and implementing national recovery and resilience plans. According to one of these horizontal principles, the reforms and public investments outlined in the national recovery and resilience plans must be undertaken with full respect for the DNSH principle, in line with Article 17 of the EU Taxonomy Regulation. More precisely, as stipulated in Article 5 (2) of the RRF Regulation: «The Facility shall only support measures respecting the principle of “do no significant harm”»⁴¹. At the same time, compliance with the DNSH principle must be duly taken into account by the EU Member States when preparing and drafting national recovery and resilience plans. In this context, the EU Member States should ensure that they provide reliable and documented information in their national plans about the compatibility of the proposed reforms and investments with the DNSH principle. As explicitly laid down in Article 18 (4) (d), the recovery and resilience plans must provide, among other things: «an explanation of how the recovery and resilience plan ensures that no measure for the implementation of reforms and investments included in the recovery and resilience plan does significant harm to environmental objectives within the meaning of Article 17 of Regulation (EU) 2020/852 (the principle of “do no significant harm”)».

In addition, in a later stage, implementation of the DNSH principle is also intimately tied into the process of evaluating recovery and resilience plans by the European Commission. As part of its assessment of the effectiveness, coherence,

³³ Chapter III, Articles 17-21 of the Regulation (EU) 2021/241.

³⁴ The national recovery and resilience plans should be in line with: the annual country-specific recommendations on sustainable growth published by the Europe Commission and endorsed by the Council, the National Reform Programmes, the Just Transition Plans, the Youth Guarantee Implementation Plan, and the National Energy and Climate Plans.

³⁵ Article 18 (4) of the Regulation (EU) 2021/241.

³⁶ As far as the issue of climate change is concerned, it is worth noting that at least 37% of the total expenditure under national recovery and resilience plans should cover climate-related reform measures and investment initiatives.

³⁷ At least 20% of the total money available under national plans should be earmarked for reform measures that promote the digital transition.

³⁸ For an overview of the national recovery and resilience plans of the EU Members States, see: https://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility_en.

³⁹ Article 19 and article 20 of the Regulation (EU) 2021/241.

⁴⁰ Article 3 and article 4(1) of the Regulation (EU) 2021/241.

⁴¹ According to the second horizontal principle, financial support from the mechanism does not replace regular expenditure in national budgets except in duly justified cases, and respects the principle of additionality and complementarity of EU funding.

relevance and efficiency of recovery and resilience plans, the European Commission examines a set of qualitative and quantitative criteria based on the assessment guidelines set out in Annex V. At the core of these criteria and requirements, which primarily relate to relevance, is the need for national plans to comply with and respect the DNSH principle. According to Article 19 (3)(d), the Commission shall examine the degree to which a recovery and resilience plan ensures that no measure or any other initiative undertaken to implement reforms and public investments does significant harm to the environmental objectives enshrined in Article 17 of the EU Taxonomy Regulation.

3.3. Technical Guidance on the Application of the DNSH Principle

In order to support the authorities of the EU Member States in the application of the DNSH principle to the national recovery and resilience plans, the European Commission issued on 12 February 2021 a set of relevant technical guidelines [17]. More specifically, this guidance framework: conceptually defines the DNSH principle in relation to the environmental objectives in the EU Taxonomy Regulation, sets out how it will be implemented and evaluated within the framework of the RRF, explains to the EU Member States how to document and demonstrate the compatibility, coherence and compliance of the measures in the recovery and resilience plans with the DNSH principle, and presents in Annex IV some examples and best practices in relation to how the DNSH principle should be reflected and highlighted in the recovery and resilience plans.

More specifically, based on the key provisions contained in that technical guidance, evaluation and implementation of the DNSH principle relates to all measures and initiatives contained in the national recovery and resilience plans of the EU Member States which are associated both with the green transition and with the other thematic objectives of the plans. In practical terms, this means that compatibility with and compliance with the DNSH principle must be examined exclusively at the level of individual measures and not overall at the level of the national plan or individual thematic aspects of the plan. At the same time, the DNSH principle must be evaluated both in relation to the proposed investment initiatives in the recovery plans and in relation to reforms in various policy areas such as energy, infrastructure, transport and industry. In all events, the evaluation must cover the entire life cycle of an activity deriving from a reform measure or investment.

