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THE ECOLOGICAL TRANSITION IN ITALY AND THE UNITED STATES

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To nonna Anna,
because I feel you close to me every day.
To my parents,
for what we have that only we know.

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INTRODUCTION

This work aims to analyze the topic of *ecological transition* from a comparative perspective between Italy and the United States.

The paper tries to study, specifically, how Italy has approached the challenge of *ecological transition* through the elaboration of the National Recovery and Resilience Plan (PNRR) and how, in contrast, the U.S. focuses on the goal of *sustainable development* by pursuing to achieve total energy transition through the elaboration of different plans.

After providing an overview of the basic environmental principles and the regulatory system, the work investigates the regulatory and administrative tools used to implement the *ecological transition* and *sustainable development* in both countries. Rather than analyzing environmental goals, indeed, the paper focuses on studying the means and instruments, and on researching the criteria that limit the public power in this area.

The topic, in addition to being very timely and important for our future, was explored by me during the course of my *LL.M. Program in Law and Government* with a concentration in *Administrative Law and Regulatory Practice* at American University Washington College of Law where I had the pleasure of attending courses in environmental law in both semesters.

Having the opportunity to study American and international environmental administrative law in depth was a unique and stimulating opportunity for me to increase my knowledge.

I.

ORIGIN AND DEVELOPMENT OF ECOLOGICAL TRANSITION

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1. COMMON PRINCIPLES OF INTERNATIONAL ENVIRONMENTAL LAW

The concepts of *ecological transition* and *sustainable development*, which are by no means equivalent, are now universally accepted to move institutions and civil society actors regarding environmental social, and economic challenges.

If up until a few years ago, the idea of transition towards a sustainable society was the prerogative of environmental movements, in recent times, ecological predisposition seems to have become addressed in governmental structures, meaning that it is maturing as a permanent and unavoidable approach that permeates the orientation and work of public institutions.

The environmental impact of human activities cannot be circumscribed within the domestic boundaries of each country. This global scope of the environmental issue has immediately highlighted the need for a search for solutions at the international, rather than the local, level.

Even though instruments at the international level are more lacking and less coercive, it is already possible to identify the basis of an "international environmental law" ([1]).

International environmental law, as a distinct field, has emerged over the last half-century. Today states have negotiated thousands of treaties on a wide variety of environmental issues ([2]).

The field of international environmental law consists in fact of many bilateral and multilateral treaties, each addressing a different global or regional environmental issue. There is then a small

[1] Fois P., *Ambiente (tutela dell') nel diritto internazionale*, in Dig. Disc. Pub., Torino, 1987, p. 219.
[2] Glicksman R. L., Markell L. D., Buzbee W. W. *et al.*, *Environmental Protection Law and Policy,* Wolters Kluwer, New York, 2019, p. 987.

but growing number of international judicial or arbitral decisions, and several influential soft law instruments ([3]).

Traditionally, international law has been viewed as coming in two general types: *customary norms*, which arise from the habitual or repeated practice of states, and *treaty norms* which constitute binding international agreements. International environmental law, however, raises several general questions regarding the *standard setting* and the *acceptance of international standards.* This is because, in the absence of an international agency, a question arises: how can the international community establish norms for states and individuals? And why states should accept and implement these *environmental standards*? ([4]). Indeed, there is no overarching legal document that establishes a set of binding principles of international environmental law. Concepts and principles of comparative environmental law have been established through many international environmental instruments ([5]). Therefore, the development of international environmental law in recent decades has been characterized by the progressive affirmation on the international scene of certain principles that were initially enunciated in soft law, then subsequently incorporated into the most recent international treaties on environmental protection ([6]).

It is important to understand how we got to this point, that is, how the awareness of the environmental emergency led to the development of international environmental law. International environmental law had its origin in the conservation and nature protection movement of late nineteenth- and early twentieth century in Europe and North America. Three stages in the development of environmental protection can be identified: a "conservative stage", which focuses on the protection of wildlife (from the late nineteenth century to the first half of the twentieth century); a "pollution-prevention stage", which is marked by the Stockholm Conference, and the establishment of the United Nations Environment Program (UNEP) in 1972, and the negotiation of many multilateral treaties; and lastly a "sustainable development phase", deriving out of the work of the Brundtland Commission and continuing through the

[3] Hunter D. *et al*., *International Environmental Law & Policy*, Foundation Press, 2015, chapter 8, p. 1 where it is affirmed that "*Notably, no universal declaration nor generally applicable covenant currently establishes a binding set of principles or comprehensive legal framework for the international environmental law field. Despite the lack of any overarching instrument, a general framework for studying international and comparative environmental law exists based on concepts and principles that run through many international environmental instruments*".

[4] *Supra* 2.

[5] *Ibidem.*

[6] Mezzetti L., *Manuale di diritto ambientale*, Padova, CEDAM, 2001, p. 4.

1992 Earth Summit, the 2002 Johannesburg Summit, and the 2012 Rio+20 Conference ([7]). This last phase will be the focus of the first chapter of this work.

The initial stage of environmental protection was crucial but encountered some obstacles. First, its scope was narrow because it was focused on the rational use of natural resources from a utilitarian perspective. The environmental protection movement focused on direct damages that humans could cause (i.e., the hunting of wildlife), but not on the indirect threats that might endanger the environment (i.e., habitat loss and pollution).

The conservation movement achieved some results, but in 1945, when the United Nations were established, the UN Charter did not make any reference to environmental protection yet. It was only with the mass environmental movement of the 1960s, that international environmental issues came into their own.

Following some tanker accidents, Nordic countries were concerned about transboundary air pollution, and they proposed an international conference on the environment. It was the 1972 Stockholm Conference, the first UN mega-conference and the focal point of the second phase of international environmental law, which set forth sixteen principles for the preservation and enhancement of the human environment. In addition, during the Stockholm Conference, the UN General Assembly decided to establish the United Nations Environment Program (UNEP). UNEP is the leading environmental authority in the United Nations system, and its mission is to strengthen environmental standards and practices while helping implement environmental obligations at the national, regional and global level.

The third phase of international environmental law is marked by the Rio Declaration (setting important environmental principles) and a detailed agenda plan (Agenda 21), a comprehensive plan of action to be taken globally, nationally, and locally by organizations of the United Nations System and governments in every area in which human impacts the environment.

However, even now, the UN General Assembly lacks legislative authority. Thus, the Stockholm Declaration and the Rio Declaration on the Environment are themselves legal in nature, but only to the extent that their provisions are incorporated into a treaty. However, following the 1972 Stockholm Declaration on the Human Environment and the 1992 Rio Declaration, environmental laws and institutions have expanded dramatically across the globe.

As stated above, international environmental law is either conventional or customary. In general, Article 38(1) of the Statute of the International Court of Justice (ICJ) represents the canonical statement of the sources of international law which are of three types: treaties,

[7] *Supra* 2, p. 989.

customs, and general principles. Article 38(1) is a widely used starting point also for determining the sources of international environmental law which constitute the so-called *hard law* (for their legal character).

The first sources of law are treaties and international agreements. Treaties are agreements in writing which have been negotiated by states, whereas customs are generated through the regular practices of states, and general principles are norms that reflect the fundamental proposition of laws shared by several legal systems around the world.

Treaties are the predominant means of achieving international cooperation, but, nowadays, most of the norms are adopted through more flexible techniques which allow responding more quickly to the emergence of new problems and knowledge ([8]). In this field, customs and principles do not have a canonical form and the process for their creation involves two major elements: state practice and a sense of legal obligation (or *opinio iuris*). Customs and general principles are created, indeed, when states behave in a consistent manner for a significant period: longstanding practice is a sign that law requires international customs to be created ([9]). Principles are used for various reasons and have some specific characteristics. First, most of the principles are not binding, they are guiding principles but cannot be enforced. However, principles and concepts do not have to be binding to have a significant impact on international environmental law and policy ([10]). They also reflect the consensus of governments and the starting point of what we expect from the states. Among the factors that have favored the affirmation of international environmental protection are, in fact, the need for states to balance sensitivity towards environmental protection with international economic competition and the need to mediate the conflict of interests between industrialized countries and developing ones ([11]).

Common principles on international environmental law also serve other functions: some of them can shape international environmental law and policy.

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[8] *Supra* 2, p.997.

[9] Glicksman Robert L. *et al.*, *Environmental protection Law and Policy,* Wolters Kluwer (2019), p. 999, where it is specified that principles do not form hard law but are also different from soft law: "*Conference resolution and business codes of conduct are not legal norms. Instead, they are usually classified as "soft law". Like hard law, they are normative, they are intended to guide or influence behavior by providing reasons for actions. […] Compliance serves as a justification for one's own action, and violation is a ground for criticism of others. Moreover, like hard law, the non-legal instruments these non-legal instruments are a social creation; they are the product of identifiable processes of norm-making […] But, unlike hard law, soft law does not create legally binding instruments*".

[10] Hunter D. *et al., International Environmental Law & Policy*, Foundation Press, 2015, chapter 8, p.5

[11] Caravita B., *Diritto dell'ambiente*, Bologna, Il Mulino, 2005, pp. 61,62.

As an example, the *principle of permanent sovereignty over natural resources and the obligation not to cause damage to the environment* fits into this perspective. Principle 21 of the Stockholm Declaration, and more recently Principle 2 of the 1992 Rio Declaration, represent the fusion of two fundamental aspects that have two different directions: the states have the sovereign right to exploit their natural resources, but they should not cause harm to the environment outside their jurisdiction ([12]).

On the one hand, therefore, states are free to use their natural resources. This right has its basis in various resolutions of the General Assembly of the United Nations, including Resolution No. 1803 of 1962 in which it was solemnly affirmed that "*the rights of people and nations to permanent sovereignty over their wealth and natural resources should be exercised in the interests of their national development and the welfare of the people of the state concerned*" ([13]).

On the other hand, this right is subject to the duty to avoid transboundary harm. The second of the two elements that make up this principle is the obligation of all states of the international community to exercise effective control over the activities carried out on their territory so that they do not cause environmental damage to the territory of other states or areas under the national jurisdiction of any state. The principle was established in *United States v. Canada* (Trail Smelter Arbitration) ([14]) where a joint U.S.-Canadian arbitration tribunal recognized Canada's liability for damages caused to American farmers because of noxious smoke fumes from the Trail Smelter located in Canadian territory, a short distance from American territory. National state sovereignty (Principle 21/ Principle 2) has been reaffirmed in many multilateral agreements, international declarations, and resolutions ([15]).

The principle of state sovereignty has been cited first because it puts national governments first: it's the government that sets national environmental policy, and, for the most part, the environmental policies are governed by this principle.

Some positive aspects of the development of environmental principles have been enumerated. Environmental standards, however, raise also two other important dilemmas. The first concerns the enforcement, meaning that it is not clear how disputes about the implementation of

[12] *Supra* 5, p.5.
[13] UN General Assembly resolution 1803 (XVII) of 14 December 1962, "Permanent sovereignty over natural resources".
[14] *Trail Smelter Arbitration (United States v. Canada)*, Special Arbitral Tribunal, 3 U.N. Rep. Int'l Arb. Awards 1905 (1941).
[15] *See* the United Nations Framework Convention on Climate Change (UNFCC) and the United Nations the Convention on Biological Diversity (CBD).

international environmental standards should be resolved, and what are the enforcement mechanisms if a state fails to comply with a standard. The second dilemma is about the effectiveness of international standards. It is not well-defined to what extent international environmental standards are effective and whether they really influence state behavior or ameliorate the environmental problems that they are intended to address ([16]). The question is still open.

The more recent phase in international environmental law differs from the environmental movements of the previous years: it involves more complex problems such as climate change and biological diversity whose resolutions require fundamental economic and social changes ([17]).

The objective of this work is to analyze if and how two different countries (Italy and the United States) are putting into action instruments to implement the ecological transition in a perspective of administrative and international protection of the environment. However, it is first important to analyze what is meant by ecological transition, what is its goal, and how this goal has become a priority for many countries.

2. THE DEVELOPMENT OF ECOLOGICAL TRANSITION

The notion of ecological transition that emerged a few years ago seems to be replacing the term "sustainable development". Coming from the same environmental movement, it emphasized social and local innovation of resilient territories based on autonomy, self-sufficiency, and shared governance ([18]).

The term "transition" first appears during the 1970s in The Limits to Growth Report ([19]), informally known as Meadows Report, which exposes the need to operate a "*transition from growth to global equilibrium*" ([20]) in the face of ecological risks associated with projected economic and population growth. The study, which had the ambition to tell the story of the state of the planet, its resources, and human population, introduced the concept of limits to economic development and resource use.

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[16] *Supra* 2, p.988.
[17] *Supra* 2, p. 992.
[18] Bischoff O., *I concetti di transizione ecologica e sviluppo sostenibile,* Transizione.it.
[19] Meadows H. D. *et al.*, *The Limits to Growth.* A Report for the Club of Rome's Project on the Predicament of Mankind. A Potomac Associates Book, 1972.
[20] *Ibidem*.

In 1976, John W. Bennett published "The Ecological Transition: Cultural Anthropology and Human Adaptation" ([21]) with the aim of introducing the idea that the central problem associated with human species was distinguishing the relative influences or functions of social and physical environmental factors in human behavior and institutions ([22]).

In 1987, "Our Common Future" ([23]) was published, the final report of the World Commission on Environment and Development, established within the UN in 1983 and chaired by Gro Harlem Brundtland. The Brundtland Report presented both concepts of development and transition by advocating "*a transition to sustainable development*" ([24]).

In the Dictionary of Ecological Thought ([25]), the ecological transition is defined as "*a process of transformation by which a system moves from one equilibrium regime to another*" ([26]). Similarly, the transition has been defined "*as a shift in a system from one dynamic equilibrium to another equilibrium*" ([27]).

From this, it follows why ecological transition is overriding the concept of sustainable development. Ecological transition is seeking a balance between development and the environment. The transition indicates qualitative rather than qualitative transition goals that are multi-dimensional and should represent the three elements of sustainability: economic, ecological, and socio-cultural ([28]).

Nowadays, the term ecological transition refers to the process of technological innovation that respects environmental sustainability, and it is the main tool through which it is possible to convey the integration between environmental policies and other policies with a view to better environmental protection.

3. THE PILLARS OF ECOLOGICAL TRANSITION

3.1 HISTORICAL CONTEXT

There is no event, no term *a quo* that allows us to mark the birth of environmental protection and conservation. However, as anticipated above, the fundamental step in the process of

[21] Bennett W. J., *The Ecological Transition: Cultural Anthropology and Human Adaptation*, New Brunswick and London, Aldine Transaction, 1976.
[22] *Supra* 13.
[23] Brundtland Commission, *Our Common Future*, Oxford University Press (1987).
[24] *Idem*, p. 51.
[25] Bourg D., Papaux A., *Dictionnaire de la pensée écologique,* Presse Universitarie della Francia (2015).
[26] *Ibidem.*
[27] Loorbach D., Rotmans J., *Managing Transitions for Sustainable Development*, International Center for Integrative Studies (ICIS), Maastricht University, www.icis.nu., p.4.
[28] *Idem*, p. 13.

creating an international legal system was the 1972 United Nations Conference on the Human Environment in Stockholm. Here it was recognized that each state, while retaining sovereignty over its environmental resources, is responsible for the damage it causes to other jurisdictions and for activities whose exercise may harm environmental assets outside the national jurisdiction.

Subsequently, during the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992, it was discussed the need to introduce new tools for environmental protection through which to ensure sustainable economic development.

The 3 documents with which the *Rio Summit* ended ([29]) brought to light the importance of the binomial development-environment, highlighting how one is inextricably linked to the other, and how economic growth must necessarily be reconciled with the fair distribution of resources ([30]). States began to acknowledge that most of the damage to the environment was produced by the exponential increase in world population. Despite this, it is well known that production and consumption (behind which the world's population is located) are both critical for achieving sustainable development. It was essential to give effect to a shift from traditional models of economic growth (more production and consumption of material goods or commodities) to "sustainable development" (reduced impacts of productions and consumption ([31]).

In light of these all considerations, Principle 8 of the Rio Declaration, endorsed by nearly every country of the world, establishes: "*To achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies*".

Ten years after the Rio Conference, the issue of the binomial of environmental protection and social-economic development was addressed at the Johannesburg Conference in 2002, which resulted in the Declaration on Sustainable Development and the Plan of Action in which the countries intended to continue the debate on the issue of sustainability. The countries then tried to re-launch the environmental issue by organizing another summit in Rio in 2012, which once again concluded with a non-binding final document of a programmatic nature (The Future We Want).

[29] Rio Declaration on Environment and Development; Agenda 21, Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management; Conservation and Sustainable Development of All Types of Forests.

[30] Crosetti A. *et al.*, *Introduzione al diritto dell'ambiente*, Bari, Edizioni Laterza, 2018, p.9.

[31] Hunter D., Salzman J., Zaelke D., *International Environmental Law and Policy*, Foundation Press (2021), p.40.

3.2 THE PRINCIPLE OF SUSTAINABLE DEVELOPMENT

The notion of ecological transition represents the evolution of the principle of sustainable development. The latter is undoubtedly the most important principle of contemporary international environmental law, as well as the guiding principle behind much of the environmental legislation and policy ([32]). The unanimously accepted definition of sustainable development is that contained in the Brundtland Report of 1987 (also known as *Our Common Future*): "*Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs*". The concept of sustainable development contained in this definition is considered the basis of modern international environmental law. It contains both the idea of needs, i.e., the sum of the needs of the present and future generations, and the concept of limits to be placed on the use of environmental resources.

More specifically, the elements that make up the concept of sustainable development, now included in most international treaties, are essentially four: the fair and sustainable use of natural resources, the intergenerational equity, the intragenerational equity, and the concept of integration between various policies ([33]).

Starting from the first concept, one of the constituent elements of sustainability is represented by the fair and sustainable use, also defined as prudent and rational, of natural resources. This means the need for states to adopt policies of sustainable development by reducing the dependence of economic growth on non-renewable resources. The reasonableness of use is a basis to solve competing claims which involve lawful activities that conflict. Indeed, even if it is not as such a principle of sustainable development, states may argue that exploitation of natural resources is illegal because it is excessive, meaning that it affects the interests of other states in a disproportionate way ([34]).

The second element is the concept of intergenerational equity. States, in defining their sustainable policies, must consider not only the needs of past generations, but also those of future generations so that the rights of both generations are guaranteed. Limiting the indiscriminate use of available resources to the strict satisfaction of the needs of the present

[32] *Supra* 6, p.8.
[33] *Idem*, pp. 9, 10, 11.
[34] Birnie P., Boyle A., Redgwell C., *International Law & the Environment,* Oxford University Presss, 2009, p. 201.

generation means protecting the possibility of future generations to enjoy them. To understand the importance of this principle, consider that global consumption of natural resources increased fourteenfold between 1900 and 2015 and is projected to further double between 2015 and 2050 ([35]).

The concept of intergenerational equity is flanked by that of intragenerational equity, according to which states must consider not only the needs of present and future generations but also the needs of other states in the same historical moment when they define their policies. It is a key principle that calls for all states to cooperate according to their economic and technological possibilities to achieve a common goal.

It is hard to define what are the factors that entail the "equitable utilization" of shared or common property of natural resources. They should be balanced depending on the context and on the case. For this reason, among the other elements, equity is the least well suited to accommodating common interests. It only shows the perspective of states which have sovereignty over the resources even if the process for determining a balance of interests would require a wider representation of states ([36]).

Finally, states are urged to integrate their development policies with environmental protection policies in a comprehensive approach to environmental problems.

Another aspect that is not less relevant to sustainable use of living natural resources is the precautionary principle. Indeed, it is now part of international law on the sustainable use of natural resources. The precautionary principle introduced for the first time a preventive (as opposed to remedial) approach whereby public authorities act on the occurrence of damage, which is likely to occur if nothing is done to prevent it. The preventive approach is based on a risk perspective. It is a decision making tool in risk management in the field of human, animal, and environmental health, and operates when there is a lack of scientific certainty to reasonably exclude the presence of identified risks. Not only has damage not yet occurred, but it is not certain that it will occur ([37]).

The principle of sustainable development is a guiding principle of modern international environmental law. Despite this, according to most authors, it is a programmatic norm which, precisely, has a guiding function for the governments of countries to define development

[35] Commissione UE, Quadro di valutazione delle materie prime (2018).
[36] *Supra* 34, p. 202.
[37] De Sadeleer N., *Environmental Principles – From political slogans to legal rules,* Oxford University Press, 2005, p. 91.

policies that consider the protection of the environment, but without imposing on them binding behaviors ([38]).

However, most authors agree that the concept of sustainable development can explain and summarize the need to find and enhance the link between environment, work, and economic initiative ([39]). Indeed, the principle of sustainable development has been at the Seventies of the last century and still is, at the center of a debate that aims to achieve a balance between two opposing needs: the economic and social growth of a community and the protection of environmental and cultural heritage.

The principle of sustainable development is governed by international law. The concept of sustainability, i.e., meeting the needs of the present without compromising those of future generations, was addressed by the United Nations through the establishment of a Commission on Environment and Development in 1987, together with the Brundtland Report. Subsequently, the international initiatives concerning sustainable development obtained rather disappointing results: many countries focused on economic development neglecting sustainability, not respecting the inspiring principles of "The Future We Want".

The principle of sustainable development was then progressively introduced into the European context following the entry into force of the Treaty of Amsterdam, which envisages for the Union a "*harmonious, balanced and sustainable development of economic activities*" and following the Treaty of Lisbon, which promotes balanced economic growth as well as the principle of solidarity.