Moreover, based on the Commission's technical guidance, the EU Member States are given the opportunity to carry out simplified forms of assessments for proposed measures which by their nature and targeting do not have a, or have a limited, potential impact on the environmental objectives of the EU Taxonomy Regulation and therefore have a minimal or negligible relationship with the DNSH principle (e.g. reforms in the labour market, employment and public administration sectors). Moreover, in the context of carrying out assessments about the alignment and compatibility of

recovery and resilience plans with the DNSH principle, the EU Member States should focus both on the direct impacts of a reform or investment during the implementation stage, at project or system level (e.g. production facility, public transport) and its primary indirect impacts at a later stage of implementation (e.g. future pollutant emissions when new road networks are in use).

4. Conclusion

Integrated and effective management of modern global challenges, including sustainable and resilient recovery from the adverse social and economic impacts of the pandemic crisis, requires coordinated, cross-sectoral, complementary and forward-looking public policies to be formulated at all levels of governance (international, EU, national); policies that set uniform and homogeneous implementation criteria and requirements, based on environmental sustainability standards and principles. It also necessitates economic activities and investments to be redirected and adapted to environmentally sustainable business models and projects that significantly favour the environmental dimension of sustainability and make a catalytic contribution towards meeting critical environmental goals and priorities, set at global, EU and national level.

This paper indicates that the adoption by the EU of Regulation (EU) 2020/852 on the establishment of a framework to facilitate sustainable investment (the EU Taxonomy Regulation) lays the foundation for the formulation and endorsement, within the EU, of public policies based on environmentally sustainable requirements, standards and technical criteria, and the undertaking of economic and investment activities carried out with a view to protecting and improving the quality of the environment. More specifically, it clarifies the importance of and sheds light on the critical aspects and dimensions of the regulatory regime governing the uniform system for classifying environmentally sustainable activities established by EU Taxonomy Regulation. In effect, it highlights the importance of setting out a clearly defined framework for identifying and understanding activities and actions considered to be environmentally sustainable for the benefit of both the decision-makers as well as investors and companies, in their effort to promote the environmental dimension of sustainability. Within this framework, this paper demonstrates that the regulatory regime established by the EU Taxonomy Regulation, contributes significantly to: (i) the planning and formulation of environmentally sustainable and integrated public policies, consistent with the scope of international legal and policy instruments, (ii) the achievement of key environmental objectives and priorities, including climate change mitigation and adaptation, protection and restoration of biodiversity and ecosystems, sustainable use of natural resources, and transition to a circular economy, (iii) the promotion and implementation of the fundamental principle of «do no significant harm» (DNSH), (iv) the establishment of a clear and transparent regulatory environment for private investors and companies,

and v) the reorientation of public and private investments towards environmentally sustainable actions and projects.

Drawing methodologically on an examination of the EU Recovery and Resilience Facility (RRF) and its consistency and interlinkages with the primary objectives and principles of the EU Taxonomy Regulation, the paper seeks to enrich the scholarly debate and explore the extent and the degree to which key environmental sustainability criteria, standards and requirements, are reflected in the process of designing, formulating and assessing structural reforms and public investments to be embedded in the national recovery and resilience plans of the EU Member States. The empirical evidence in this paper demonstrates that the establishment of a common and unified classification system determining the environmentally sustainable nature and scope of a public reform and an economic and investment activity plays an instrumental role in respecting and advancing a set of fundamental environmental objectives and priorities enshrined in international legal instruments and policy frameworks, including the Paris Agreement, the United Nations Sustainable Development Goals (SDGs), and the European Green Deal.

Building on the results of this study, it is recommended that further research be conducted towards: exploring how key aspects of the regulatory regime established by the EU Taxonomy Regulation are mainstreamed and adjusted accordingly in other governance systems, at global and national level; as well as a comparative analysis of the national recovery and resilience plans of the EU Member States with a view to examining and assessing the degree to which they integrate, in a comprehensive and balanced manner, the objectives of the EU Taxonomy Regulation and the DNSH principle.

Abbreviations

CCS: Carbon Capture and Storage
 CCU: Carbon Capture and Utilisation
 DNSH: «Do no Significant Harm» Principle
 EU: European Union
 HLEG: High-Level Expert Group
 NRRPs: National Recovery and Resilience Plans
 RRF: Recovery and Resilience Facility
 SDGs: Sustainable Development Goals
 TSC: Technical Screening Criteria
 UN: United Nations

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