The principle of sustainable development has as its main objective, as the term itself says, the development of "sustainability". This notion refers to the idea of maintenance and conservation over time of natural resources. The principle mainly applies to international natural resources to avoid their over-exploitation and significant loss. Indeed, in addition to rules, principles, and regulatory regimes which affect the sustainable utilization of natural resources, nowadays, there are also treaties, that impose obligations of cooperation for the conservation, sustainable use, and ecological protection of resources directly on states.

The Biological Diversity and Climate Change Conventions express the idea that sustainable development involves limits on the utilization of land, water, and other natural resources. Article 2 of the Biodiversity Convention defines sustainable use as "*use in a way at a rate that does not lead to long-term sustainability*". However, how far international law imposes on

[38] *See* Marchisio S., Raspadori F., Maneggia F. (a cura di), *Rio cinque anni dopo*, Milano, 1998, p. 57.
[39] Gullo A., Mattarella B. G., Mosco G.D., *Tutela dell'ambiente e responsabilità d'impresa,* Bari, Carucci Editore, 2021, p. 26.

states general obligations of conservation and of sustainable use of the natural resources remains an open question ([40]). Some of the agreements impose little concrete obligations to states or they only deal with a particular aspect of conservation problems ([41]). In this way, states retain substantial discretion in applying and implementing this principle, unless there is a specific international commitment on which they have agreed. This means that only if a specific international regime has been established and developed, it is possible to affirm that the principles of sustainable development have acquired a normative content or could potentially be used to judge states' actions involving natural resources exploitation ([42]).

The principle of sustainable development, by imposing limits on states for the exploitation of natural resources, may conflict with property rights. This is because most of the current environmental problems can be attributed to human activities that compromise ecological systems. Environmental law has always been interested in achieving a reconciliation between the exercise of economic freedom and ecological limitations. Some may argue that environmental law is developing a set of restraints and limitations on the individuals' freedom to use property to prevent ecological harm. Moreover, some claim that environmental law has become so extensive and invasive that it has substantially eroded private freedom ([43]). Sometimes it has also been asserted that sustainability is weak in the sense that it is based on the belief that the common good can be achieved by limiting economic growth. It would rather be more appropriate finding alternative ways to ensure that the public good is preserved by finding new forms of economic activity to be conducted without harming the proper functioning of the ecological system ([44]).

3.3 COMBATING CLIMATE CHANGE

One of the main objectives of the ecological transition is, undoubtedly, the fight against climate change. Climate change refers to the response of the planet's climate system to altered concentrations of carbon dioxide and other "greenhouse gases" in the atmosphere. Increased

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[40] *Supra* 34, p. 199.

[41] *See* the 1972 World Heritage Convention; the 1992 Biological Diversity Convention; the 1973 Convention on International Trade in Endangered Species; the 1994 Desertification Convention.

[42] *Supra* 37, p. 201.

[43] Grinlington D. and Taylor P., *Property rights and sustainability*, Martinus Nijhoff Publishers, 2011, p. 11, and *see* also the comments of Wilson J in *Clifford v. Asburton Borough Council* [1969] NZRR 446 at 448 ("drastic erosion" of property rights by town planning law), approved by the Court of Appeal in *Ashburton Borough Council v. Clifford* [1969] NZLR 927, p.934.

[44] Grinlington D. and Taylor P., *Property rights and sustainability*, Martinus Nijhoff Publishers, 2011, p.13.

concentration of these gases in the atmosphere leads to "global warming": an increase in global average temperatures ([45]).

Combating climate change, which is one of the major global challenges of our generation, requires global action to reduce greenhouse gas emissions planet-wide. Climate change represents one of the greatest threats of our time: it is defining environmental issues of the 21st century. Left unaddressed, the devasting impact of climate change and the degradation of natural capital will have serious repercussions on the economy, worsen the quality of life across the planet, and increase the intensity and frequency of natural disasters, endangering the lives of more people. Reversing these negative trends comes at a cost and requires a considerable collective effort, but the cost of inaction and associated social repercussions would be far greater ([46]).

Climate change presents two categories of impacts: the relatively slow but accelerating global warming, and the sudden temperature changes which cause abrupt and irreversible impacts.

The long-term objective in the fight against climate change was set by the Paris Agreement. The Paris Agreement for the period after 2020 was concluded at the Climate Conference held in 2015. It represents the first source of obligation that commits all countries to reduce their greenhouse gas emissions. It is a legally binding agreement under the United Nations Framework Convention on Climate Change (UNFCC) and is based on common principles that apply to all countries. First, it pursues the goal of limiting global warming "*well below 2 degrees Celsius above pre-industrial levels, and to pursue efforts to limit the temperature increase to 1.5 degrees Celsius above pre-industrial levels*" ([47]). Moreover, it commits all countries to present and comment every five years on a national emission reduction target (Nationally Determined Contribution, NDC). In addition, countries must establish reduction targets that be clear and quantifiable. The Agreement distinguishes between industrialized and developing countries, being the latter given with a certain margin of discretion for implementation. 2015 represents a historic date for the planet because 197 member states of the UNFCC adopted this first universal, legally binding understanding on climate change and agreed to take some actions.

Before the Paris Agreement, many scientists agreed that to avoid substantial harm to the planet's ecology and the world's economy, the world must limit the human-caused temperature

[45] *Supra* 31, p.598.

[46] Disparte D., "*If You Think Fighting Climate Change Will Be Expensive, Calculate the Cost of Letting It Happen*", 12 giugno 2017, Harvard Business Review online, available on: https://hbr.org/2017/06/if-you-think-fighting-climate-change-will-be-expensive-calculate-the-cost-of-letting-it-happen.

[47] Paris Agreement, art. 2(1)(a) (Dec. 12, 2015).

increase to at most 2 degrees Celsius. Afterward, the focus has been on limiting warming to no more than 1.5 degrees Celsius above its preindustrial level. The 1.5 degrees Celsius temperature goal may still be possible and allows us to limit harms from melting ice sheets, rising seas, hothouse cities, and burning forests. If nothing changed, the global average temperature would increase to more than 4 degrees Celsius above preindustrial level by 2100. A level that could make parts of the earth uninhabitable ([48]).

In this international framework, the term ecological transition is flanked by that of "energy transition". This expression outlines the transition from a system of energy production based primarily on fossil fuels – such as coal, which is today the largest source of global carbon emissions – to renewable resources, whose production must be accompanied by appropriate infrastructures, such as the network and storage system (energy storage), and increased efficiency in consumption in both private and industrial sectors. The transformation must not only concern the supply, but to be a true revolution, must also touch the way it is used. Renewable sources are alternative energy sources to traditional fossil fuels, they are not subject to depletion and there could be different types. In the next few years, to work towards effective decarbonization, it will be possible to focus on solar energy, wind power (including off-shore plants), hydrogen, but also biomethane plants, and the promotion of Agri-voltaics. In addition, the energy transition also changes the mode of organizations that can produce energy and the use of energy: the best form of clean energy is in fact that which is saved ([49]).

After 2030, more will need to be done to comply with the letter and spirit of the Paris Climate Agreement while fully exploiting the economic potential of the energy transition.

In recent decades, climate change has impacted not only natural systems but also human systems. This means that it can no longer be ignored. However, it is not easy for governments to prioritize the issue of climate change, especially after the economic crisis following the Covid-19 pandemic. When dealing with governmental action in the environmental field, we are referring to the policy options that governments choose to put in place. Policy options for climate change reduction primarily address two objectives, stemming from the United Nations Framework Convention on Climate Change (UNFCCC): "mitigation" and "adaptation".

[48] *See, e.g.,* Xu C., *et al.*, *Future of the human climate niche*, 117 PROC. NAT'L ACAD. SCI. 21 (2020).
[49] Palmisano L. (a cura di), *"Transizione ecologica ed energetica: cosa vogliono dire e perché sono fondamentali contro i cambiamenti climatici"*, published by STAFF IGW (January 2002), available on: https://www.igwsrl.com/transizione-ecologica-ed-energetica-cosa-vogliono-dire-e-perche-sono-fondamentali-contro-i-cambiamenti-climatici/.

Mitigation is defined by the UNFCCC as those activities "*meant to reduce the sources of greenhouse gases or enhance the sinks*" ([50]). Mitigation's goals involve three main categories of strategies: stabilizing and reducing carbon emissions in a long-term perspective; fast-acting strategies that address shorter-term climate-forcing pollutants; and negative emissions strategies to lower atmospheric concentrations of CO2 and other climate pollutants faster than the natural cycle would do ([51]).

Adaptation is defined as "*those adjustments in natural or human systems in response to actual or expected climatic stimuli in their effects, which moderates harm or exploits beneficial opportunities*" ([52]). Adaptation policies assume that mitigation measures cannot prevent some environmental damage that is deemed certain. These processes of adaptation are put in place to minimize human suffering and economic losses that climate change will cause over time ([53]).

The greatest and most recent concern regarding the problem of climate change concerns the investment it imposed on the governments of various countries. Some scholars, however, have pointed out that to reach the objectives of limiting the rise in temperature by 1.5 degrees Celsius, the effort would mainly involve increasing investment in environmentally friendly technologies and infrastructure by 2% of global GDP (even if it represents an approximative figure). However, this estimate shows us that preventing climate change is an entirely feasible project, even if it would entail changing our priorities. Investing 2% of global GDP per year is not enough for this ambitious project, but it also requires us to ensure that the funds are spent on ecological investments ([54]). As anticipated, however, there is still a long way to go: not all governments are yet willing to prioritize the resolution of environmental problems in their policies.

The emergence of the environmental interest and climate change in the European and international legal framework represents a relatively recent trend. Only in the last few years, with the environmental pollution and the impoverishment of natural resources, the collective

[50] *Supra* 31, p.619.
[51] *Ibidem.*
[52] *Ibidem.*
[53] *See* Warwick J. McKibbin & Peter J. Wilcoxen, *Climate Policy and Uncertainty: The Roles of Adaptation Versus Mitigation*, 3 AUSTL. NAT'L UNIV. ECON. & ENV'T NETWORK, WORKING PAPER, EENO306, 2003, as Warwick and McKibbin put it: "*[B]oth (mitigation and adaptation) activities are likely to be important as responses to potential climate change. The difference between choosing between these responses to climate change is analogous to the decision to wear seat belts versus installing anti- lock brakes on a car. The anti-lock brakes help to reduce the likelihood of an accident (mitigation) whereas the seat belts help to prevent catastrophe if there is an accident (adaptation). With both options available few sensible people would choose only one or the other since they both act to minimize the risk of serious injury*".
[54] Harari N. Y., *"Basta un 2 per salvare il pianeta"*, in *La Repubblica* (January 22, 2022).

conscience together with the proliferation of environmental associations, began to address such a fundamental issue ([55]). Starting from the 70s, the European Union began to include the environmental policy among its objectives and to introduce standards on sustainable development ([56]).

3.3.1 CLIMATE CHANGE LITIGATION

Recently, the climate is gaining more and more protection. The most important development of the last years is represented by the so-called *Climate Cases*: actions brought before national courts aimed at the condemnation and fulfillment by states of what is established in the international conventions for the emissions of greenhouse gases.

The climate does not yet have the legal basis in positive law to be defined as a "unitary good". However, jurisprudence would like to describe it in this way, thanks to the open character of subjective legal situations ([57]). Recently, one reconstruction has been proposed that distinguishes between climate and environment. According to this perspective, they would no longer be synonymous. The climate, in fact, unlike the environment, corresponds to an innate right of individuals. Therefore, the right to benefit from the stability of the climate, both of present and future generations, would come before the protection of the environment itself ([58]).

Climate change litigation is a very general notion and encompasses both public and private litigation. In the first case, the main objective is to force the institutions to adopt concrete measures for the reduction of climate change. In the second case, the lawsuits are mainly directed against multinationals to receive economic compensation for the damage suffered ([59]).

There are also those who make another distinction between the various types of cases: some cases are brought under the category of the so-called *strategic cases*, i.e., those cases that are not legally effective, but which have the objective of raising the climate issue and submitting it to public opinion to give rise to a real debate on the subject. In this perspective, the legislative power should intervene to regulate the issue. The second category of cases is the so-called

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[55] Guarna Assanti E., *Il ruolo innovativo del contenzioso climatico tra legittimazione ad agire e separazione dei poteri dello Stato. Riflessioni a partire dal caso* Urgenda, in Rivista di diritto pubblico italiano, comparato ed europeo, Feralismi.it (2021) (It.), p.17.

[56] *Supra* 39, p.19.

[57] Magri M., "Il 2021 è stato l'anno della "Giustizia Climatica""? in Rivista Giuridica AmbienteDiritto.it, Fascicolo n.4/2021, p.4.

[58] Carducci M., *La ricerca dei caratteri differenziali della "giustizia climatica"*, in *DPCE* online, June 6, 2020, p. 1360.

[59] Ramajoli M., *"Il cambiamento climatico tra Green Deal e Climate Change Litigation"* in Rivista Giuridica dell'Ambiente 2021, pp. 53-65.

routine cases, i.e., those that are based on legal frameworks already regulated by the legislature and therefore do not have a significant effect on public opinion ([60]).

A further characteristic of climate litigation is the fact that the plaintiffs are no longer just environmental associations operating within a state or recognized by the state itself against which the action is brought, but also, together with the same associations that are responsible for their legal preparation, simple individuals who complain of direct and concrete offenses to their lives and to the extents of their lives. The consequences of the widening of the number of subjects involved in the judgment make it possible to make the so-called *climate cases* important tools aimed at influencing the behavior of public-decision makers (but also of organizations and individuals) in the direction of a more solid commitment on the part of all those involved ([61]).

Humanity has now entered a phase of climate emergency, and this has been declared by many countries and European institutions ([62]). In this panorama, climate change litigation is a global movement with numerous cases in many jurisdictions around the world, and it has a strong symbolic and strategic value ([63]). This value emerged particularly in the *Urgenda* case, when the Dutch Supreme Court ordered the Dutch Government, to fulfill its duty of care, to diminish gas emissions by at least 25% by 2020 ([64]), in the same year that the Paris Agreement was adopted.

Before outlining the path that the judges took to affirm the Dutch government's culpability, it is necessary to frame the subject of climate change. Before reaching the Paris Agreement, in fact, states were committed to maintaining a level of greenhouse gas emissions that prevents harmful interference of human activity with the climate system (art. 2) through the Framework Convention on Climate Change. The Convention recognizes the principle of *common but differentiated responsibilities* according to which the commitment of each state in the fight against climate change must be calibrated according to their respective possibilities. Subsequently, with the adoption of the Paris Agreement, the conclusion of arrangements on the

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[60] *Supra* 55, p.70.
[61] *Idem*, p.69.
[62] Montini M., *Verso una giustizia climatica basata sui diritti umani,* in International Legal Order and Human Rights (2020, avilable on: http://www.rivistaoidu.net/sites/default/files/4_MONTINI_0.pdf.
[63] Peel J., Osofsky H., *Climate Change Litigation: Regulatory Pathways to Cleaner Energy*, Cambridge, 2015, according to which "*this dual role of the courts in climate litigation - enforcing the law and challenging the state and large emitters - illustrates polycentricity in action within the state".*
[64] *Urgenda Foundation v. State of the Netherlands*, ORIL, C/09/456689 / HA ZA 13-1396, (2015) (NL.) at 4.103.

reduction of emissions at the global level gave way to a so-called *bottom-up* approach for the preparation of national climate action plans at the national level (so-called NDCs).

In accordance with the principle of *common but differentiated responsibilities,* the Paris Agreement reaffirms the need for the most developed states to take the lead and pursue the highest possible ambitions. In this context, the choice of the states to include a specific reference to human rights in the preamble to the Paris Agreement is part of the process: "*Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights*".

Regarding the fight against climate change, acts other than the above-mentioned Conventions are also relevant. This is the case, for example, for the Assessment Reports (AR), drawn up by the Intergovernmental Panel on Climate Change (IPCC) created within the UNEP. The Intergovernmental Panel on Climate Change periodical reports ([65]) show how much the climate has changed in the last years and scientists have identified in the target of the average increase of the earth temperature within 2 degrees, the maximum limit beyond which we could see irreversible climate changes ([66]).

For the first time in the jurisprudential history of the courts on the topic of climate change litigation, *Urgenda* establishes a legal duty on a government to prevent climate change and its repercussions. With this judgment, the judges have applied the approach based on human rights inferring the existence of a duty of care of the state towards its citizens.

The Court rejected the argument of the state according to which, even if it had cut emissions, it would have been an unnecessary precaution since the collaboration of all other global operators was required ([67]). The Supreme Court held that "*the Government had a positive obligation under Articles 2 and 8 ECHR to take appropriate measures to prevent climate change*" ([68]) and required "*an absolute minimum compliance with emissions targets*" ([69]). This statement is fundamental because it leads to the consideration of individual-level responsibility in combating climate change: an effective fight against climate change inevitably passes through a more general behavioral revolution, which is up to everyone to achieve. Through the direct application of Articles 2 and 8 ECHR, the judges affirmed that the duty of the state towards its

[65] Intergovernmental Panel on Climate Change, *Impacts of 1.5°C of Global Warming on Natural and Human Systems,* Special Report: Global Warming of 1.5°C, (Valérie Masson-Delmotte et al. eds., 2018), at 175, 177–81, available on: https://www.ipcc.ch/sr15/chapter/chapter-3/.
[66] *Supra* 10.
[67] *Supra* at para 2.36.
[68] *Supra* at para 4.35.
[69] *Supra* at para 4.23.

citizens imposes a specific level of reduction of greenhouse gas emissions, making the current commitment of the state illegitimate.

However, with the development of the attention by various countries and Governments to environmental protection, it also began to emerge the need of balancing different values. If, in fact, on the one hand, environmental protection (more specifically combating climate change) aims to protect human rights (e.g., the right to health and the right to a healthy environment), on the other hand, it may sometimes conflict with other interests.

Human rights have always been the basis for cases that oblige states to protect the environment, but courts have attempted to induce states to link environmental protection with the implementation of policies and actions with a view to sustainable development ([70]). This may lead to the consideration that the possibility of imposing certain behaviors on operators in the sector for environmental protection may bring conflicts with other significant rights. One of the values which began to be balanced was the protection of economic freedom and the right to work. In addition to states and governments, one of the most important players in the world of environmental protection are companies. For this reason, balancing values towards a greater responsibility of production environmentally friendly activities represents an important starting point.

3.3.2 "HUMAN RIGHTS-BASED LITIGATION" AND "CLIMATE JUSTICE"

In the context of growing environmental degradation, the judiciary plays a fundamental role. It is an important component of developing environmental law and implementing sustainability. Judicial authorities are developing environmental law in various countries around the world and, together with the legislative (lawmakers), and the executive (parliament/cabinet), they execute governance from the public sector perspective. Environmental governance encompasses several institutions and processes, and in this field, international and domestic courts apply and enforce environmental laws through a complex process of adjudication and judicial intervention ([71]).

[70] Setzer J., Byrnes R., *Global trends in climate change litigation: 2020 snapshot,* Policy Report (July, 2020), available on: https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2020/07/Global-trends-in-climate-change-litigation_2020-snapshot.pdf.

[71] Kotzé J. L. and Paterson R. A. (edited by), *The Role of the Judiciary in Environmental Governance, Comparative Perspectives*, Wolters Kluwer Law & Business (2009), p. 41.

In the framework of the role played by judicial authorities in environmental governance, human rights ([72]) can assist in meeting the justice principles essential for addressing intergenerational justice. International human rights, indeed, typically impose obligations on states towards their own citizens ([73]).

The Human Rights-Based Approach is a conceptual framework that allows standards and principles developed in the international human rights system to be organically integrated into development processes. "Human Rights-Based Litigation" is the term used to refer to the litigation pending before various courts in different European and non-European countries dealing with cases raised by plaintiffs to balance human rights and interests that may affect those rights.

The linkage between human rights and environmental protection is particularly evident in the issue of climate change mitigation, and it is a relatively recent phenomenon. It has only been since 2005 that a small number of states and non-governmental organizations have begun to take steps to highlight those linkage ([74]). Afterward, on March 28, 2008, the United Nations Human Rights Council adopted Resolution 7/23 ([75]) on human rights and climate change, which, for the first time in a U.N. Resolution, explicitly recognized that climate change "*has implications for the full enjoyment of human rights*". The explicit conventional reference to human rights was then included in the preamble to the Paris Agreement ([76]).

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[72] The term "human rights" refers to the core set of rights proclaimed under international law on behalf of all individuals, regardless of "*race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status*". International Covenant on Civil and Political Rights art.2(1), Dec. 16, 1996, 999 U.N.T.S. 171 [ICCPR]; International Social and Cultural Rights art.2(2) Dec. 16, 1996, 993 U.N.T.S [ICSR]. The primary source texts are the 1996 ICCPR and ICESR, and the 1948 Universal Declaration of Human Rights. The human rights laid out in these documents are generally referred to as "civil and political" on the other hand, and economic, social, and cultural" on the other.

[73] Lawrence P., *Justice for Future Generations, climate change and international law,* Edward Elgar, 2014, p. 132.

[74] Limon M., *Human Rights and Climate Change: Constructing a Case for Political Action*, in *Harvard Environmental Law Review,* 33, 493-76, p. 440.

[75] U.N. Human Rights Council [UNHRC] Res. 7/23, U.N. Doc. A/HRC/7/7/78 (Mar. 28, 2008).

[76] Corcione E., "*Diritti umani, cambiamento climatico e definizione giudiziale dello standard di condotta*" in Diritti umani e diritto internazionale, n. 1/2019, p.4. Yet, according to the report of Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, "*such a reference in the Paris Agreement would be understood as an express recognition by the international community not only that climate change is a threat to the full enjoyment of certain human rights, but also that "actions to address climate change must comply with human rights obligations*" (Human Rights Council, *Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment*, UN Doc. A/HRC/31/52 of February 1, 2016, par. 22).

Human rights applicable in the environmental field have a dual dimension, both individual and collective since they can be invoked by individuals, by a plurality of them, or by collective bodies. From a normative perspective, there are both human rights norms, that are expressly devoted to environmental protection, and customary and covenant norms, that are interpreted broadly to include environmental protection (in this perspective, for example, the above-mentioned articles 2 and 8 of the ECHR on the protection of the right to life and the right to private and family life, respectively) ([77]).

In the broader context of Human Rights-Based litigation, the so-called *climate cases* arise. For the supporters of this type of litigation, a causal link must be established between the negative effects caused by climate change and the lack of enjoyment of certain fundamental rights. Climate cases are concerned with investigating what consequences climate change is having on various communities around the world ([78]), and if it could be encompassed into the protection of other rights, protected at the international level.

The Human-Rights Based Approach, when dealing with climate justice, brings some potential benefits. First, it is directly focused on individuals and on the effects that climate change may have on their lives. Second, it gives voice to those who are most affected by climate change (marginalized and vulnerable people). Third, the Human Rights Approach has the potential power to "*level the playing field*" in international negotiations, which are generally dominated by the economically strongest countries. Fourth, by focusing the shift on individuals for the development of a set of internationally agreed values, better policies responses to climate change at the national and international levels can be construed ([79]).

In *Climate Cases*, the courts of various countries have dealt with the interpretation of the obligation of the states to reduce their GHG emissions. More specifically, they have answered the question of whether the state must respect the rights of citizens that could be violated by the damages and negative consequences resulting from climate change. The courts, however, had always focused on the responsibility of states, institutions, and other public bodies towards citizens but had never considered what margin of liability could have a private entity, such as a multinational company (until the *Shell* judgment ([80])).

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[77] Posturino P., *Cambiamento climatico e diritti umani: sviluppi nella giurisprudenza nazionale*, in *Ordine internazionale e diritti umani*, 2021, p. 597.

[78] Hunter D., Salzman J., Durwood Z., *International Environmental Law and Policy* (Draft Manuscript 6th ed.) (on file with author), p. 1329.

[79] Shelton L. D. (edited by), *Human Rights and the Environment,* Volume I, Edward Elgar Publishing Limited, 2011, pp. 602, 603, 604.

[80] *Milieudefensie et al. v. Royal Dutch Shell plc.,* Rechtspraak.nl, C/09/571932 / HA ZA 19-379, (2021) (NL.). The *Shell case* represents the extension of the principles developed by the court of The Hague in

As anticipated, the Court has repeatedly found that states are responsible for the violation of human rights because of environmental damage. However, the biggest obstacle to having access to the courts is of procedural nature. It is, indeed, difficult to establish the legal standing of an individual who challenges the inadequate policies of the state in terms of reduction of greenhouse gas emissions. Indeed, the environmental damage can constitute a violation of human rights only if it directly affects and impairs the enjoyment of a protected right by the plaintiff. This requirement is hardly traceable to the climate policy of a state or in the mere presence of greenhouse gases in the atmosphere. For this reason, the European Court of Human Rights has attempted to find a remedy by elaborating the concept of *foreseeability of the risk*, which means evaluating whether the risk of occurrence of the event was foreseeable by the authorities of the affected state ([81]). Subsequently, the Court, having established the presence of risk, examines whether the authorities had done everything possible to protect the rights of citizens (so-called *best effort requirement*). The Court found that not a single measure had been allocated at the beginning of the series of landslides to repair any damage. The Court thus concluded that there had been a violation of Article 2 of the Convention due to the failure to implement measures necessary for the protection of persons under its jurisdiction ([82]).

This principle here expressed had been reaffirmed by the Court in subsequent cases. In addition, the Court has also identified a prior, as well as subsequent, obligation on the part of the states. In *Kolyadenko and Others v. Russia* (concerning the flooding of the city of Vladivostok caused by the exceptional spillage of water contained in the Pionersoye reservoir adjacent to the city), the European Court of Human Rights ruled that the authorities should have assessed *a priori* the risk inherent in the operation of the reservoir and adopted the necessary and consequent

Urgenda to a private entity. The Hague Tribunal has imposed Shell to reduce CO2 emissions by 45% by 2030. For the first time, the European jurisprudence deals with understanding what duty of care multinational corporations must have for atmospheric emissions, and how much do these corporations must consider the phenomenon of climate change with respect to human rights. Together with *Urgenda*, the *Shell* case sets the basis for the argument that climate change should be considered a human right issue.

[81] *See Budayeva and Others v. Russia*, App. Nos. 15339/02, 21166/02, 20058/02, 11673/02 and 15343/02 (ECtHR, Judgment 20 March 2008). This principle was established in the case *Budeyava and Others v. Russia*, the first precedent on the subject which concerned a devastating series of mudslides that, in 2000, struck the town of Tyrnauz in the Caucaus, Souther Russia, causing numerous victims. The Court for the first time enumerated the criteria to be evaluated to conclude whether the behavior of the authorities of the state affected by the event was in line with the positive obligations of protection of human rights from the adhesion to the European Convention of Human Rights. Specifically, considering that the area of the city of Tyrnauz was commonly recognized to be prone to certain types of landslide events and, given the official warnings at the time addressed to the Russian Government about the devastation that such landslides would have produced to the city, the Court concluded that the Russian Government could reasonably assume the probability of occurrence of the event.

[82] Innamorati D., *Il ricorso alla CEDU in caso di disastri climatici*, in Ius in itinere, 2018.

measures. The Court confirmed the principle according to which the obligation of states to protect human rights would be triggered not only in the imminence of a disaster but preventively, from the moment when it is even abstractly foreseeable by the authorities that certain events will occur in the future, thus imposing on the authorities the duty to conduct a *risk assessment* ([83]). The *due diligence* obligation of states to prevent human rights violations is traditionally configured as obligations of conduct ([84]), whereby the state must take all the necessary measures to prevent harm, to the best of its ability, independent of the result achieved. While respecting the positive obligation described here, there is still room for discretion on the part of the state, as to the choice of measures to be taken in concrete terms, based on a wide margin of appreciation.

The Human Rights-based approach represents one of the techniques of environmental protection. It appears to be the most effective means of safeguarding the interests associated with environmental protection. In this way, the environment is protected if and to the extent that its protection positively affects the integrity and respect for human life ([85]). Even though the ECHR does not expressly provide the need for environmental protection, an indirect necessity is inferred based on the combined provisions of Articles 2 and 8 of the ECHR. This aspect emerges especially when the environmental risk could have direct consequences on the private and family life of an individual through an anthropocentric interpretation. According to this theory, the environment is a safeguarded value through the protection of nature and is therefore modifiable according to human needs ([86]).

The impact of climate change emergencies on human rights is becoming increasingly evident. This means that the climate issue should not only be analyzed in the light of the international legal regime for the protection of the environment but also taking into consideration human rights law.

What can be added is that, as far as the issue of climate change is concerned, it is a cross-cutting issue. That is, climate change can affect both fundamental human rights such as the right to life

[83] *Kolyadenko and Others v. Russia*, App. Nos. 17423/05, 20534/05, 20678/05, 23263/05, 24283/05 and 35673/05 (ECtHR Judgment of 28 February 2012).
[84] Kulesza J., *Due Diligence in International Law*, Leiden, 2016, pp. 136, 137.
[85] Giannini S. M., *"Ambiente": saggio sui suoi diversi aspetti giuridici*, in Riv. Trim. dir. pubbl., 1973, pp. 1 ss.: "*Today it is considered ethically reprehensible to attack the environment if and insofar as one makes it aggressive; if human action did not produce this damaging event for collectivities, aggression of the environment might provoke regret, or other emotional facts, but would not affect legal regulation*".
[86] *Supra* 55, p.79.

and health, but it can also sometimes justify the imposition of relative human rights exemptions to protect general interests.

Moreover, it is to be assumed that the application of human rights law to the causes and effects of climate change is as relevant in the determination of the international obligations of states, as well as domestic law obligations, both interpreted in the light of international legislation for the protection of human rights ([87]).

4. ECOLOGICAL TRANSITION AND SUSTAINABLE DEVELOPMENT WORLDWIDE

4.1 THE UNITED NATIONS SYSTEM: UN GUIDING PRINCIPLES

The United Nations has become the most significant political embodiment of the international community. Despite this, the UN Charter does not contain any express reference to the aim of protecting and preserving the environment or promoting sustainable development. Indeed, the subsequent UN's commitment to adopt measures for the preservation of the environment derives from a broad interpretation of their powers contained in the Charter.

The implementation of an environmental program by the United Nations began with the United Nations Environment Program (UNEP) mandate, the only UN body that has a mandate to specifically focus on environmental issues ([88]). UNEP is devoted to developing and coordinating the programs of the other UN bodies in an environment-friendly perspective, rather than initiating actions by itself. Although its objective is to "*promote international cooperation*" ([89]), UNEP has not completely succeeded in its undertaking. Its influence within the United Nations System has also decreased with the creation of other institutions such as the Global Environmental Facility (GEF), and an Inter-agency Committee on Sustainable Development which has overlapping responsibilities. Developed states have always rejected proposals to transform it into a specialized agency. Despite this, Agenda 21 calls on UNEP to give priority to the implementation of international environmental law. With Agenda 21, UNEP is given a specific mandate to develop but also to coordinate international environmental law. The task of coordination asked by Agenda 21 was to "*achieve coherence and compatibility and to avoid overlapping or conflicting regulation*" between existing environmental regimes and

[87] *Supra* 77, p. 599.
[88] *Supra* 34, p. 65.
[89] As specified by UNEP Governing Council, in *Introductory Statement by the Executive Director* (11 February 1975) UNEP/GC/31, UNEP GC/31/ADD 1, UNEP GC/31 ADD 2, UNEP/GC/31/Add3: "*To promote international cooperation in the field of the environment and to recommend, as appropriate, policies to this end; [and] to provide general policy guidance for the direction and co-ordination of environmental programs within a United Nations System*".

new ones, but in performing this role, UNEP "*should strive to promote the effective implementation of those conventions in a manner consistent with the provision of the conventions and the decisions of the parties*" ([90]). The development of international law on sustainable development was also addressed by Principle 27 of the Rio Declaration and Chapter 39 of Agenda 21.

UNEP's contribution to international lawmaking led to the conclusion of international agreements, to the development of soft law principles, guidelines, and standards, and to the development of the provision of assistance for the drafting of national environmental legislation and administration in developing standards ([91]). Its efforts have always been focused on maintaining a sustainable development policy.

One of the UN's general purposes is promoting the protection and promotion of human rights. However, which subject is obliged to respect human rights is a long-standing dispute also in the UN system.

Traditionally, states are responsible for preventing human rights violations deriving from third parties (including companies), but private entities, such as corporations, do not necessarily have this kind of responsibility. Conversely, companies implement a *due diligence* process. They identify and prevent the negative impacts of their global business activities or relationships, often involving subsidiaries and suppliers ([92]). It is a general process that companies carry out to assess and identify these impacts and act on the data obtained to prevent them ([93]).

Due diligence was also used by the United Nations, which adopted in 2011 their Guiding Principles. They made it an operative principle to put in practice the businesses' responsibility to respect human rights ([94]). *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework* ([95]) was presented at the 17th

[90] UNGA Res S/19-2 (1997) para 123.
[91] *Supra* 34, p. 68.
[92] *Che cos'è "il dovere di diligenza in materia di diritti umani e ambiente"?* available on: https://www.enforcinghumanrights-duediligence.eu/it/what-is-due-diligence.
[93] *Ibidem.*
[94] *Ibidem.*
[95] Guiding principles on business and human rights: Implementing the United Nations "Protect, Respect and Remedy" framework APA (6th ed.) United Nations (2011), p.1. The Special Representative presented such a framework to the Human Rights Council in June 2008. The "Protect, Respect and Remedy" Framework rests on three pillars: the state duty to protect against human rights abuses by third parties, including business, through appropriate policies, regulation, and adjudication; the corporate responsibility to respect human rights, which means to act with due diligence to avoid infringing on the rights of others and to address adverse impacts that occur; and greater access by victims to effective remedy, both judicial and non-judicial.

session of the United Nations Council on human rights. They represent new principles for the practical application of the "Protect Respect and Remedy" framework: while the framework answers to questions about the needs of states and businesses to respect human rights, the new Principles are proposed to move from a theoretical approach to the concrete actions of state and non-state actors ([96]).

UNGPs deal in general with "*the corporate responsibility to protect human rights*". It is a general foundational principle laid down by the United Nations that they expect all companies to implement globally. Companies are therefore responsible for ensuring that their activities do not result in human rights violations and for mitigating the impact that their products or services may have on human rights. In addition, they are required to design a policy that respects human rights, internationally recognized ([97]). Going deeper, the United Nations adopted *due diligence* as an operational principle to ensure that companies respect human rights while building their policies. The industry should use *due diligence* to ensure that they are not violating human rights. Due diligence is the first aspect that, according to the UNGP, a new company must evaluate in its general approach to *risk assessment.* Human rights due diligence can be conducted by the company by first identifying the potential and current impact that its business may have on human rights. This should be a detailed analysis: who would be harmed, under what circumstances, how human rights would be harmed by services or activities ([98]). Companies must specifically consider what rights would be affected and, ultimately, take "*appropriate measures*" ([99]).

These principles developed by the United Nations, also known as *Ruggie Principles* (because presented in a report by Professor John G. Ruggie UN Special Representative on Business and Human Rights), influenced many decisions of European courts, especially those of the Dutch courts up to the *Shell* case. Moreover, the *due diligence* principle was expressly acknowledged not only by the United Nations but also by French law ([100]).

Due diligence is now another established feature of human rights and environmental protection practice and jurisprudence. The general principle of *due diligence* therefore also applies to

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The Human Rights Council unanimously welcomed what is now referred to as the UN Framework, marking the first time that a UN intergovernmental body had taken a substantive policy position on this issue.

[96] United Nations Human Rights Office of the High Commissioner, *Frequently Asked Questions About the Guiding Principles on Business and Human Rights* (2014), available on: https://www.ohchr.org/documents/publications/faq_principlesbussinesshr.pdf.

[97] *Supra* 95.

[98] *Ibidem.*

[99] *Ibidem.*

[100] Trade and Industry Code Art. L.225-102-4 (Fr.).

states, imposing on them obligations of prevention and repression for violations committed between private parties. This was affirmed by both the UN Human Rights Committee established by the International Covenant on Civil and Political Rights in General Comment No. 36 of October 30, 2018, with specific reference to the obligation of state parties to preserve and protect the environment against pollution and climate change caused "*by public and private actors*".

Recently, on October 8, 2021, the United Nations Human Rights Council recognized in Resolution no.48/13 ([101]), the need for a safe, clean, and healthy environment as a human right: the Resolution manifests the Council's attention to issues related to the environment and pollution. The emphasis is placed on the importance of sustainable development in its three dimensions (social, economic, and environmental) that can contribute to the promotion of human well-being and the enjoyment of human rights.

The UN Special Rapporteur on Human Rights and the Environment defined the resolution as a historic point because it could be the basis for stronger constitutional changes and environmental laws. It urges the Member States to actively cooperate to ensure this right. He affirmed that "*It is a historic breakthrough, in a world where the global environmental crisis causes more than 9 million premature deaths each year*". The new Resolution recognizes the harm caused by climate change and environmental destruction to millions of people around the world. Moreover, a second Resolution no. 48/14 ([102]) of the Council was adopted to establish a Special Rapporteur dedicated specifically to this issue to protect and promote human rights in the new climate change scenario.

Fifty years after the Stockholm Conference ([103]), therefore, the United Nations recognized that it was time to formally recognize the right to a healthy and clean environment as a human right. In the UN's Report ([104]), it reads that "*Of the 193 members of the UN, 156 have formalized this right in their Constitutions, laws, and regional treaties, and it is time for the UN to provide*

[101] United Nations General Assembly (October 5, 2021), Agenda Item 3: The human right to a safe, clean, healthy, and sustainable environment, A/HRC/48/L.23/Rev.1.

[102] United Nations General Assembly (October 5, 2021), Agenda Item 3: Mandate of the Special Rapporteur on the promotion and protection of human rights in the context of climate change, A/HRC/48/L.27.

[103] Where the Member States of the United Nations agreed that "*Man has the fundamental right to freedom, equality and adequate of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations*". Declaration of the United Nations Conference on the Human Environment (June 1972), Principle 1.

[104] Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy, and sustainable development: "Right to a healthy environment: good practices".

leadership by recognizing that every human being has the right to live in a clean environment because the lives of billions of people on the planet would be improved if this right were recognized, respected, protected and guaranteed" ([105]). What prompted the UN Technical Committee to recommend that the future of the environment become a top global priority were the data on the still rising pollution and the dramatic loss of biodiversity, which are possible causes of climate migrants, aggravated by the Covid-19 pandemic ([106]).

Leaving in a healthy environment is therefore now a fundamental right for the United Nations, but the adopted resolution will not be binding, and the 47 countries that belong to the Council, which do not include the United States, will not be obliged to apply it in their national decision making. Nevertheless, the recognition of a right to a healthy environment has real benefits: it resonates with the importance of environmental protection and produces the introduction of stricter environmental standards. It creates an obligation for the state to regulate and enforce environmental laws, control pollution, and otherwise provide justice and protection for communities harmed by environmental problems. However, until now, it had only been recognized in a few regional human rights treaties, in Africa and Latin America, and some very sectoral legal instruments.

On its side, a few months ago, Italy joined this trend. This topic will be specifically treated in Chapter 2 in the context of the evolution of the legal and non-legal notion of the environment and its relevance at the constitutional level in Italy and the United States. For the moment, it is sufficient to anticipate that Italy, in the same wake as the United Nations and other Countries, has recently prioritized environmental protection towards ecological transition. First, on February 26, 2021, a new Ministry was created. The Decree-Law "Ministries" created the Ministry of Ecological Transition (MITE), replacing the Ministry of the Environment and Protection and Land and Sea. The new Ministry has the ambitious goal of giving greater coherence and consistency to policies concerning sustainable development ([107]) and it has some of the key competencies in the green transition process, mainly related to the energy sector. Secondly, one year after the creation of the new ministry, on February 8, 2022, the Italian

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[105] *Ibidem*, p.3, 48.

[106] UN data leave no room for doubt: an estimated 250 million to 1 billion climate migrants by 2050. *See* Bassetti F., *Environmental Migrants: Up to 1 Billion by 2050* (May 2019, 22), available on: https://www.climateforesight.eu/migrations-inequalities/environmental-migrants-up-to-1-billion-by-2050/.

[107] Decree-Law no. 22 of March 1, 2021, regarding "Urgent provisions regarding the reorganization of Ministry responsibilities". To ensure the coordination of national policies for the ecological transition, establishes, at the Presidency of the Council of Ministers, the Interministerial Committee for the Ecological Transition (CITE). In addition to all the functions of the former Ministry, has key competencies in the process of ecological transition that relate primarily to the energy sector.

Constitution also became "green" ([108]). Two articles of the Constitution (Article 9 and Article 41) were modified to include the principle of protection of the environment, biodiversity, and ecosystems, also in the interest of future generations. Moreover, it has been affirmed, within the scope of freedom of economic initiative, that private economic initiative cannot take place causing damage to health and environment, and it has been introduced the possibility of directing and coordinating economic activity, both public and private, for purposed that are not only social but also environmental.

4.2 "THE RIGHT OF FUTURE GENERATIONS" OF THE GERMAN CONSTITUTIONAL COURT

Future generations are making their way, in an increasingly intense way, into constitutionalism: they not only appear with increasing frequency – both explicitly and implicitly – in the text of the Constitutional Charters (as, for example, in the above-mentioned Italian Constitution, recently amended to preserve the right of future generations) but are also protagonists of the constitutional jurisprudence.

The main basis that provides for an *ethical* obligation on current generations to protect the welfare of future generations in the context of climate change is still human rights ([109]).

This is given by the fact that the protection of human rights relating to climate raises the concept of intergenerational justice, which has been mentioned above as one of the main components of the principle of sustainable development. Intergenerational justice means justice within generations. This approach is not new, but the explicit declaration that the future generation already possesses rights is quite recent. Indeed, it was not the first time that a Supreme Court dealt with the problem of intergenerational responsibility. It was the first time, however, that a Court engaged itself in explaining a constitutional text and its effects for the intergenerational dimension.

Intergenerational justice can be justified by extending into the future the obligation to refrain from causing harm to other human beings ([110]). It has been demonstrated that the current generation takes many actions which have a high probability of causing serious harm to those born in the future. However, the harm avoidance principle raises some issues.

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[108] Constitutional Law February 11, 2022 no.1 "*Modifiche agli articoli 9 e 41 della Costituzione in materia di tutela dell'ambiente".*

[109] *Supra* 71.

[110] *Ibidem*, p.33.

First, it could be argued that the current generation has the right to act, even if these actions could threaten the future of other human beings. Secondly, harm avoidance relies on probability. It may be difficult to define what "high probability" means and who is entitled of defining it.

It has been affirmed that the harm avoidance principle can justify an *ethical* obligation towards future generations in the climate change concept. This does not mean that the harm avoidance principle must be necessarily linked to a reference to human rights. The reason why this obligation and intergenerational equity are often connected to human rights is that they can potentially add political weight to ethical claims. Governments and those who are in those positions of power can improve actions that may have a greater impact in preventing future harm.

This is the background to the decision of the German Federal Constitutional Court of March 24, 2021, which intervenes in the German Climate Change Act. If the Italian perspective concerning the relationship between climate change and future generations relies on constitutional reform, the pronouncement of the German Constitutional Court is part of the constitutional jurisprudence. The Constitutional Court makes a decisive change in the European jurisprudential trend which tended to highlight the difficulty of providing a causal link between government actions or omissions and global warming. It was affirmed that while it is true that climate change is also a global phenomenon from a causal point of view, this does not allow Germany to shirk its obligation. For this reason, the Court ruled that Germany's climate change law was partially unconstitutional due to the absence of detailed guidance on reducing emissions after 2030.

The German ruling ([111]) stems from four direct appeals challenging the German climate protection law *Bundes-Klimaschutzgesetz* - KSG of December 12, 2019, that fixed the limits for GHG reductions as of 2030. The claimants complained about the violation of their rights before the German Constitutional Court, arguing that the law was unconstitutional because it did not lay sufficient foundations for establishing the reduction of gases starting from 2031 ([112]). *Klimaschutzgesetz* obliges the Federal Government (in accordance with European

[111] German Federal Constitutional Court, Order of March 24, 2021(1 BvR 2656/18, 1 BvR 96/20, 1 BvR 78/20, 1 BvR 288/20, 1 BvR 96/20, 1 BvR 78/20).

[112] Corte Costituzionale, *Tribunale costituzionale federale, ordinanza del 24 marzo 2021 (1 BvR 2656/18, 1 BvR 96/20, 1 BvR 78/20, 1 BvR 288/20, 1 BvR 96/20, 1 BvR 78/20), in merito alla tutela del clima e alla riduzione di emissioni di gas serra anche a garanzia delle libertà delle generazioni future*, Servizio Studi Area Diritto Comparato, available on: https://www.cortecostituzionale.it/documenti/segnalazioni_corrente/Segnalazioni_1619774479177.pdf

regulation) to reduce greenhouse gas emissions by 55% of the 1990 level by 2030, and it fixes the reduction requirement that must apply from that date ([113]). The German Constitution obliges the State to respect the freedoms and rights of future generations: the judgment refers several times to Article 20a on the "protection of the natural foundations of life and animals" ([114]).

The Constitutional Court held that the plaintiffs' fundamental rights have indeed been violated: the law excessively postponed the reduction burden into the future (2030), without establishing any concrete basis for calculating the reductions. Further, the Court argued that the legislator should have taken precautions to safeguard the fundamental freedoms of future generations.

The Court raised some interesting points about the protection of future generations (also including the *Fridays for Future* movement promoted by Greta Thunberg).

The plaintiffs who appeared before the German Constitutional Court were very young. In the Court's view, moving GHG reductions into the future (2030) would weigh too heavily on the responsibility of future generations. Indeed, the constitutional objective of climate protection is embodied in the fact that the increase in average global temperatures must be kept below 2 degrees and, if possible, within 1.5 degrees of previous levels in accordance with the objectives set by the Paris Agreement ([115]). Moving this target to 2030 would be too onerous and challenging for future generations that would be forced to change their lives in a short period of time if concrete actions that reduce emissions are not implemented now. After 2030, there will be not enough time to make major changes and achieve these goals, and fundamental rights of future generations will be violated. It is, therefore, fundamental rights that are violated by the fact that the allowable emission amounts until 2030 restrict the remaining options for emission reductions after 2030, thus jeopardizing all kinds of freedoms protected by fundamental rights. Hence, the legislator is obliged to reform the Climate Act of 2019 and regulate, by December 31, 2022, a strict detailed update of the targets for reducing greenhouse gas emissions that cause climate change ([116]). The First Senate of the Federal Constitutional Court announced the ruling in an order dated April 29, 2021.

The Court focused its reasoning on the law's unconstitutionality. In particular, the German judges affirmed that the legislator violated his duty of balancing the constitutional measures to

[113] *Supra* 108.

[114] Grundgesetz für die Bundesrepublik Deutschland (German Constitution), March 1949, 19, Art. 20 (DE). The article also states that "*The State shall protect, thereby assuming its responsibility towards future generations, the natural foundations of life through the exercise of legislative power, within the framework of the constitutional order, and of executive and judicial powers, in accordance with law*".

[115] *Supra* 70.

[116] *Ibidem.*

be adopted to reach climate neutrality. This duty derives from the principle of proportionality, and since after 2030 there will be only one year to reach the objective, the duty has been violated. The legislator must be able to start the processes of development and application of the measured aimed at reducing emissions, exercising in this way an efficient function of programming. Legislators' actions were not enough respectful of the future because they had not been proportionally allocated ([117]).

In the judgment, the German judges also devote great attention to the global-national relationship. The point of attack of the German Court is that the constraint that a right can produce on the activity of public authorities does not concern only the internal sphere of the order, but also the external one. According to the Court, in fact, Article 20a insofar obliges the protection of the environment, exerts pressure on German institutions, to the extent that they are obliged to seek solutions to climate change at an international level. In this way, Art.20a requires an "international dimension": it constitutes the basis for the German Government to look for international agreements and solutions, avoiding the state to hide behind the global character of the climate change phenomenon ([118]). In other words, the issue of climate change must be conducted in a way that is transparent to find fiduciary solutions on an international level.

The German Court also interpreted Art.20a as a remedy to a constitutional organization that looks at a short-term, taking the risk of not dealing with long-term threats and problems. According to the Court, the legislator seems to be bound by short-term interests.

The German judge goes on to examine still controversial issue. The fundamental right dimension as the basis of protection obligations and the extraterritorial effectiveness of fundamental rights. The Court states that these are two issues that are still open and not yet decided ([119]). In particular, the second question arose because the appeal was also brought by applicants not residents in Germany.

Then, the Court reasoned that an extraterritorial protection obligation might arise because Germany contributes to the obligation to emit greenhouse gases into the environment, albeit in a small part (about 2% of the global level). Even if climate change is a global phenomenon, Germany cannot be excluded from those countries which have a piece of responsibility. Notwithstanding this, the judges exclude that it exists a duty of protection for claimants residing

[117] *Supra* pp.108, 243-244, 246, 249, 258,
[118] Bifulco R., *Cambiamento climatico, generazioni future (e sovranità) in una storica sentenza del Tribunale costituzionale federale* (Astrid 12/21).
[119] *Supra* 108, p.175.

abroad because of the different means of protection available to Germany. German institutions can protect those living on German territories by means of two types of measures: measures to halt emissions and adaptation measures. However, it would not be possible for Germany to develop these measures for people living abroad, especially regarding adaptation measures that must be developed by the nation-states to which the foreign nationals belong ([120]). This does not, of course, exclude, in accordance with Article 9(1) of the Paris Agreement, the provision by Germany of financial means to help developing countries to take measures.

Furthermore, a key role in the Constitutional Court's ruling is assigned to science. The Court bases its legal reasoning not only on the legal doctrine but also and especially on some scientific institutions. First, to evaluate the choice of the board of environmental experts, the Court departs from the estimates of the Intergovernmental Panel on Climate Change. The attention that the Tribunal devotes to the Panel's projections focuses on the possible scenarios resulting from the containment of warming within 1.5°C or within 2°C, and on the consequent gigatons available to Germany. This demonstrates, on the one hand, the very close interrelationship between scientific statements and political choices and, on the other, the conditioning that science exerts on regulatory decisions. The Tribunal closes the reconstructive part on climate change by recalling that, if climate neutrality is to be achieved by 2050, German society and its industrial system must face profound changes ([121]).

What emerges from the argumentation of the German judge is an intertemporal dimension of the protection of the rights of liberty, intimately linked to the sphere of general environmental protection. In this context, not only legislative omission can be detrimental to fundamental rights, but also active legislative intervention insofar as it merely postpones measures that are necessary for a more effective fight against climate change.

However, the judgment is fundamental because, as anticipated, it does not only touch the environment. It reflects on the "international dimension" of art.20a and weighs the interests of those who do not yet exist ([122]). This argument is arising the interest of many European jurists for its possible "epochal scope" ([123]). For the first time, a Constitutional Court affirms the existence of a real "right of future generations" with respect to the measures that the state must take to preserve them from the effects of climate change ([124]). The Court observes that the state

[120] *Supra* 108, 178.
[121] *Supra* 118.
[122] *Ibidem.*
[123] Delli Santi M., *Leggi sul Clima: Il Diritto Delle Generazioni Future,* available on: https://www.altalex.com/documents/news/2021/05/16/leggi-clima-diritto-future-generazioni.
[124] *Ibidem.*

has a duty of protection towards the rights of future generations (right to life and to physical integrity) before the actual damage occurs: a duty of protection arises every time there is the risk that climate change will bring irreversible results.

Germany's landmark constitutional ruling adds another piece to climate change litigation. About the environment, the ruling opens an unprecedented form of intergenerational legal responsibility, which is destined to mark constitutionalism in the years to come and shows how there is further scope for enhancing sustainability ([125]). Indeed, if the legislative measures adopted by the Government are not efficient, a bad signal to civil society will be transmitted: residents will continue to maintain their habits that are not intended to prevent climate change. Companies will never adopt good policies to reduce their emissions which could lead to the construction of neutral infrastructures.

The German judgment seems to effectively be aware for the first time of what does "intergenerational responsibility" means and affirms, indirectly, that combating climate change represents a constitutional duty that has a constitutional foundation and cannot be disregarded by the legislative choices. Choices that should not endanger future generations.

The judges formulate an anticipatory approach in the sense that they affirm the need to consider and balance the interests of those who are not yet born.

[125] Bartolucci L., *Il più recente cammino delle generazioni future nel diritto costituzionale,* in Osservatorio Costituzionale, Associazione Italiana dei Costituzionalisti (July 6, 2021).

II.

THE ECOLOGICAL TRANSITION IN ITALY

TABLE OF CONTENTS: 1. Constitution and environmental protection. – 1.1 Constitutional references on the environment. – 1.2 Environmental protection in the constitutional system of the division of legislative competences between state and regions. – 1.3 The theory of the environment as a legal asset. – 1.4 The environment as a constitutional value. – 1.5 The environment as "ecological balance". – 2. Administrative activity and environment. – 3. The reform and funding as instrument of ecological transition. – 3.1 Planning and programming acts: distinctions. – 3.1.1 Planning acts. – 3.1.2 Procedural guarantees in the planning activity. – 3.1.3 Programming acts. – 3.2 European investment plans and European environmental actions programs. – 3.3 The granting and financial aid in Italian administrative law. – 3.3.1 Article 12 Law No. 241/1990. – 3.3.2 Limits to administrative discretion. – 4. Economic development and planning. – 5. PNRR and ecological transition. – 5.1. PNRR: characteristics and regulation. – 5.2 The "organizational" choices of PNRR. – 5.3 Mission 2: Green Evolution and Ecological Transition. – 5.3.1 First component: Circular Economy and Sustainable Agriculture. – 5.3.2 Second component: Renewable Energy, Hydrogen, Grid, and Sustainable Mobility. 5.3.3 Third component: Energy Efficiency and Building Requalification. – 5.3.4 Fourth component: Protection of Land and Water Resources – 6. Conclusions: elements of novelty and traditions of PNRR.

1. CONSTITUTION AND ENVIRONMENTAL PROTECTION

With the emergence of awareness about the consequences that the western model of development is producing on environmental resources, and with the unstoppable population growth, the problems of environmental protection have taken on an epochal dimension. Nowadays, we speak of "environmental issues". In the field of law, the environmental issue poses a challenge to all legal knowledge for the establishment of principles and rules considering political and technical issues, and all aspects of social life ([1]).

The first challenge (still unresolved) is the difficulty in clearly defining the perimeter and the legal dimension of the concept of the environment as an object of protection at a constitutional level. Definitions of the environment have been proposed but they are often too broad, too detailed, or too general. What can be said is that the legal definition of the environment takes on an independent significance when it identifies as the object of protection of the totality of

[1] Grassi S., *Ambiente e Costituzione*, in riv. quadr. Dir. Amb., Giappichelli, 2017, pp. 3-4.

resources and their balance. However, it is precisely the difficulty of defining the concept of environment that implies the necessary involvement of choices at the constitutional level.

The complexity of the problems that constitute the "environmental issue" implies the elaboration of choices at a constitutional level because it can be resolved by identifying principles that define the method for dealing with these problems. Indeed, even at the international level, the issue of the environment and environmental problems have always been addressed through the identification of fundamental principles (starting with the Stockholm Declaration of 1972) which were then incorporated into the rules of European law. In this context, Constitutions are the natural place where these principles can be incorporated and defined ([2]).

Dealing with the relationship between the environment and the Constitution at a constitutional level means defining the values and objectives for the protection of the environment, identifying the bodies entitled to make discretionary choices about the concrete solutions to be adopted, and the principles that guide these choices.

The types of constitutional provisions in force for the protection of the environment are of various kinds: some constitutional provisions define the duty of public institutions to protect the environment, others recognize individuals' "rights to a healthy environment" or procedural rights functional to the protection of the environment (the right to information, the right to participate in political decision making processes, the right to access to justice). In addition, some constitutional provisions define individual responsibility for the conservation and protection of nature or the environment. Currently, out of 193 Constitutions, 149 contain norms defining principles and values for the protection of the environment (there are serious exceptions such as the United States, Canada, and Australia) ([3]).

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[2] *Supra* 1, p.6.

[3] *Idem* p.7. *See also* Caravita B., Cassetti L., Morrone A., *Diritto dell'ambiente*, Bologna, Il Mulino, 2016, where it is specified that "*In the world, 149 constitutions out of 193 include provisions on the protection of the environment, introduced especially since the seventies of the twentieth century, mostly in the countries of civil law tradition (73 states out of 77) or with mixed systems (23 out of 25); among the common law countries, only three (out of 23 states) have provisions on the subject, with the notable exceptions of the United Kingdom, the United States of America, Canada, and Australia. The forecasts are different, but they can be classified according to whether the Constitution establishes: 1. a duty of environmental protection by public institutions (in 144 cases: e.g. the Constitution of Portugal, Art. 66.2); 2. recognition to the person of a "right to a healthy environment" or a "right to a healthy and ecologically balanced environment" (in 98 cases), generally included among the "rights of the person", sometimes between economic and social rights; 3. recognition of functional procedural rights (also) environmental protection (in 31 cases), such as the right to information, the right to participate in political decision-making processes, the right to access to justice for the protection of individual rights or for the review of political decisions-legislative; 4. individual responsibility for conservation and the protection of nature or the environment; 5. indirect environmental protection requirements (as in the*

Reading the constitutional provisions of current Constitutions, one can deduce that the environment has become a point of reference in contemporary societies for the recognition and guarantee of rights but also for the definition of collective and individual responsibilities.
The first Constitution that will be analyzed in this work is the Constitution of the Italian Republic. Originally, the Constitution did not contain any rule directly regarding the environment (and for this reason, there are some scholars who deny the logical-legal autonomy of the concept of the environment), but it did contain some principles concerning certain aspects of the environment.

1.1 CONSTITUTIONAL REFERENCES ON THE ENVIRONMENT

Before the constitutional reform approved by Constitutional Law 3 of 2001 ([4]), there was no reference to the environment in the Italian Constitution (unlike other constitutional texts). The Constitution, which entered into force on January 1, 1948, did not provide for rules that made explicit reference to the theme of the environment. With the constitutional reform No. 3/2001, the term "environment" and the term "ecosystem" became part of the legal system.
The constitutional revision included among the matters of exclusive state legislative competence "the protection of the environment, the ecosystem and cultural heritage" (art.117 paragraph 2 let. *s)*, Cost.). However, the conditions to adapt the constitutional rules to the evolution of environmental problems had been identified even before the constitutional reform, thanks to the structure and flexibility of the 1948 Constitution. Moreover, the new art.117 does not define the notion of environment or what its legal-constitutional value is.
It is necessary, therefore, to refer to the jurisprudential interpretation, which has identified the constitutional basis of the legal asset 'environment' by interpretation, starting from articles 2, 9, and 32 of the Constitution. Article 2 recognizes and guarantees the inviolable rights of man both as an individual and in the social formations where his personality takes place; article 9

case of limits to the right to property, prohibitions on the import of toxic, nuclear or hazardous waste, the recognition of the right to clean water), or to protect individual environmental factors (biodiversity, natural resources, water, biotechnology, etc.)". *See also* Castelli L., *La mancata costituzionalizzazione del principio dello sviluppo sostenibile,* where it is specified that: "*As shown by research carried out on the Constitutions of the 193 countries of the UN, adopted or modified since the publication of the Brundtland Report, the words "sustainability" or "sustainable" appear in 54 of them, while there are 38 Constitutions - including 5 of EU Member States - which contain an explicit reference to "sustainable development": France (art. 6 of the Environmental Charter, constitutionalized in 2005); Greece (art. 24); Poland (art. 5); Portugal (art. 66); Sweden (art. 2)".*

[4] Constitutional Revision Law No.3 of 2001 which reformed Title V of the second part of the Constitution.

provides that the Republic protects the landscape, and article 32 protects health as a subjective right and interest of the community. Jurisprudence has identified in article 32 a subjective legal situation, which can be acted upon in the face of damaging conduct ([5]).

The right to health is included, according to a first reading, among the "social rights" and, in this context, the doctrine and the constitutional jurisprudence ([6]) underline how social rights should also be considered fundamental rights. The right to health would then be imposed as a fundamental right, but this subjective situation relating to health cannot be protected only in relations with the public authorities but must also be protected in relations between private individuals. According to those who make another reading of art.32, however, the right to health should be configured as a right of personality ([7]). The content of the right to health is the psycho-physical integrity of the person which, thanks to doctrine and jurisprudence, has been extended to the health of the workplace and the space where the individual lives ([8]). For this reason, the protection of the environment has been included within this norm. The healthiness of the environment, being closely related to individual health, can be directly guaranteed by activating

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[5] Corte Cost., sentt. nn. 88/1979, 184/1986, 307/1990, 180/1994, 218/1994, 258/1994: "*The good (afferent to the health) is protected from the art.32 Cost. not only like interest of the collectivity, but also and above all like fundamental right of the individual, therefore it is configured like a primary and absolute right, fully operating also in the relationships between private. it is sure to be included among the subjective situations directly protected from the Constitution*".

[6] Corte Cost., sent. n. 37/1991.

[7] Important clarifications on the nature and meaning of the right to health have come from the jurisprudence of the Constitutional Court. Corte Cost., sent. n. 445/1990. According to the Court, "*although the right to health is recognized and guaranteed by art. 32 Cost. as a primary and fundamental right that requires full and comprehensive protection, the latter is articulated in different subjective legal situations depending on the nature and type of protection that the constitutional system provides to the good of integrity and physical and mental balance of the human person in relation to legal relationships which in practice is inherent. In reason of this [...], considered from the point of view of the defense of the physical and psychic integrity of the human person in front of aggression or conduct injurious to third parties, the right to health is a right erga omnes, immediately guaranteed by the Constitution and, as such, directly protectable and actionable by those entitled against the perpetrators of illegal behavior [. ...]. At the same time [...], considered from the point of view of the right to medical treatment, the right to health is subject to the determination of the instruments, times, and ways of implementation of the relative protection by the ordinary legislator. This last dimension of the right to health, [...] implies that, like any right to positive benefits, the right to obtain medical treatment, being based on constitutional rules of a programmatic nature imposing a specific goal to be achieved, is guaranteed to each person as a constitutional right conditioned by the implementation that the ordinary legislature gives it through the balancing of the interest protected by that right with other interests protected by the Constitution, taking into account the objective limits that the legislature itself encounters in its work of implementation in relation to relation to the organizational resources available at the time*".

[8] The constitutional principles regarding health, in fact, must be read bearing in mind that the concept of health is no longer limited to the mere inexistence of pathological states, but has gradually been extended to include "psycho-physical wellbeing". Consequently, the notion of so-called "existential damage" has been elaborated as damage to the quality of life that is independent of and must be compensated for even in the absence of a lesson or an illness of the body of the damaged party.

the subjective right of article 32 ([9]). It was therefore article 32 that allowed the Constitutional Court to affirm the existence of the right to a healthy environment ([10]).

Regarding articles 2 and 9 of the Constitution, objective protection of the landscape has been reconstructed, not a subjective one. By landscape, in this context, we mean the protection of "the shape of the country", intended in the urban and territorial sense (art. 9 in fact reads: "*the Republic protects the landscape*").

An important constitutional reference is also to be found in articles 41 and 42 concerning the limits to private economic initiative and private property. According to art. 41, the private economic initiative "*cannot be carried out in contravention of social utility, or in such a way as to cause damage to security, freedom, human dignity and can be addressed and coordinated for social purposes*". According to art.42, private property must be guaranteed by law the social function. Undoubtedly, among the possible meanings of utility, purpose and social function are those for environmental, and landscape purposes: the protection of the environment was therefore seen as a limit to be inserted between those of social security and protection that must be respected by the economic initiative and by the right of property.

A part of the doctrine identifies an implicit reference to environmental matters also in article 44 that imposes on the law a series of obligations "*in order to achieve the rational exploitation of the soil and to establish equitable social relations*". However, the protection of the soil, in this case, seems to be subordinated to the two main objectives to which the provision aims. The reform of the ownership structure and social relations in agriculture to guarantee small and medium-sized properties, and the protection of economic and productive interests ([11]).

Given these premises, it can be deduced that the inclusion in 2001 of environmental and ecosystem protection in the text of article 117, paragraph 2, letter *s*, is the culmination of an already very broad and consolidated jurisprudential development.

The new article 117 provides that the state has exclusive legislation on the protection of the environment, the ecosystem, and cultural heritage. The provision deals with the problem of the division of competence between state, regions, and autonomous provinces in environmental matters. On this point, there have been numerous rulings of the Constitutional Court.

According to the jurisprudence of the Constitutional Court ([12]), the subject "environmental protection" has a content at the same time objective, as it relates to a good (the environment)

[9] *Supra 3*, p.19.
[10] Corte Cost. sent. n.167/1987.
[11] *Supra* 3, p.20.
[12] Corte Cost. sent. n. 225/2009.

and finalistic, because it tends to the best conservation of the good itself ([13]). For this reason, different competencies concur on the same good environment, which remains distinct from each other, pursuing, independently, their specific objectives through the provision of different disciplines.

Indeed, on the one hand, the state is entrusted with the protection and conservation of the environment, through the establishment of "*adequate and non-reducible levels of protection*" ([14]). On the other hand, it is up to the regions, in compliance with the various levels of protection established by the state discipline, to exercise their own competencies, essentially aimed at regulating the use of the environment, avoiding compromises or alterations of the environment itself. In this sense, it has been affirmed that the competence of the state, when it is an expression of environmental protection, constitutes a "limit" to the exercise of regional competences ([15]). In substance, the regions are not allowed to introduce rules that are worse than the parameters of environmental protection established by state legislation. They can only introduce rules increasing the levels of such protection, without, however, compromising the balance between opposing needs expressly identified by the legislative provisions of the state, which function, therefore, as a limit to the discipline that the regions, including those with a special statute, dictate in their areas of competence ([16]). This means that the regions do not have to violate the levels of protection set by the state, but in the exercise of their competencies they can set higher levels of protection. The regions, therefore, exercise powers of choice as long as the level of environmental protection is already stricter than that set by the state legislation for the protection of the environment and the ecosystem.

In addition to indirect constitutional references, the environmental issue has been addressed in the Italian legal system thanks to the flexibility of the 1948 Constitution referred to above. The flexible structure is given by 2 fundamental characteristics: the personalist principles and the principle of solidarity.

The personalist principle affirms the priority of protection of the fundamental rights of the person and the right of the individual to its development in the civil sphere of social formations. It defines the right with respect to the definition of the powers of the collective organization and of the organization of the powers of the state, which must serve to the recognition and guarantees of the rights of the person. The principle of solidarity is functional to the

[13] Corte Cost., sentt. nn. 104/2008, 10, 30, 220/2009.
[14] Corte Cost., sent. n. 61/2009.
[15] Corte Cost., sentt. nn. 180 and 487/ 2008; n. 164/2009.
[16] Corte Cost., sent. n. 77/2017.

development and is aimed at establishing the obligation to assume responsibility for the problems that affect the entire community, such as that of the environment (articles 2 and 3 paragraph 2).

Thanks to this structure and based on constitutional norms, the Constitutional Court, which has the task of interpreting the principles evolutionarily, has come to recognize the environment as a "*fundamental interest*" and a "*constitutionally guaranteed and protected value*" ([17]).

Another feature of the 1948 Constitution that allowed the inclusion of environmental value in the Italian legal system is the "*future capacity of constitutional norms*" ([18]). With this expression, reference is made to the constitutional norms that contain within them references to the "people", the "nation", and "national unity", tending towards development of the generations, to which the values, where the constitutional order recognize itself, are entrusted. For example, the rules on economic development and the protection of savings, and the rules that impose the balance of the state budget are aimed at guaranteeing the prospects for the well-being of the community, as well as the rules for the protection of social rights (family, school, health, workers, and social security treatment) are projected towards the protection of the future citizens and future generations.

The "*future capacity of the constitutional rules*" has also allowed the transposition into the Italian legal system of the principles of intergenerational equity which has been affirmed in international environmental law and in the law of the European Union. Moreover, another feature of the Constitution that has allowed the rules and principles of international law and the European Union for environmental protection to enter the system is the openness to international law referred to in articles 10, 11, and 117 first paragraph ([19]).

These rules have allowed Italy to adhere to the international conventions promoted by the organization of the United Nations (the principles of the Conferences in Stockholm in 1972, in Rio in 1992, in Johannesburg in 2002, and in the Paris Agreement in 2015), and, above all, the opening to the European legal system has allowed the Treaty on European Union and the Treaty

[17] *Supra* 1, p. 9.
[18] *Ibidem.*
[19] According to article 20 the Italian legal system conforms to the generally recognized norms of international law; according to article 11 the Republic accepts the limits to its sovereignty to allow the achievement of justice and peace among peoples; and according to article 117 first paragraph, the state and regional legislation are subject to compliance with international obligations and the community order.

on the Functioning of the European Union to come into force in the legal system. This last one represents a real environmental constitution ([20]).

The main turning point of the Italian constitutional system towards greater protection of the environment has occurred recently. On February 8, 2022 (for the first time since 1948) an amendment has been made to one of the articles of the Constitution, containing the so-called "Fundamental Principles" of the constitutional order (articles 1-12) ([21]). Amendments to articles 9 and 41 of the Constitution have been approved, introducing the protection of the environment, biodiversity, and animals among the fundamental principles of the Constitutional Charter.

Constitutional Law No. 1/2002 "*Amendments to Articles 9 and 41 of the Constitution Concerning Environmental Protection"* introduces amendments to two articles of the Constitution.

Article 9 is one of the fundamental principles and currently consists of two paragraphs. The first two paragraphs entrust to the Republic the task of promoting the development of culture and scientific and technical research, and the task of protecting the landscape and the historical and artistic heritage of the nation. The reform introduces an additional paragraph: "*It protects the environment, biodiversity, and ecosystems, also in the interest of future generations. State law regulates the ways and forms of protection of animals"*.

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[20] *Supra* 1, p.11. *See also* art.3 par. 3 TEU: "*The Union shall establish an internal market. It shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance*". In art.11 of the Treaty on The Functioning of the European Union the competence of the union in environmental matters is established and the fundamental principle of integration is affirmed: "*Environmental protection requirements must be integrated into the definition and implementation of the Union policies and activities, in particular with a view to promoting sustainable development*". In art. 191 par.2 and par.3 TFEU: "[…] *Union policy on the environment shall aim at a high level of protection considering the diversity of situations in the various regions of the Union. It shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay. In this context, harmonization measures answering environmental protection requirements shall include, where appropriate, a safeguard clause allowing Member States to take provisional measures, for non-economic environmental reasons, subject to a procedure of inspection by the Union*".

[21] Cecchetti M. C., *La revisione degli articoli 9 e 41 della Costituzione e il valore costituzionale dell'ambiente: tra rischi scongiurati, qualche virtuosità (anche) innovativa e molte lacune*, in *Forum di Quaderni costituzionali*, 3 2021, p. 308, according to which the fact that "*the revision in question would be the first in the history of the Republic of Italy to modify the first twelve articles [...] certainly cannot be considered decisive [...] in order to hypothesize a potential contrast with the limits of the power of constitutional revision*", since "*any operation of assimilation aimed at making the provisions on the "fundamental principles" of articles 1-12 of the Constitution coincide, sic et simpliciter, with the "supreme principles" evoked by the Constitutional Court in sentence no. 1146/1988, must be considered decisively erroneous. 1-12 of the Constitution with the "supreme principles""* referred to by the Constitutional Court in judgment no. 1146/1988.

The *ratio* of the reform consists in considering the environment not as a *res* but as a primary value constitutionally protected. Moreover, this protection is aimed at posterity, i.e., future generations, and this is an innovative formulation in the constitutional text.

Some doubts have been raised about the term "future generations": the constitutional reform inserts in article 9 the concept of intergenerational responsibility, but it is not clear how this expression relates to the concept of "sustainable development", which was not introduced in the text reform. The reform does not constitutionalize the principle of sustainable development. The problem then arises of understanding what is meant by "ecological transition" and how this relates to environmental protection and sustainable development ([22]).

Moreover, for the first time, a reference to animals was introduced into the Constitution. Article 9 provides for a legal provision (requiring that certain matters only be governed by Parliament) that establishes that the legislature shall define the forms and methods of protection. The protection of animals does not, therefore, have the same "caliber" as that of the environment, ecosystems, and biodiversity, because the ways in which it is affirmed are delegated to a law of the State (with explicit reserves of ordinary law).

Article 41 of the Constitution is to be found in the part dedicated to the "rights and duties of citizens", in Title III, under the heading "economic relations". Currently, it is composed of three paragraphs and the reform provides for the introduction of some "incisors".

The first paragraph establishes that private economic initiative is free. The second paragraph states that private economic initiative *"may not be carried out in conflict with social utility or in such a way as to cause damage to freedom or human dignity"*. The reform has added two further constraints to the freedom of private economic initiative, which now cannot be carried out even in conflict with health and the environment. The first two limits (health and environment) are put before the others, thus implementing the new article 9 of the Constitution, which mentions environmental protection as a primary value to be protected.

The constitutional law has also amended the third paragraph of art. 41 that now provides that public and private economic activity *"may be directed and coordinated for social* (and also) *environmental purposes"*, suggesting the idea that state legislator should also consider ecological needs.

The constitutional law also introduces a safeguard clause providing the following: "*The law of the State that regulates the ways and forms of protection of animals, referred to in Article 9 of the Constitution, as amended by Article 1 of this Constitutional Law, shall apply to the special*

[22] Castelli L., *La mancata costituzionalizzazione del principio dello sviluppo sostenibile*, p.10.

statute regions and the autonomous provinces of Trento and Bolzano within the limits of the legislative powers recognized to them by their respective statutes". This means that in these territories the state law implementing the principle of animal protection applies within the limits of what is provided for by the respective statutes.

The choice of the Parliament in approving this reform confirms the growing attention to ecological issues. In the sheet that accompanies the measure, we read that the objective is to "*recognize a principle of environmental protection within the fundamental principles set out in the Constitution, attributing to the Republic also the protection of the environment, biodiversity and ecosystem*". The amendment of the Italian Constitution is part of the evolutionary context of the law already affirmed in nearby European countries, which expressly recognize in their constitutional texts the protection of the environment and sustainable development ([23]).

1.2 ENVIRONMENTAL PROTECTION IN THE CONSTITUTIONAL SYSTEM OF THE DIVISION OF LEGISLATIVE COMPETENCES BETWEEN STATE AND REGIONS

A crucial aspect of the Italian legal system for the forms of environmental protection concerns the division of competencies between the state and regions within the constitutional system on environmental matters.

As anticipated, the constitutional law October 18, 2001, No. 3 has reformed article 117 of the Constitution that, after the modification, provides in paragraph 2 letter *s)* that "*The state has exclusive legislation in the following matters: protection of the environment, of the ecosystem and of the cultural assets*".

The jurisprudence of the Constitutional Court has played a fundamental role in the definition of the boundaries that delimit the competencies of the state and regions. Indeed, prior to the enactment of art. 117 let. *s)*, the regions had a direct legislative competence to allow the performance of administrative functions in the field of nature conservation, protection against pollution, etc. Within this context, the Constitutional Court had not defined the environment as a subject but had specified that it was a constitutional value.

[23] The protection of the environment, as was recalled in the debate in the Chamber of Parliament, is already part of several Constitutions of the countries of the European Union direct references are found in those of Belgium, Bulgaria, Croatia, Estonia, Finland, France, Germany, Greece, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and Hungary.

The Court had affirmed that it was to be excluded that the environment could be qualified as a subject in the technical sense and that it could therefore be configured as environmental protection. This was because it was not possible to identify a sphere of state competence specifically delimited and circumscribed, given that it involves and intertwines with other interests and competencies. For this reason, the Court had defined the environment as a "constitutionally protected value" from which derives a "transversal competence". It, therefore, gives rise to different competencies that can be of the state but also regional, because it is up to the state to determine the needs that must be protected uniformly throughout the national territory ([24]).

Following the constitutional reform of article 117, the division of responsibilities between the state and the regions has radically changed. Despite this, for a first period, the Constitutional Court has remained consistent with previous case law, continuing to affirm that the matter attributed to the state following the reform of art.117 second paragraph letter *s)*, could not be considered a matter in the proper sense but one of those transversal matters that gives the state legislature the task of setting the minimum essential level for the protection of constitutional rights and values, and to the regions the task of developing a discipline of detail ([25]).

The Court had reiterated that the intent of the legislature had been to reserve to the state the power to set standards for a uniform level of protection throughout the country without, however, excluding in this area the concurrent competence of the regions in the care of other interests, intrinsically connected to environmental ones ([26]). The Court has, therefore, effectively defined the environmental matter as transversal.

However, the transversality of the matter does not limit the state in issuing only rules of principle, forcing it to leave room for regional legislation. The state law may also provide for the attribution of administrative functions, the exercise of which is necessary to carry out interventions of national importance, which may be set forth by state law, in the exercise of the exclusive legislative competence referred to in article 117 of the paragraph 2 letter *s)* and based on the general criteria dictated by article 118, i.e., based on the principles of subsidiarity, differentiation, and adequacy ([27]).

Starting with judgment n. 387/2007, however, the Court began to define the environment no longer as a value or an intangible asset but as a real matter in the technical sense that directly

[24] Corte Cost., sent. n. 382/1999.
[25] Corte Cost., sent. n. 303/2003.
[26] Scoca G. F., *Diritto amministrativo*, Torino, G. Giappichelli Editore, 2015, p.716.
[27] *Idem*, p.717.

defines the division of legislative competence between state and regions ([28]). If the Court defines the environment not only as a primary value to be protected but also as a material asset that must be subject to a specific and well-defined legal framework (which is attributed to the state by art.117), it means that from this area is excluded the legislative competence of the regions with respect to the exclusive competence of the state. The regions can, therefore, exercise their own competencies. If they concern with the same good governed by the state, the state legislation constitutes a mandatory limit for them.

In actual fact, there is therefore a prevalence of state environmental regulations over that dictated by the regions in matters connected and governed by them ([29]).

However, there are some cases in which the Court, in defining the environment, admits that it is a complex matter involving a multiplicity of sectors ([30]). In this "complex structure", the regions, when they find themselves exercising their competencies, can pursue the aim of environmental protection but the exercise of these competencies must be evaluated in proportion to the respect of the reform protection requirements that the state has identified ([31]). This orientation, therefore, seems to allow a certain flexibility in the exercise of competencies by the regions concerning the environment. The Court admits in fact that the regions can develop rules that improve environmental protection if they are not regional rules that regulate the matter *in peius*. Nevertheless, continuing to read the other judgments in which the Court

[28] Corte Cost., sent. n.387/2007: "It is an asset of life, material and complex, whose discipline also includes the protection and safeguarding of the quality and balance of its individual components".

[29] *Supra* 1, p.21.

[30] Corte Cost., sent. 210/2016: "*Environmental protection cannot be identified as a matter in the strict sense, having to be understood rather as a constitutionally protected value, integrating a sort of "transversal matter". precisely the transversality of the matter implies the existence of "different competences that may be regional", with the consequence that the state would only be reserved "the power to set uniform standards of protection throughout the national territory, without however excluding in this sector the regional competence to care for interests that are functionally connected with those that are strictly* environmental" (sent. 407/2002). Subsequently, however, this court clarified that the regions are not allowed to make exceptions *in pejus* with respect to the parameters of environmental protection set by state legislation". In addition, in the judgment n. 300/2013 the Constitutional Court affirmed that: "*The constitutional jurisprudence is constant in affirming that the protection of the environment falls within the exclusive legislative competences of the state and that, therefore, the legislative provisions adopted in this area act as a limit to the discipline that the regions, even with a special statute, dictate in sectors of their competence, being allowed only if necessary to increase the levels of environmental protection, without however compromising the balance point between opposing needs identified by the state law*".

[31] *Supra* 1, p. 22.

decided on the matter, we note that it continues to favor a rigid distribution of competencies ([32]).

This study of constitutional jurisprudence concerning the protection of the environment and the ecosystem appears to be fundamental to clarifying how a dispute between the State and the Regions has evolved over the years, involving interests, not only environmental ones, which the Constitutional Court has tried to balance the case by chance.

The impression that is gained from a systematic reading of the most important decisions in environmental matters pronounced by the Court after the reform of Title V is that the constitutional judges reached significant evolution regarding the so-called "environmental issue" in the field of the division of competences between state and regions, but it seems that they have not yet reached a definitive epilogue. Indeed, the constitutional justices have tried to mitigate the conflict between the old and the new system favoring a gradual transformation of the system of distribution of legislative and administrative powers and developing formulas that are often technically complex to define.

In general, the analysis of the most significant judgments on environmental matters has highlighted a jurisprudence that is not always homogeneous and uniform, where the interpretation of the binomial value-matter on the one hand, and of the interests on the other hand, has also been fundamental for what we can define as "system balances".

The difficulty in identifying a reliable criterion of predictability in the Court's decision has ended up being a source of expectations and tensions for the entire panorama of operators involved in the various areas affected by environmental issues.

1.3 THE THEORY OF THE ENVIRONMENT AS A LEGAL ASSET

Given the lack of a precise definition of the environment, not only the constitutional jurisprudence but also the doctrine has developed different theories in the attempt to outline the boundaries of the matter as much as possible. In the legal literature, two strands were distinguished.

[32] In the judgment 267/2016, for example, the Constitutional Court stated that in terms of environmental impact assessment, the regions cannot provide for any corrections or suggestions other than those indicated by the state legislator, within the framework of the procedures governed by the regions.

The first thesis ([33]) denied that the environment had an autonomous judicial relevance and schematized the environment into 3 fundamental components: a) institutions relating to the protection of the landscape and cultural heritage, b) institutions relating to the fight against pollution, c) institutions relating to the government of the territory (urban planning activity) ([34]).

The second doctrinal orientation ([35]) recognizes the legal value of the environment in relation to its purpose. In the environmental field would be identifiable two areas of homogeneous functions, health management and urban territorial management (referred to in art. 9 and 32 of the Constitution). The notion of the environment would therefore be seen as a unifying moment of purpose, as a systematic integration of the disciplines that regulate "*town planning, environmental assets, nature protection interventions, reserves and parks, communications and public works, public housing, navigation, hunting and fish, and pollution protection*" ([36]).

A different way of defining the good "environment" has been developed, drawing inspiration from civil law doctrine. It has been highlighted that the notion of "good" ([37]) could not be used in reference to the environment because it would lack the differentiated subjective interest that constitutes the typical element for the existence of good in the legal sense ([38]). The differentiated subjective interest, in fact, could not have individual nature because it would coincide with the general interest of protection of natural resources and therefore could not be protected by the rules that preserve individual interests.

Other scholars ([39]) have affirmed that to define the environment as a legal good, it is necessary to focus attention on the notion of damage and on the "*declaration of responsibility of the*

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[33] Giannini S. M., *"Ambiente": saggio sui suoi diversi aspetti giuridici*, in Riv. Trim. dir. pubbl., 1973, pp. 1 ss.

[34] Between these areas there would be no correspondence: in the first area the aim is the conservation of the landscape-cultural heritage considered as public property; in the second area the environment is protected against aggressive actions of man and then the legal fact of the offender, in the third area the environment is relevant in reference to administrative activity at the basis of which is the activity of territorial planning (Caravita B., Cassetti L., Morrone A., *Diritto dell'ambiente*, Bologna, Il Mulino, 2016, p. 16).

[35] Capaccioli E., F. Dal Piaz, *Ambiente (tutela dell')*, in *Noviss. dig. It.*, Appendice 1980, pp. 257 ss.

[36] Predieri A., *Paesaggio*, in *Enc. dir.*, Milano, 1981, XXXI, pp. 507 ss. *See also* A. Predieri, *Significato della norma costituzionale sulla tutela del paesaggio*, in Id, *Urbanistica, tutela del paesaggio, espropriazione*, Milano, Giuffrè, 1969. Decisive for the interpretation of the notion of environment were in fact the studies of Alberto Predieri who first proposed a reading of the "landscape" as "form of the environment".

[37] To be understood as "*a synthesis between the particular interest protected and the subjective situation arranged by the legal system as an instrument of protection intended for a particular subject*" (S. Pugliatti, *Beni (teoria generale)*, in *Enc. dir.,* Milano, V, 1959, p. 174.

[38] Caravita B., Cassetti L., Morrone A., *Diritto dell'ambiente*, Bologna, Il Mulino, 2016, p. 19.

[39] Francario L., *Danni ambientali e tutela civile*, Napoli, 1990, pp. 67 ss.

author of the harmful act that compromises the environment in order to obtain the reduction in pristine conditions".

In defining the environment as a legal asset, the doctrine has also attempted to configure the nature of the environmental asset. Part of the doctrine recognizes the nature of the environment as a *public good*, affirming that the state should be entitled to the subjective right. The ownership of the right would belong to the state as it is intended to protect the satisfaction of the needs of the community. In this context, the doctrine makes a distinction between "*public goods in the subjective sense*" (due to the state which is the owner like any private subject) and "*public goods in the objective sense*" (due to the state because they are goods of collective fruition, therefore, due to the state so that the citizens enjoy them) ([40]).

The other part of the doctrine criticizes this approach stating that, if we recognized the state as the owner of the environmental good, it would mean recognizing the return to a proprietary logic. For this reason, this doctrine defines the environmental good as a *collective good* ([41]). The protection of the diffuse interests of the community would be included in the public interest of environmental protection, with the consequence that damage to the environment would have to be recognized as public revenue damage (damage done to the state). In this sense, therefore, the protection of diffuse interests would coincide with the protection of public interests.

Despite the various legal theories on the environment that have been proposed, the problem of the definition of the environment and its legal nature has not been resolved either by the doctrine or at the legislative level.

Not even when the Ministry of the Environment was established did its founding law provide a definition of the environment. The law merely established that "*It is the task of the Ministry to ensure, within an organic framework, the promotion, preservation, and recovery of environmental conditions in accordance with the interests of the community and the quality of life as well as the conservation and enhancement of the national natural heritage and the defense of natural resources from pollution*" ([42]).

Indeed, there is no consistency in the definition of the environment even in the legislative context. Ss an example, Legislative Decree No. 112/1998, issued in implementation of the delegation for the transfer of functions contained in *Bassanini law* (Law No. 59/1997), provides for a different configuration of the environment based on the urban-geographic profiles.

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[40] *Supra* 31, p.560.

[41] Berti G., *IL rapporto ambientale,* in "Amministrazione", 1987, p.176.

[42] Art. 1, l. July 8, 1986, n.349 "Istituzione del Ministero dell'ambiente e norme in materia di danno ambientale".

A similar definition of environment is also found in d.lgs. 100/1999 (decree of reorganization of the powers of the Ministries): the rules that divide the environmental ministerial functions presuppose a general meaning of the environment, in which all the different interests meet.

1.4 THE ENVIRONMENT AS A CONSTITUTIONAL VALUE

As mentioned above, the Constitutional Court, in an attempt to clarify the notion of environment, recognized the nature of a constitutional value. In this way, the Court recognized that the interest of environmental protection is one of the values on which the Constitutional Charter is based. Therefore, like any other constitutional value, the environment becomes one of the fundamental goods.

In the light of the jurisprudence of the Constitutional Court ([43]), the right to environment is not defined as a subjective claim, but as a set of differently structured subjective situations that can be acted upon by an individual or a collective subject and can be protected in different ways. Moreover, the duty to protect the environment involves the state, as well as all the other expressions of public power (national and international), and individuals ([44]).

As specified by the Constitutional Court, the environment can therefore be defined as a constitutional value. Environment as a value means that it can serve as a *standard*, to guide behavior for the resolution of conflicts in various situations by orienting the interpretation of different issues. It can, therefore, be the subject of a right, but it is also one of the fundamental elements that constitute the legal system and its society.

Once the environment is defined as a value, it does not need justification: values are values in themselves ([45]). This, however, does not exclude that, in certain cases, a value may be violated or excluded from any interference, and whenever there is possible interference with environmental interests, the claimant must provide a valid justification ([46]).

Generally, a valid justification is considered as such if the plaintiff proves that his action is necessary for the achievement of other purposes. It must be, however, a substantive justification, and not merely a formal one. Sometimes, when it comes to interference with

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[43] Especially in the judgments nos. 407/2002 and 536/2002.

[44] Caravita B., *Diritto dell'ambiente*, Bologna, Il Mulino, 2005, p. 27.

[45] The environment as "a value in itself" it has also been defined by the Rio Convention on Biodiversity of June 5, 1992, ratified in Italy by l. February 1994, n.124.

[46] The old principle whereby man had the legitimacy to intervene on the environment because he enjoyed an absolute right has been abandoned. in fact, a limitation has been introduced to man's absolute right to intervene, according to which his power can be limited if the other party demonstrates that the action is detrimental to the environment. *See* Caravita B., *Diritto dell'ambiente*, Bologna, Il Mulino, 2005, p. 29.

environmental interests even a justification may not be sufficient. Indeed, the fundamental values on which a society is based can never be totally annulled or sacrificed.
For this reason, the assessment of the reasonableness of the justification limiting a value is even more severe when it comes to interfering with a fundamental value on which a society is based (e.g., human dignity, the democratic principle, or, indeed, environmental protection). In these cases, it is assumed that such values always prevail over other conflicting values because of their importance in society, which is based on them.
It can be said that in modern societies the environment is a value equal to human dignity, even if it has been affirmed only recently and not yet anywhere in the world ([47]). As with all values, constitutional values may come into conflict with one another. In such cases, the Court uses the technique of balancing as a method of resolving conflicts between primary constitutional values.
The value of environmental protection, although defined by the case-law of the Constitutional Court as a primary constitutional value, does not imply that it must be superordinate with respect to any other value. It is, therefore, the task of the Constitutional court to balance it with other interests and values on which the Italian legal system is founded ([48]).

1.5 THE ENVIRONMENT AS "ECOLOGICAL BALANCE"

A definition of environment has also been developed thanks to the reference to other sciences. Despite this, for a long time, doctrine and jurisprudence have neglected the definition of the concept of environment, by referring to the data and notions provided by the discipline of ecology, and, also, by the studies that analyze the relationships that establish between individuals and the environment ([49]).

[47] *Supra* 42, p. 28.
[48] For example, in the Constitutional Court's judgment no. 113/1994, the Court considered the principle of legality to prevail over the need to protect the environment. Judgment March March, 31, 1994 no. 113, in Riv. giur. Ambiente, 1994, p.865. *See also* Castelli L., *La mancata costituzionalizzazione del principio dello sviluppo sostenibile*: "*The inclusion of the environment in the constitution cannot be translated into its hierarchical superordination with respect to other constitutionally protected values, but can only mean that this value can never be neglected for the purposes of balancing with other values which are in conflict with it and that, as a result of this balancing, it can never be limited to the point of jeopardizing its essential content*".
[49] *Supra* 42, p. 22.

Referring to a generic definition of environment, it can be defined as the space that surrounds one and or a thing, but it can also be defined as "*the set of physical, chemical and biological concepts that allows and favors the life of living beings*" ([50]).

However, to understand the environment only as what is external, the entire set of ecological factors that have a direct and significant influence on the life of organisms would be excluded. For this reason, in the definition of the environment, it is also necessary to consider the ecological implications. That is, to consider the relationship between a community of populations and the space in which these populations are hosted. We must therefore consider what ecology teaches us about the concepts of "ecosystem" and "biosphere".

According to ecology, the ecosystem can be defined as a "*whole in which there is a state of equilibrium, autonomous in relation to other ecosystems*" ([51]), while the biosphere is "*the space occupied by all living beings, that is the combination of all ecosystems*" ([52]).

In this context, science traditionally distinguishes between abiotic and biotic (environmental) factors. The abiotic factors, in turn, are divided into climatic, hydrographic, edaphic (chemical and mechanical factors), while the abiotic ones are due to intraspecific or demographic. A legal definition of environment cannot neglect abiotic factors and, although the environmental value is concentrated on the human person, an anthropocentric vision is in any case insufficient, not considering the other factors that affect environmental problems ([53]). Therefore, to elaborate an autonomous and unitary meaning of environment can be found only by also including the ecological perspective.

The environment can then be defined as "*the ecological balance of the biosphere or of the single reference ecosystems*" and for environmental protection, it must be understood as "*the preservation of the ecological balance of the biosphere or ecosystems considered"* ([54]).

In any case, talking about the protection of the ecological balance of the biosphere and ecosystems means talking about the ecosystems to which man belongs and in which he operates. In the discipline of environmental law, therefore, are included all those matters of the sector that have as their purpose the protection of ecological balance (e.g., air, water, but also environmental impact assessment and environmental damages, i.e., instruments indirectly aimed at protecting the ecological balance). On the other hand, disciplines related to environmental law, but which have other purposes (e.g., protection of the economic-productive

[50] Definition of "*Environment*", in Enciclopedia europea, Milano, 1976, p.340.
[51] *Supra* 42, p. 24.
[52] *Ibidem.*
[53] *Ibidem.*
[54] *Idem*, p. 25.

order, protection of health and work) are not included in this type of definition of environmental law ([55]).

2. ADMINISTRATIVE ACTIVITY AND ENVIRONMENT

The birth of environmental law is relatively recent because the natural environment has always been considered a universal value, but without legal protection. Thus, the need to protect the natural environment was considered absorbed in other disciplines of the sector, such as the right to health (and to a healthy environment), the protection of the landscape (which includes the environment in its aesthetic aspect), and the discipline of the government of the territory ([56]).
The legal relevance of the environmental issue was affirmed around the middle of the last century when spread the awareness that "*while in previous periods there was a balance between the creative fact and the destructive fact of man .... Today this balance has been broken and the negative element prevails; today the destructive forces are greater than the constructive ones"* ([57]).
The emergence of public interest in the protection of the environment has shown, from an objective point of view, that the environmental interest is an interest of a general nature, which often interferes in an antagonistic way with other general interests (such as the construction of infrastructures, the government of the territory, the authorization to operate production plants). Furthermore, the interest in environmental protection is a widespread interest (i.e., belonging indistinctly to all the subjects who encounter the environment) and therefore cannot be attributed specifically to a private subject, who becomes its 'owner' and to whom protection is granted by the legal system. Therefore, the discipline of the environment and its protection cannot be based on the legal categories of subjective right or legitimate interest ([58]).

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[55] *Ibidem.*
[56] Rossi G., D*iritto dell'ambiente*, Giappichelli, 2017, pp. 10 ff., which recalls the so-called multifactorial thesis of the environment, elaborated by Massimo Severo Giannini (*Ambiente: saggio sui suoi diversi aspetti giuridici* 1973, Riv. Trim. Say. Pubb., 1973, p. 15 ss; also, Satta F., Introduzione all'ambiente, in www.apertacontrada.it, 2010; Caravita – Cassetti - Morrone, *Diritto dell'ambiente*, Il Mulino, 2016, pag. 17 ss.; P. Dell'Anno, *La tutela dell'ambiente come "materia" e come valore costituzionale di solidarietà e di elevata protezione*, available on: www.lexambiente.it.
[57] Giannini S. M., *Diritto dell'ambiente e del patrimonio naturale e culturale,* in Riv. Trim. Dir. Pubbl. 1971, p.1125.
[58]"*The substantive interest of the individual, understood as an individual component of the wider widespread interest, does not arise to a substantive personal situation amenable to judicial protection (i.e. it is not protected by a legitimate right or interest) given that the legal system cannot offer legal protection to an individual substantive interest that is not in whole or in part exclusive or amenable to individual appropriation*" (Cons. Stato, A.P. 20 February 2020, n. 6).

These characteristics of the object of environmental protection have made it inevitable to assign the tasks of environmental protection to the public authorities, and therefore the tools to implement the protection of the environment have been identified in the context of administrative action (and are mainly governed by administrative law, in compliance with European constraints and the principles of Euro-unitary legislation).

In the allocation of competencies in administrative matters, all territorial levels of government have been involved, as the problems to be faced transcend the territorial boundaries of competence.

Furthermore, in implementation of the constitutional principles of subsidiarity, adequacy, and differentiation, administrative functions must be allocated to the municipalities, as local authorities closest to the territory, unless it is essential to ensure their unitary exercise. In this case, they can be attributed (by regional law) to local authorities of higher-level or (by state law) to the Regions ([59]).

The attribution of administrative competence was followed by the establishment of specific offices or bodies dedicated to environmental protection, united - initially - by the need to respond to the satisfaction of individual environmental interests gradually emerging, up to the attempt to create unitary organizational structures, potentially capable of coordination and shared management of environmental interests ([60]).

At the state level, Law No. 349 of 8 July 1986 established the Ministry of the Environment. It was then followed by the establishment of the National System of Environmental Protection Agencies, resulting from the law establishing the National Environment Agency no. 61 of 1994 and from the regional laws that governed the Regional Agencies for the Protection of the Environment.

Moreover, the Italian legislator has extended the legitimacy to act to protect the environment also to the most representative environmental associations, identified as such by a provision of the Minister of the Environment (Article 13, Law no. 349/86 cited later in the text). Subsequently, the jurisprudence extended the legitimacy also to 'minor' associations, if they are characterized by at least three characters: (i) a stable and formal social purpose preordained to pursuit environmental objectives); (ii) effective and relevant representation of individuals and interests; (iii) finally, a concretely recognizable link with the environmental value endangered by the contested measure (Cons. Stato, IV, 19 June 2020, n. 3922; id. 2018, no. 1838; id. 14 April 2011, n. 2329). Legitimation can be recognized not only in the case of acts openly inherent the environmental matters, but also for the acts that "*affect the quality of life in a given territory*" (Cons. Stato, sec. IV, 24 April 2020, n. 24121; id. IV, 23 March 2018, n. 1318; id. IV 14 April 2011, n. 2329).

[59] Grassi S., Cecchetti M., *Profili costituzionali della regolazione ambientale nel diritto comunitario e* nazionale, in Rapisarda Sassoon, *Manuale delle leggi ambientali*, Giuffrè, 2002, pag. [•].

[60] Grassi S., *Procedimenti amministrativi e tutela dell'ambiente*, in M.A. Sandulli, Codice dell'azione amministrativa, Giuffré, 2017.

The protection of the environment, therefore, has acted as a "general clause" of legitimation of the role of the administration in imposing respect for collective interests, with authoritative instruments and in any case linked to the position of the supremacy of the public authorities ([61]).

A wide range of specific rules has therefore developed, which have made use of administrative law instruments to implement environmental protection requirements. In addition, environmental issues often present characteristics of such novelty, as to impose actions or decisions even in the absence of regulatory parameters or technical-scientific evidence. Therefore, the attribution to the Public Administration of a decision-making power often characterized by wide discretion has been imposed ([62]).

Consequently, the jurisprudence considers that the acts adopted by the Administrations in the exercise of environmental functions can be reviewed in the event of manifest illogicality and incongruity, misrepresentation of the facts, or macroscopic defects of investigation, or when the act is devoid of adequate motivation ([63]).

The intervention of administrative powers in environmental matters can be traced back to three different types: (i) regulatory powers; (ii) *command & control* functions; (iii) 'procompetitive' approach, aimed at the market and aimed at developing virtuous mechanisms, with respect to the environmental impact of their production processes of companies.

Regulatory intervention is carried out when the law must be integrated with technical or scientific content and therefore delegates to the administrative authority the task of adopting regulatory technical standards (i.e., sources hierarchically subordinate to the law, but having a prescriptive character) or *soft law* acts.

In the first case (regulatory acts) the legislator does not transpose the technical content rule into the legislative text but entrusts the decision to determine it and possibly to update it to the bodies of the Government, more supported by structures equipped with the necessary skills ([64]).

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[61] Morbidelli G.*, Il regime amministrativo speciale dell'ambiente*, in Scritti in onore di Alberto Predieri, Milano, 1996, t. II, 1122 ss.; Rallo, *Funzione di tutela ambientale e procedimento amministrativo*, Napoli, 2000.

[62] De Leonardis F., *Le trasformazioni della legalità nel diritto ambientale*, in Rossi, G., a cura di, Diritto dell'ambiente, Torino, 2011, p. 123. With specific reference to Agencies Environmental (on which more Come in in the text) the Court constitutional Has sanctioned who autonomy is a requirement characterizing of Same "*since only Thank you to it can be guaranteed respect for Policy Operating, purely technical-scientific, where the system same must keep to*" Corte cost. sent. n.132/2017).

[63] Cons. Stato, IV, 14 March 2022, n. 1761; id., sec. II, no. 5451 of 2020; sec. II, no. 5379 of 2020; sec. V, no. 1783 of 2013; sec. VI, no. 458 of 2014.

[64] "*The technical regulation is essentially transposed into a source-act and integrated with properly legal rules, thus ending up assuming the typical characteristics and effectiveness of the latter, without prejudice to the maintenance of the essentially technical-scientific content*". Cecchetti M., *Note*

The relationship with the administrative authority can follow different models. In the first place, the rule can leave full freedom to the executive by limiting itself to denouncing the cases to be regulated and conferring a sort of blank delegation ([65]). Alternatively, the legislative text can authorize the enactment of regulatory rules indicating at the same time the purposes of the achievement and the criteria to be followed in the activity of setting the technical rules ([66]).
In such cases, therefore, the effect of the administrative activity is to define the perimeter of the environmental regulations and their conditions of applicability ([67]).
Command & control is a regulatory strategy that is based on the imposition of *standards*, obligations, and prohibitions associated with various sanctioning mechanisms with a deterrent function – such as pecuniary, disqualification, or criminal penalties – and which provides for a variety of mechanisms aimed at influencing the behavior of the various economic operators ([68]).
The environmental regulation obtained through authoritative instruments is divided into two main phases: the 'command', which consists in determining the rules that prescribe obligations and prohibitions to those subjects who carry out activities potentially harmful to the environment; and the 'control', which consists instead in the verification by the competent public administrations of compliance with the provisions given in the previous phase.
Interventions of this type of administrative action are mostly related to the field of environmental permits. The competent authority at the time of granting the authorization may prescribe specific process *standards*, which the holder of the authorization is required to comply with; it exercises control (with burdens borne by the holder of the authorization) on compliance

introduttive allo studio delle normative tecniche nel sistema delle fonti a tutela dell'ambiente, available on: https://www.osservatoriosullefonti.it/archivi/archivio-volumi-osservatorio/osservatorio-1996/10-07-marcello-cecchetti/file.
[65] It is an example of this the attribution to the Ministry of the Environment of the power to determine general technical standards on the protection of water provided for by art. 3, paragraph 1 and art. 2, paragraph 1, lett. A of Law No 349 of 8 July 1986.
[66] For example, the attribution to the Ministry of the Environment of the power to determine the pollution limits of industrial plants (art. 8 and 20, paragraph 1, law 13 July 1966, n. 615).
[67] An example is given by the ministerial power of establish the criteria based on which a waste can be considered a by-product (Art. 184 bis, Legislative Decree no. 152 of 3 April 2006), or the criteria for determining when certain types of waste can be considered recovered (Article 184 *Ter*, d. lgs. 3 April 2006, n. 152): if a given substance or product rit inspects these limits, it is removed from the discipline on waste; vice versa if these limits Not are respected, the management of that substance or product is attracted to waste legislation and can – in hypothesis – result unlawful.
[68] Pinto C., *I diversi strumenti di tutela ambientale: fallimenti delle pubbliche amministrazioni e inefficienze del libero mercato,* in www.environmentlaw, 2021.

with these *standards* ([69]). If the control is unsuccessful, the competent authority shall exercise powers of formal notice and – in more serious cases – apply penalties, until the authorization is withdrawn ([70]).

The authoritative mechanisms of *command & control* belong to a phase of development of environmental law, where the protection of the environment is conceived as a limit to economic development: therefore, a phase in which the environment is an antagonistic interest to the economic one.

This type of protection (which for a long time was the exclusive form and which continues to be the most widespread) in recent decades has been accompanied by market interventions that have been characterized by the economic dimension.

In the first phase, starting from the 80's, instruments of direct intervention (such as environmental taxation of purpose) or indirect (the granting of subsidies and incentives) have been developed and applied, suitable to affect production costs, and therefore to direct the choices of producers towards 'less expensive' or such as to generate savings ([71]).

More recently, a second model of intervention has been developed, inspired by a conception of environmental protection that sees the environment not as a limit, but as a factor of development. It is indeed able to identify *new markets* and *new products*, it can direct the behavior of the economic operators towards production processes with a better impact on the environment, and it can to encourage recipients to a continuous search for the best solutions and the most advanced technologies to minimize costs while maximizing the results in terms of environmental protection ([72]).

An example of such interventions is the creation of artificial markets for the negotiation of permits and certificates between economic operators falling within the scope of the relevant framework ([73]), resulting in the creation of markets for the exchange of goods and securities

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[69] These activities are generically related to the concept of *environmental inspection,* referred to in the lett. v-*quinques* of art. 5 of d. lgs. 3 April 2006, n. 152: so-called consolidated text for the environment. Dell'Anno P., *Diritto dell'ambiente*, Cedam, 2021, pagg. 119 ss.

[70] Blasizza E., *Ambiente,* Wolters Kluewer, 2019, Ipsoa, pagg. 225 ss.

[71] A recent example of the type of intervention described in the text is given by the so-called '*plastic Tax*', provided for by the EU Directive 2019/904 / EU of 5 June 2019 so-called SUP (*Single Use Plastics),* imposing an obligation on the Member States to introduce in the National legislation (by 3 July 2021) the ban on the production of single-use plastic products targets and sets the target of producing at least 10 million recycled plastics by 2025.

[72] Postiglione A., Maglia S., *Strumenti economici e finanziari di tutela ambientale*, in Tutto Ambiente.

[73] Torchia L., *La dinamica del diritto amministrativo*. *Dieci lezioni*, Il Mulino, 2017, pp. 155 ss.

representing environmental values, which, in the absence of such public intervention, would not even exist ([74]).

The development of 'market' instruments is consistent with the European directives on the circular economy ([75]), which have modified the discipline on waste, starting from a paradigm shift. Waste is no longer seen as 'a problem', but as 'a resource', on which to build a chain of recovery of the material and that still allows the waste to have a useful effect in the economic process and productive.

3. THE REFORM AND FUNDING AS INSTRUMENT OF ECOLOGICAL TRANSITION

3.1 PLANNING AND PROGRAMMING ACTS: DISTINCTIONS

It is widely believed that environmental policies should be implemented mainly through public law instruments, including, above all, planning and programming activities ([76]). Indeed, in many matters (including environmental matters), in which the exercise of administrative power is carried out, the law provides, prior to the issuing of any measure, for planning or programming activities. These activities allow the definition of priorities, limits, objectives, and other criteria governing the exercise of public powers.

The two terms are sometimes used as an alternative to one another. If, in fact, with the expression "plans and programs" we refer to the set of activities that aim, in the long term, at

[74] An example of this is the legislation on 'energy efficiency certificates': the Electricity and natural gas distribution companies have an obligation to achieve increasing annual targets for improving energy efficiency. These objectives can be met, alternatively: directly, with energy efficiency interventions; or "*Buying*" energy efficiency from third parties (through the purchase of certificates proving energy saving). To measure the energy savings achieved, reference is made to the Ton of Oil Equivalent (hereinafter TEP): for each intervention that complies with specific requirements and certain procedures, an Energy Efficiency Certificate is recognized to each TOE saved. The TEEs are issued by the Energy Services Manager, to which the primary legislation delegates the "*management activities of the certification mechanism relating to white certificates"* (Article 29, paragraph 1, letter b, of Legislative Decree no. 71 of 28 March 2011); as well as those of "*evaluation and certification of the reduction in primary energy consumption actually achieved*" (art. 6, d.m. 28 December 2012, n. 65631). White Certificates are negotiable securities, which certify the achievement of energy savings in energy end uses. Therefore, economic operators are encouraged to carry out energy reduction interventions, as they can monetize the savings obtained that will be purchased on the market of energy efficiency certificates by companies that are not virtuous from an environmental point of view.

[75] It is 4 Directives (No 851 on waste; No 852 on packaging and packaging waste; No 850 on the landfill of waste; No 849 on end-of-life vehicles, batteries and accumulators and waste electrical and electrical equipment electronic) approved on April 18, 201, from European Parliament. They contain a set of provisions aimed at promoting the transition to a circular economy, as an alternative to the current linear economic model.

[76] *Supra* 36, p. 279.

the attainment of a determined end and prescribe the means to reach it, they can be considered synonymous and used indifferently one in place of the other.

Giannini in 1983 wrote that there was no difference between plan and program: *"the activity of programming does not admit definitions, neither juridical nor economic, but only a logical notion: it is an activity of duration, projected into the future, consisting in the determination: a) of the spatial or temporal order or both; b) of the object; c) of the objective"* ([77]).

However, if they are often used synonymously, the term "program" is sometimes used with a different meaning, referring to a set of prescriptions aimed at coordinating activities with respect to an end (and not only with respect to content, but also with respect to the timing of their implementation) ([78]).

There is a doctrine that believes that identifying the distinctions between plans and programs is complex and, in any case, not fundamental for delineating their distinctive features ([79]).

Planning and programming acts may concern different activities: economic, urban planning, or administrative action activities in each sector ([80]).

Planning differs from other methods of authoritarian intervention by public authorities in that it is prepared with a view to a specific end to be achieved. Programming should also be considered a form of public intervention in the economy, so that the actions of private parties do not conflict with the general interests and so that these parties cooperate to satisfy these interests ([81]).

It is controversial what the nature of plans and programs is. However, a distinction must be made between the context in which these terms are used. Sometimes, in fact, "plans and programs" refer to administrative acts through which regulatory functions are exercised (e.g., regulatory plans) and at other times it refers to actions that indicate the objectives to be pursued by Public Administrations (e.g., health plans) ([82]).

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[77] Giannini M. S., *Pianificazione*, in E.d.D., vol. XXXIII, Milano, 1983, p.629.

[78] Sorace D., *Diritto delle amministrazioni pubbliche. Una introduzione*, Bologna, Il Mulino, 2005, pp. 90-91. *See* also Dipace R., *L'attività di programmazione come presupposto di decisioni amministrative. Decisioni amministrative e processi deliberativi, Atti del Convegno AIDPA.*, Università degli studi del Molise, 2017: legislation often uses the terms of planning and programming with some confusion. Perhaps only in urban planning law is the distinction between plans and programs truly clear: the plan is limited to designing the functions of the territory, while the program has a more complex content, not limited to the aspects of functional definition of the territory.

[79] Predieri A., *Pianificazione*, cit. 97, who does not believe in the differentiation between the two terms planning and programming, at most believe that we can speak of a distinction between "*planned and programmed economy*".

[80] Sandulli A. M., *Manuale di diritto Amministrativo*, Napoli, Casa Editrice Jovene, 1969, p. 388.

[81] *Supra* 36, p. 279.

[82] Idem, p.56.

In any case, such acts are used to carry out political and administrative policy functions referred to in article 95 of the Constitution. Moreover, also article 3 paragraph 1, let. *a)* d.lgs. n. 29/1993, which is now art. 4 paragraph 1 TUPI ([83]) states that "*The organs of government exercise the functions of political-administrative direction by defining the objectives and programs to be implemented […]. They are responsible for defining objectives, priorities, plans, programs and general directives for administrative action and management*". The political branches of government thus exercise a specification of political directions (a competence attributed to them by law) by means of programs and similar acts, i.e., acts of direction that are not source-acts. In fact, not all guidance documents are sources of law (and not all sources of law contain guidance documents for public administrations).

However, the planning and programming activity is not only the expression of a guiding function. The guiding function is in fact assisted by coordination and control measures that are binding.

Plans and programs can be traced back to the prescriptive procedures which have as their purpose the definition of objectives, methods, means, and times of the administrative activity. Within this category, they belong to the general provisions and to the conforming acts of interests. Such acts, as anticipated, do not carry out their function in mere addressing and, falling within the category of general acts, but they may have general contents or contain specific prescriptions. For this reason, it is difficult to identify the precise legal regime ([84]).

Whether it is programming or planning activities, there is a tendency to distinguish between internal or external programming/planning, depending on whether it is to satisfy the needs of the administration itself and of the community. Examples of internal planning include strategic planning and personnel regulations; examples of external planning include urban planning and public contracts.

Sector planning, like all other planning instruments, finds its legitimacy in article 41 of the Constitution. However, our legal system does not provide for a general form of planning on environmental matters, but for many sector plans that are not coordinated among themselves. The explanation that can be attributed to this is that many legislative interventions have been

[83] Testo unico sulle norme generali dell'ordinamento del lavoro alle dipendenze delle amministrazioni pubbliche – TUPI, d.lgs. n. 165/2001.

[84] Dipace R., *L'attività di programmazione come presupposto di decisioni amministrative. Decisioni amministrative e processi deliberativi, Atti del Convegno AIDPA.*, Università degli studi del Molise, 2017, p.12.

put in place to deal with (environmental) emergencies, and general planning also risks being too general or authoritative ([85]).

The transfer of certain functions from the state to the regions (so-called administrative federalism) ([86]) has provided for the suppression of many planning instruments in the environmental field: the three-year program for environmental protection (art. 68), the three-year program for protected natural areas (art. 76), the general plan for water reclamation (art. 79 let. c), the national plan for the protection of air quality (art. 82), the reclamation plan of the Adriatic Sea, the plan of interventions for the protection of bathing. This measure has thus become aware of the general environmental planning on the legislative level.

Regarding the rules applicable to planning and programming acts, art.13 of Law No. 241/1990 ([87]) establishes: "*The dispositions contained in the present chapter do not apply to the activity of the public administration aimed at issuing normative, general administrative, planning, and programming acts, for which the particular norms that regulate their formation remain in force*". Law No. 241/1990 seems to set a clear boundary between *the activity of the public administration aimed at issuing regulatory, general administrative, planning and programming acts,* and what is, in general, proceeding. As a result of this rule, all the provisions of Chapter IV, which specify the structure of the administrative procedure, do not apply to these activities (notice of commencement of proceedings; intervention and rights of participants; supplementary and substitute agreements; regulations governing the granting of economic benefits of any kind).

As far as regulatory acts, general administrative acts, and programming acts are concerned, the exclusion is justified by the fact that an independent form of participation is already provided for ([88]).

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[85] *Supra* 36, p. 281.

[86] D.lgs. March 31, 1998, n. 112 "Conferimento di funzioni e compiti amministrativi dallo Stato alle regioni ed enti locali, in attuazione del capo I della legge 15 marzo 1997, n. 59".

[87] Legge sul Procedimento Amministrativo (L. August 7, 1990 No. 241).

[88] *See* Sorace D., *Diritto delle amministrazioni pubbliche. Una introduzione*, Bologna, Il Mulino, 2005, p. 336: "*As far as planning and programming acts are concerned, it could be considered that the exclusion does not concern all these acts indiscriminately, but only those that have the nature of regulatory or general acts: this orientation is, in fact, accepted by jurisprudence* (Cass. Sez. Un., n. 7452/1997) a*nd makes it possible to apply art. 11 to the most frequent hypotheses of contracted administration, i.e., urban planning agreements*".

3.1.1 PLANNING ACTS

The need for planning is intrinsic to man's activities: man plans how to use his resources over time to achieve certain goals.

For public bodies, planning is one of the fundamental techniques of their action. It is the evaluation for the preparation of the instruments necessary for the achievement of a given objective over time.

With the term "planning" we, therefore, refer to the set of activities preordained to the formation of a plan: to plan means to elaborate a project, to verify its realization, to establish resources, times and spaces, and modalities for its realization ([89]).

The legislator tends to introduce special forms of planning for each of the sectors of the legal system and, therefore, for each public interest to be taken care of. The adoption of the plan represents the first form of protection of public interests in each sector, which is then followed by the adoption of specific measures that have a particular and concrete content and that must be adopted in accordance with the previous planning choice.

As far as this work is concerned, it is necessary to mention that the environmental sector is also characterized by a multiplicity of planning instruments ([90]).

The planning principle ensures a level of implementation of other principles of administrative activity: the principles of impartiality and good performance. Nowadays, according to the provisions of legislation and jurisprudence, it represents one of the general principles governing administrative action ([91]). Other corollaries of the planning principle are identified in the principles of economy and flexibility: even the planning activity has limited available resources, and it must be able to adapt to possible needs that may arise after the drafting of the plan.

From the point of the procedure for the formation of the plan, the planning activity seems to be characterized by the principle of uniqueness. The plan must act as a harmonious mediation and organize all the choices necessary to take care of the public interest considered.

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[89] Renna M., Saitta F. (a cura di), *Studi sui principi del diritto amministrativo*, Milano, Giuffrè Editore, 2012, p. 453. Here it is specified that some tend to make an analogy between the plan and the administrative procedure, for their finalistic nature: in the administrative procedure it is identified "*the unity of a series of acts as a function of a common destination to which they are preordained*", in the plan instead "*it is the unity of its provisions that arises in function of a unity of objectives*" (Miele).

[90] The Environment Code (Legislative Decree No. 152/2016) regulates: the basin plan (art.65), the plan water protection plan (art. 121), the area plan (art. 149), the national communication and environmental knowledge plan (art. 195), the waste management plan (art. 199), the plan for the remediation of polluted waters (art. 199) etc.

[91] *Supra* 66, p. 468.

Finally, another important corollary of the planning principle seems to be that of the speed of the process of formation and variation of the plans. Long planning times worsen the quality of the product plan: the legal system should be able to speed up the planning procedures as much as possible ([92]).

The dominant aspect of planning is that it is not about the interests of one, but about protecting the interests of a community ([93]).

Among the main areas in which planning proliferates are the disciplines of land use and, among these, urban planning ([94]). For the purpose of this work, in fact, the term "plan" is not intended to refer to the regulatory plan in the field of urban planning, but it is intended to refer to other planning tools used in different sectors (especially the environment) to understand what are the main elements that characterize them and, in this context, how it fits the most recent of the Italian plans adopted: the National Plan for Recovery and Resilience.

According to the theory of administrative regulation, the acts of planning introduced in economic matters are to be considered among the instruments of public intervention most intrusive of the freedom of private initiative, sometimes having distorting effects on the competition ([95]).

3.1.2 PROCEDURAL GUARANTEES IN THE PLANNING ACTIVITY

The procedural guarantees provided for planning activities are aimed at avoiding the challenge of possible omissions of guarantees by the interested parties and avoiding possible illegitimacy of the resulting plan.

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[92] *Idem*, pp. 468-469.

[93] Mazzarelli V., *Passato e presente delle pianificazioni*, scritti in onore di Spagnolo, II, ESI, 2007, pp. 707 ss., p. 4.

[94] Although it is not relevant for the purposes of this work, it is necessary to specify that the term "general land-use plan" refers to the main instrument of government of the territory by the municipalities. it was provided for the first time by the urban planning law of 1942 and is now governed by regional laws. It distinguishes the areas in homogeneous zones, with the specification of which activities can be settled. it then identifies the areas destined for public buildings and infrastructures or public use. It follows an approval procedure, open to the participation of private parties: it is adopted by the municipality and published for 30 days to allow the interested parties to examine it and submit observations. It is then subject to a new resolution of the municipal council. it is then subject to the approval of the region. Briefly, regarding the legal nature of the zoning plan, jurisprudence prevails on the intermediate thesis of the mixed nature of zoning plans, which "*on the one hand, provide in a general and abstract manner for the government and use of the entire municipal territory, and, on the other, contain instructions, norms and prescriptions for the concrete definition, destination and arrangement of individual parts of the urban area*" (Const. St. Ad. Pl. December 22, 1999, n. 24; Clarich M., *Manuale di diritto amministrativo*, Bologna, il Mulino, 2019, pp. 86-87).

[95] Clarich M., *Manuale di diritto amministrativo*, Bologna, il Mulino, 2019, pp. 85-86.

Law No. 241 of August 7, 1190 (art. 13) excludes the application of participation rules with reference to planning and programming acts but retains the special forms of participation that are provided for in sectoral regulations.

In addition to the traditional guaranteed instruments (observations), other participatory instruments are appearing in our legal system. An example of this is the public debate governed by article 22 of the Code of Public Contracts, which can also be used in other sectors of administrative life ([96]).

A further delicate problem is that of the motivation of planning acts. In general, the obligation to motivate is excluded by art. 3 of Law No. 241/1990 for regulatory acts and acts with general content.

There are some positions ([97]) that exclude motivation with reference to acts that do not directly affect subjective legal situations given their generality, whereas other positions ([98]) believe that the generality of the act is not sufficient to exclude the obligation to motivate (acts preordained to the definition of assumptions for the adoption of further measures, a category in which plans, and programs fall). A further orientation considers that the programming and planning acts must in any case be motivated in the light of the literal interpretation of article 3. This provision does not mention programming and planning acts ([99]). Finally, there is a part of doctrine that considers the mandatory motivation in all cases in which the administration decides beyond the form that the act takes: plans and programs certainly make decisions and, sometimes, directly affect substantive legal situations ([100]). These circumstances, according to some authors, contribute to affirming that planning acts, which are included among the general acts, have a particular procedural regime that tends, however, toward the ordinary regime. In this context, the omission of one of the procedural guarantees renders the act illegitimate. It could, therefore,

[96] *See Supra* 62, p.26: in particular, major infrastructure projects that have a significant impact on the environment, on cities and on land use will be subjected to a mandatory public debate whose function is to collect the observations of the administrations involved, public bodies and private stakeholders. the results of the public debate and the observations collected are assessed during the preparation of the defined project and are then discussed during the service conferences relating to the work subjected to the debate itself. The debate may be the institution that can best guarantee the participation of local communities in the planning phase of choices, especially in very sensitive areas of the life of the community of reference such as the environment, public works, and social rights.

[97] Della Cananea G., *Gli atti amministrativi generali*, Padova, CEDAM, 2000, cit., 306.

[98] Cassatella A., *Il dovere di motivazione nell'attività amministrativa*, Padova, CEDAM, 2013.

[99] Sandulli M.A., *Rilevanza e trasparenza dei motivi nel procedimento e nel processo,* in AA.VV. Atti del convegno di Brescia 18-19 ottobre 1991, Roma, 1995

[100] Cannada Bartoli E., *In tema di motivazione degli atti a contenuto generale*, in *Foro amm.,* 1995 p.4

be challenged by interested parties (who have been precluded from participating in the phase of fundamental choices) ([101]).

3.1.3 PROGRAMMING ACTS

As mentioned above, programs (like plans) are also included in the category of general measures. Generally, the principle of planning is brought under the heading of economic planning.

The principle of programming finds its foundation (with reference to the economic and financial policy of the state) in the first paragraph of article 97 of the Constitution and in article 81 of the Constitution, which, providing for the principle of legality of public expenditure, requires a discipline-oriented towards the programming and control of expenditure.

In the Constitutional Charter, therefore, next to the consecration of the freedom of economic initiative in art. 41 paragraph 1, typical of a liberal system, a set of possible limits is established, ranging from the predisposition of a planning system through which public subjects can condition/orient private individuals in the exercise of this freedom (for example, subsidies are foreseen in favor of certain entrepreneurial categories), up to the participation of the state in economic life or in monopoly situations (it is enough to think of the nationalization of the energy sector, now abandoned).

Among the organs of economic planning, the fundamental tasks concerning multi-year unitary planning were entrusted for the first time to the Ministry of Budget and Economic Planning (which before the renaming was the Ministry of Budget), responsible for the preparation and supervision of the implementation of economic planning ([102]).

Even programming is a dynamic process. The objective of the elaboration of a program is the achievement of a result. It is, therefore, important that the program also has the characteristic of flexibility. To optimize the relationship between it and the market on which it has an impact over time and to adapt to possible evolutions of that market ([103]).

In this economic and legal scenario, the line between what can be called a “plan” and what can be called a “program” is increasingly blurred. Differences exist, but they always seem to be object related. In general, planning is entrusted with the legal protection of goods; programming is entrusted with the legal protection of the market.

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[101] *Supra* 62, p. 28

[102] Sandulli A. M., *Manuale di diritto Amministrativo*, Napoli, Casa Editrice Jovene, 1969, p. 639.

[103] *Supra* 83, p. 8.

3.2 EUROPEAN INVESTMENT PLANS AND EUROPEAN ENVIRONMENTAL ACTIONS PROGRAMS

Plans and programs are elaborated not only at the national level. Following the economic-financial crisis of 2008 and the Covid-19 pandemic crisis, a growing European public intervention has developed, aimed at catalyzing the skills and private capital of economic operators on long-term projects and investments. These European public interventions have often been developed through the form of plans and programs.

Specifically, following the economic-financial crisis of 2008 and the sovereign debt crisis in Europe in 2013, the European Union has developed important European investment plans. These programs are focused on quality projects based on market parameters and instruments capable of mobilizing capital and expertise from private investors.

In 2014, the European Commission developed the Investment Plan for Europe (the so-called Junker Plan), based on 3 pillars (governed by European Regulation No. 1017/2015 of June 25, 2015): the European Advisory Hub, the European Investment Projects Portal, and the European Fund for Strategic Investments. This fund is managed by the European Bank and provides a guarantee in favor of financing and investment operations. The guarantee of the fund is based on specific resources of the European budget and the projects that can benefit from the support of this fund must demonstrate that they can withstand any market failures or any negative consequences of the investment. This program is aimed at supporting investment through the allocation of public resources to states that develop quality projects.

As part of the 2021-2027 financial framework, the European Commission has developed the InvestEU Program, which is based on four pillars: the InvestEU Fund (European public guarantee of over €40 billion), the InvestEU Advisory Hub (provides technical assistance for individual project development), the InvestEU Portal (provides data on projects to be funded), and blended operations (combination of funding sources and instruments).

The InvestEU Plan is also based on innovative financial instruments and a public guarantee that supports investments aimed at remedying any market failures. The plan is committed to promoting the quality of public and private projects with a view to making a project attractive to private and institutional investors, including international ones ([104]).

[104] Manuali Laterza, *La nuova costituzione economica*, Cassese S. (a cura di), Bari, Editori Laterza, 2021, p.62.

The InvestEU Fund pays special attention to some specific sectors: sustainable infrastructure in the fields of renewable energy, digital connectivity, transport, circular economy, water, waste, and infrastructure in the field of education, health, and social housing (categories all characterized by the need for investment in the field of renewable energy) ([105]).

Another key European public intervention to boost investment was then put in place to remedy the negative consequences of the pandemic crisis by Covid-19. On 21 July 2020, the European Council concluded a political agreement on the multiannual financial framework 2021-2017 and on the "Next Generation EU", a new financial instrument proposed by the European Commission ([106]).

Unlike the other plans, Next Generation EU has been defined as "*exceptional and temporary and is characterized by an epoch-making choice: it envisages authorization for the European Commission to borrow, by 2016, on behalf of the Union, on the capital markets up to 750 billion euros, with the possibility of repayment no later than 2058*" ([107]). Funds raised by the Commission from the markets can be used through grants and loans and are primarily for the new "Recovery and Resilience Device" (so-called *Recovery Fund*), and for strengthening of other European programs including InvestEU. For States to benefit from resources from Next Generation EU, they are required to plan reforms and design public investments eligible for European support by December 31, 2023. In particular, within the framework of the Recovery Fund, it is foreseen that each State must prepare specific "National Plans for Recovery and Resilience" of the country, to be attached to the Reform Plan (NRP): in these, the states are required to outline in concrete terms the projects of reform and public investment, which will then be evaluated by the Commission that if then decides in favor, the plan passes to the approval of the European Council (which votes by qualified majority).

From this context, it follows that at the European level a real European public intervention has emerged and has been strengthened to relaunch investments that the state would not be able to support on its own or that private investors would consider too risky or economically unsustainable.

The European Union has made use of the instruments of plans and programs to concretely regulate public intervention in support of states. The European public guarantee has always been the main instrument of the financing and investment programs of the Union to support

[105] *Idem*, p.63.

[106] The adoption of this instrument was accompanied by the Communication of the European Commission 456 of May 27, 2020, which states: "*Europe's time: repairing the damage and preparing the future for the next generation*".

[107] *Supra* 85, p.65.

national infrastructure policies and investments ([108]). However, with the global pandemic came an increased need for supranational intervention to support countries all severely damaged by the health and economic crisis.

To implement European investment programs, the Member States and European Institutions refer to so-called national promotional institutions. These are institutions that the Member States may decide to set up specifically or may decide to entrust this function to already existing institutes. National promoting banks or institutions are defined as "*legal entities carrying out financial activities on a professional basis, which have been mandated by a Member State or an entity of a Member State, at the central, regional or local level, to carry out development or promotion activities*" ([109]). They are, therefore, national entities that promote investments in infrastructure on a European scale.

These institutions, within the framework of the European Fund for Strategic Investments, for example, may set up or participate in collaboration with the European Investment Bank in specific national, multinational, and thematic "investment platforms". They may take various forms: special purpose vehicles, financing, or risk-sharing agreements ([110]).

Important programs in European law have been not only in the economic field but also in the environmental field at the community level. Art.175 of the Treaty of Amsterdam provides for

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[108] *Supra* 85, p.64.

[109] Article 2, para 3) Regulation (EU) 205/2017 of the European Parliament and of the Council of 25 June 2015 establishing the European Fund for Strategic Investments (EUSEF). In Italy, following this European Regulation, Law No. 208 of December 28, 2015 (the 2018 Budget Act) and Decree of August 3, 2016 "Granting of the State guarantee on the financial transactions of investment platforms eligible for the European Fund for Strategic Investments (FEIS) - Juncker Plan. (16A07191)" granted the status of national promotion institution to the Cassa Depositi e Prestiti. Article 1 of the Decree establishes that the Cassa Depositi e Presiti: "*Pursuant to Article 1, paragraph 826 of Law No. 208 of December 28, 2015, carries out the assessment of creditworthiness and risk management of individual financial transactions admitted to the Fund's guarantee, also promoted through its subsidiaries, in full autonomy and consistent with its own guidelines*". Cassa Depositi e Prestiti is a joint-stock company controlled by the Ministry of the Economy and Finance and owned by numerous foundations of banking origin. It is, therefore, a company in which public and private capital structurally coexist and which contributes to satisfying the public interest in supporting, promoting, and relaunching investments in infrastructures of general interest. Cassa Depositi e Prestiti in 2016 promoted the "EFSI Sectoral Platform Agreement concerning Large Infrastructure Projects" established on the basis of a special collaboration agreement with the European Investment Bank, aimed at supporting (by means of financing or guarantees) infrastructure projects exceeding 250 million euros relating to the development of both trans-European networks in transport, communication and energy, and social infrastructure in the areas of health, education, culture and the environment.

In addition to Italy, other European countries also have national promotional institutions: in Germany the Kreditanstalt für Wiederaufabu (KFW), in France the Caisse des dépôts et consignations (CDC), in Spain the Istituito de Credito Oficial (ICO), in Portugal the Instituição Financeira de Desenvolvimento, in Latvia the Single Development Institution.

[110] *Supra* 85, p.65.

the adoption of general environmental action programs that establish priority objectives to be achieved. These are policy documents that outline the fundamental guidelines for future community activities. They are proposed by the European Commission, adopted by the Council, and tend to have a duration of 5 years.

The first Program was drawn up in 1973 following the Conference on the Human Environment organized by the United Nations in Stockholm when the environment was not yet included among the competencies of the European Community. It defines the objectives of the European environmental policy (prevention, reduction, and elimination of environmental damage, balanced management of natural resources, qualitative development of life and work, greater attention to environmental problems in the sector of urban planning and land management, international cooperation with non-EU countries for the resolution of environmental problems).

The Second Program (1987-1981) focuses on the elaboration of a policy in favor of environmental protection in the context of planning interventions in favor of the environment. The Program aims to avoid the release on the market of dangerous chemicals and to introduce preventive measures to prevent industrial activities from excessively damaging the environment and human resources. This Program also has the task of encouraging with non-European States to develop a binding international system to protect the environment.

The environmental policy has been integrated among the other European policies with the third Program (1982-1986). With the Fourth Program, actions were included to monitoring the state of the territory in the individual Member States for the protection of the quality of environmental resources. The 1993 Action Program, on the other hand, aims to reconcile the environment and development. It is, indeed, a political and action program of the European Community in favor of the environment and sustainable development ([111]).

The Program introduces an important innovation. The previous Programs were based on legislative and control provisions to protect the environment, which were applied by public authorities and industries. The Fifth Program, on the other hand, intends to introduce the sharing of responsibilities in the management and programming activities. It, therefore, implies wider

[111] The main lines of action of this Program are: ensuring sustainable management of natural resources, starting an integrated pollution control policy and preventing the creation of waste, aiming at a reduction in the consumption of energy sources that are no longer renewable, transport and the urban environment are more rational, aim at quality objectives of the environment and individual resources, modify the general attitude of the community with regard to consumption and behavior, strengthen the protection of public health and safety.

participation of all economic actors (public administrations, public and private companies, and citizens) ([112]).

The Fifth Program expired in 2000. Currently, the Eight Program is in effect: it aims to accelerate the green transition in an equitable and inclusive way. The six priority objectives of the eight Environmental Action Program concern the reduction of greenhouse gas emissions, adaptation to climate change, the elimination of pollution, the protection and restoration of biodiversity, and the reduction of the main environmental and climatic pressures associated with production and consumption.

3.3 THE GRANTING AND FINANCIAL AID IN ITALIAN ADMINISTRATIVE LAW

As treated above, the European public guarantee represents the concrete instrument of activation of European investment plans. If, in fact, the elaboration of a plan needs the predisposition of the purposes and the means necessary for its implementation, once elaborated the plan needs concrete instruments of implementation. The European public guarantee is one of these forms of support.

In the implementation of a plan, Public Administrations provide incentives in the form of grants. These are acts through which the Public Administration disburses public money, without consideration, for the benefit of private individuals ([113]).

Grants include, in reality, a plurality of acts, all united by the fact that with them the public administration attributes an economic benefit to a third party (in line with the classic function exercised by administrative concessions).

The term grant (or more properly public pecuniary aids) was initially referred exclusively to that category "*of administrative acts of a 'provvedimental' nature, the prevalent legal effect of which consists in the attribution of a sum of money or other assets of economic value, without this entailing for the beneficiary an obligation of restitution or any payment obligation towards the public administration*" ([114]).

Subsequently, in administrative practice, the term has also been used to indicate other legal forms in which the benefit takes on different forms (tax and fiscal benefits, granting of loans on preferential terms, subsidized loans). In these cases, the beneficiary may be subject to obligations of a different nature.

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[112] Mezzetti L., *Manuale di diritto ambientale*, Padova, CEDAM, 2001, pp. 65-67.
[113] Galli R., *Corso di diritto amministrativo*, Padova, CEDAM, 1994, p.558.
[114] *Ibidem*.

With public pecuniary aids, the Public Administration deals with the care of public interests through the enrichment of the legal sphere of the recipient of the aid (aids are often instrumental in carrying out cultural, social, or economic activities).

The main public pecuniary aids can be distinguished in: a) subsidies (forms of assistance provided by the Public Administration on the basis of a discretionary evaluation), b) indemnities (for damages resulting from various events), c) prizes (attributed because the beneficiary has carried out a certain activity), d) contributions (granted to encourage the performance of certain activities in the public interest), e) grants in the strict sense of the term (to encourage certain business activities) ([115]).

The methods of disbursing public pecuniary aids vary according to the instrument disbursed. Tendentially, the benefit is not granted directly by the administration to the private individual, but it is attributed through instrumental or auxiliary bodies in direct contact with the beneficiaries (such as for example, credit institutions). In addition, the provision of a benefit often requires organizing mechanisms for programming ([116]).

3.3.1 ARTICLE 12 LAW NO. 241/1990

Article 12 Law No. 241/1990 (headed "Regulation of grants") regulates the criteria and procedures to be followed by the Public Administrations when awarding benefits. It establishes in the first paragraph that "*the granting of subsidies, grants, subsidies, and financial aids and the attribution of economic advantages of any kind to persons and public and private bodies are subject to the predetermination by the proceeding administrations, in the forms provided for by their respective regulations, of the criteria, and methods with which the administrations must comply*". This article, therefore, confirms the placement of grants among concessionary measures.

Pecuniary aids are a delicate area of administrative activity, and this norm intends to encourage greater transparency and impartiality in this sector. By the term "criteria", Article 12 refers to the establishment of subjective and objective parameters for the granting of the benefit; by the

[115] *Idem*, p.559.

[116] For example, recently introduced into our legal system is the instrument of "program agreements", regulated by art. 27 of Law 241/1990, now incorporated in art. 34 of Legislative Decree 267/2000 (Testo Unico delle leggi sull'ordinamento degli Enti Locali). They are among the administrative agreements and are instruments of coordination between administrations belonging to different levels of government. The program agreement seems today to be the most important instrument for the purposes of environmental protection (in this sense: Ferrara R., Fracchia F., Olivetti Rason N., *Diritto dell'ambiente*, Roma-Bari, 1999, p.114).

term “modalities” it refers to the ascertainment of the use of such parameters in the concrete case ([117]).

Generally, the granting of subsidies, contributions, grants, and financial aids, and the attribution of economic advantages of any kind is therefore subject to the condition according to which, before starting to provide any economic advantage, the administration must establish the criteria and the methods of disbursement in compliance with the relevant regulations. The predetermination of these and the demonstration of their compliance by the individual Administrations when allocating these benefits are aimed at ensuring the transparency of the Public Administration ([118]). Money is, indeed, a scarce resource and must be distributed based on predetermined and objective criteria in an impartial manner.

In any case, an extensive interpretation of the rule seems to prevail, which would concern any economic advantage based on the payment of public money ([119]).

Two considerations are generally drawn from this regulation. On the one hand, the principle of the consequential nature of administrative action regarding grant procedures is affirmed, with the consequent obligation to publish a call for bids that predetermines the criteria, requirements and methods of participation and evaluation for the assignment of the financial benefit; on the other hand, the regulation expressly refers to the concessionary nature of grants, distinguishing it from other forms of attribution of economic advantages of any kind. The provision also obliges the administration to comply with the principle of timeliness, through the setting of deadlines for action, and the principle of efficiency, through the identification of criteria and methods that are likely to lead to the achievement of results in relation to the public interest ([120]).

In the event of non-compliance with the criteria and modalities of granting by the public administration, the private individual may appeal to the administrative judge. The administrative judge cannot enter the merits of the profitability of the assignment but can certainly censure the erroneous application of the “criteria and procedures” laid down by the Public Administration. The judge can therefore intervene directly in the administrative measure without violating the autonomy reserved for the Public Administration ([121]).

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[117] *Supra* 93, p.560.

[118] T.A.R. Lombardia, sez. Brescia, December 28, 2000, n. 1077, in *Comuni Italia*, 2001, p. 443.

[119] Bottiglieri A., Cogliani S., Ponte D., Proietti R., *Commentario alla legge sul procedimento amministrativo, l. n.241 del 1990 e successive modificazioni*, Padova, CEDAM (2007), p.491

[120] *Idem*, p.492.

[121] *Supra* 119, p.501.

The following paragraph of art.12 provides that the Administration must justify every single measure of concession or refusal of concession, application, and observation of the criteria and procedures of the concession.

3.3.2 LIMITS TO ADMINISTRATIVE DISCRETION

Even though article 12 of Law No. 241/1990 establishes the necessary prior preparation of criteria for the disbursement of forms of money by the Public Administration, this is, in any case, an area marked by strong discretionary power in administrative action.
It is, therefore, necessary to ask whether there are limits or criteria governing administrative action (e.g., why fund one project rather than another), and, therefore, how this incentive activity should be spent. Regarding the amount, the way the benefits are granted, and the subjects to whom the contribution is to be attributed, there remains a margin of appreciation on the part of the Public Administration, which acts according to important criteria of the so-called technical discretion. In this regard, the law limits itself to laying down a rule of principle, without affecting the discretionary sphere of individual offices, both about the type of instrument to be used for the granting of the benefit and about the criteria and methods, it being sufficient to predetermine the elements such as to influence the application of and compliance with the principles.
In dealing with the issue, it is inevitable to refer to two fundamental needs that the public administration must fulfill: to guarantee a distribution of public aid that is controllable (in line with the principle of impartiality) and to ensure effective care of the public interest (aspect concerning the effectiveness of the administrative action) ([122]). To analyze the exercise of administrative discretion for the care of these two needs, it was specified that the administrative action must be previously regulated, but this does not mean that the specific discipline must be contained in the law in a formal sense: the law must establish values and objectives to be pursued but it is the administration that has the task to achieve them ([123]).
The doctrine now agrees by believing that "*the establishment of a scale of values cannot be found in the law, nor can it be traced back to the will of the legislator*" ([124]) because a wide

[122] Auletta A., *Gli ausili pubblici tra autorità e consenso*, Dottorato di ricerca "La programmazione negoziale per lo sviluppo e la tutela del territorio", Università degli studi di Napoli Federico II, Ciclo XXIV, rel. Prof. Fiorenzo Liguori, p.73.
[123] Bartoli C., *Interesse (dir. amm.)*, in *Enc. Dir.*, vol. XXII, Milano, 1972, *ad vocem.*
[124] Nigro M., *Giustizia amministrativa*, Bologna, Il Mulino, 1994, p.26, that observes "*the law is the foundation and measure of the action of the administration, but since a law is an expression of the will*

margin of discretion remains for the Public Administration. This means that as far as the relationship between law and administrative activity is concerned (which takes the form of the granting of subsidies and contributions in favor of beneficiaries), it has been affirmed that the evaluation of whether or not to attribute the economic advantage is *entirely guided* by the fact that the administration must define in advance the criteria it will apply in order to establish to whom the attribution is due and the quantity, given the limited nature of resources ([125]).The predetermination of criteria and procedures by the Administration also serves to avoid the risk that economic benefits are attributed in exchange for parliamentary loyalty on the part of the private individual ([126]).

The rule of law of article 41 of the Constitution in relation to the matter of public economic aid (the granting of any incentive must be authorized by law) is then to be understood as a relative reservation of the law. It guarantees citizens from intrusions into personal and economic freedoms on the part of Public aAdministrations by providing that such intrusions can only be those established by law. However, this rule of law does not exclude that the specific discipline to which Public Administrations must adhere may result not only directly from the law itself but also from other types of administrative acts, such as, for example, the plans ([127]).

Some limits to the discretionary power of the Administration in this area have been established by the law of the European Union. The administrative activity cannot fail to consider these community rules because their violation can lead to the illegitimacy of the attributions.

Article 87 of the EC Treaty contains the principle of incompatibility. It precludes the granting of aid that has not been previously declared compatible with the common market. The concept of aid, in this context, is very broad and refers to any direct or indirect financial aid, i.e., any economically appreciable advantage granted to a company through an intervention (an

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and of the general interest personified by the state and by the representatives of the people and the nation, and it considers and satisfies the private interest only meditatively, as it assigns and maintains the place that belongs to them in an ordered society – the principle of legality has, in addition to and before the individualistic function that we perform today (the function of preserving state arbitrariness, freedoms and citizens' expectation), also and above all an objective ordering function, the function of limiting and channeling the activity of the state in the interest of the state itself". On this point is also known the battle between Cassese and Orsi Battaglini: the first affirms that the bases of the rule of law and therefore of the principle of legality have failed, and that therefore the administrative activity cannot be rigidly described by the law and is therefore a discretionary activity (he argues that the public administration's discretion is inevitable); the second tries to support the validity of the principle of legality trying to protect the citizens from the invasion of public power (Cassese S., *Crisi e trasformazioni del diritto amministrativo,* in *Giorn. Dir. Amm.,* 1996, p. 689).

[125] *Supra* 90, p.82.

[126] Manzella G. P., *Gli ausili finanziari*, in Trattato di Diritto Amministrativo, a cura di Cassese, Milano, Giuffrè, 2003, p. 3733.

[127] *Supra* 56, p.51.

advantage which, without it, would not have been realized). The following paragraph lists a series of possible exceptions that can be directly and a series of exceptions that can be applied based on a discretionary assessment by the European Commission. Finally, art. 89 configures the Council's power to establish in a general and preventive manner the categories of aid that can be declared compatible and the conditions for the implementation of the control procedure ([128]).

4. ECONOMIC DEVELOPMENT AND PLANNING

It has always been important to deal with the relationship that has historically been established between public power and the economy. In this context, we tend to refer to the so-called "formal" and "material economic" Constitution. With the term "formal economic Constitution" we indicate the norms foreseen within the constitution in economic matters; with the term "material economic Constitution" we refer to state legislation in economic matters ([129]).

Constitutional provisions are fundamental in determining the model of economic policy of a state and defining the boundaries within which the state may intervene in the economy. However, in a democratic-pluralist system, constitutional provisions cannot fix the model of economic policy, that is, "*they cannot rigidly determine the relationship between the state and the economy, limiting themselves to providing the essential coordinates (in terms of positive and negative limits) which this relationship must inspire, especially in terms of guaranteeing fundamental rights*" ([130]). The constitutional provisions on economic matters, therefore, express the need for the economic organization of the state to be respectful of the Constitutional Charter itself.

Depending on the state intervention in the economy, one tends to distinguish the so-called "entrepreneur State", in which, precisely, the market can be limited in favor of an evident public intervention in the economy, from the so-called "regulator State" in which the intervention of the state in the competitive market is functional to the predisposition of rules prepared by public subjects to guarantee the functioning of the market.

The fundamental constitutional norms regarding the relationship between the state and the economy are found in articles 41, 43, and 45 of the Constitution.

[128] *Supra* 119, p. 511.
[129] *Supra* 24, p.613.
[130] *Idem*, p.616.

As already mentioned, Art. 41 guarantees the functioning of the free market, guaranteeing freedom of economic initiative.

Article 43 is considered one of the outdated norms of the Constitution because it provides for the organizational model of the monopoly of the state or of public entities. It states that the law may prohibit private individuals from exercising certain economic activities in sectors for which there is a particular interest on the part of the community (through the institution of expropriation).

Finally, Art.45 provides for the model of "self-production": this article regulates cooperation as an economic activity without the purpose of private speculation.

In the context of economic relations, a difficult balance to be achieved is represented by the need to provide for economic development and the need to provide for environmental protection. It is the task of the legal system to attempt to regulate this relationship. Every productive activity, indeed, involves the exploitation of natural resources and the production of pollutants because the economic system exploits resources to produce goods and services ([131]). As repeatedly stated, the attention of legal systems to environmental protection is a very recent priority.

In addition to the strategy of *command & control* mentioned in the previous paragraphs, starting from the 1980s the use of the so-called "economic instruments" for the regulation of public interventions in the economy and the regulation of the market have been introduced. Environmental protection was therefore integrated by the introduction of financial and economic instruments that affect the possibility for economic operators to carry out productions processes that have an impact on the environment. Economic instruments for environmental protection seek to ensure a balance between environmental protection and the guarantee of economic freedoms and try to reduce the distorting effects of the market. In this way, they also reduce public intervention in the economic sector ([132]).

The instruments used vary depending on the legal system to which reference is made.

In the European and Italian legal systems, it is now possible to identify three main economic instruments for environmental protection: 1) special purpose taxes (for example environmental taxation) which represents a direct intervention tool; 2) tax incentives (tax savings), and 2) direct funding (incentives, bonuses, or business aid).

[131] *Supra* 38, p.347.
[132] *Idem*, p. 350.

Economic instruments, nowadays, play a fundamental role in environmental policies at the national and European levels. At the European level, the European Commission listed these instruments in the Green Paper of 28 March 2007 entitled "On market instruments used for environmental policy and other related purposes". Even if economic instruments do not represent the only solution for environmental protection, they can help to ease the limits and standards set by national laws and tend to ensure greater flexibility for the choices of economic operators by promoting eco-sustainable policies ([133]).

5. PNRR AND ECOLOGICAL TRANSITION

The vast area of administrative activity of programming and planning in Italy, fits the PNRR: the National Plan for Recovery and Resilience, which outlines the objectives, reforms, and investments that Italy intends to achieve using European funds of Next Generation EU.
The Italian Plan uses the third type of incentive mentioned above: direct funding.
On July 21, 2020, the European Council resolved to establish Next Generation EU, a temporary economic recovery and revitalization tool aimed at restoring the losses caused by the pandemic. The totality of the Member States, following the crisis, agreed on the need for a common recovery plan to implement national packages. Next Generation EU, in parallel with the European Green Deal, which aims to make Europe the first continent with zero climate impact by 2050, is part of the ambitious European project to adapt the current economic model towards a greater ecological transition and sustainability. Next Generation EU specifies that Member States in elaborating their national plans will have to invest at least 37% of their spending in reforms and investments aimed at supporting climate objectives and that they must in any case be inspired by the principle of not causing significant damage to the environment (*DNSH Principle*).
The European Commission's entire initiative is structured around three pillars: 1) supporting the Member States for investment and reform, 2) relaunching the European economy by stimulating private investment, and 3) learning from the crisis.
Next Generation EU aims to promote economic recovery focused on ecological transition, digitization, competitiveness, training, and social and territorial inclusion. To achieve these goals, it provides 750 billion euros to boost growth and investment, of which 390 billion will be provided in the form of grants.

[133] *Ibidem.*

The centerpiece of Next Generation EU is the EU's Plan for recovering from the economic and social damage caused by the Covid-19 crisis, which allows the Commission to raise funds to help the Member States to implement reforms and investments that are in line with the EU's priorities.

The Regulation governing the Recovery and Resilience Facility (Reg. (EU) 2021/241) ([134]) entered into force and has made available to Member States loans and grants amounting to 672,5 billion euros, helping them to recover from the social and economic effects of the pandemic. The device is the basis of the National Recovery and Resilience Plans that the Member States had to submit by April 30, 2021. The mechanism will help the EU to achieve the goal of climate neutrality by 2050 and will steer it toward the digital transition. Indeed, it requires each Member State to allocate in its NRP (National Resilience Plan) at least 37% of investment and reform expenditure to the achievement of climate objectives and at least 20% to the digital transition.

Italy, in the execution of this procedure, on May 5, 2021, published on the website of the Presidency of the Council the text of the National Recovery and Resilience Plan (PNRR). It was then transmitted by the Italian Government to the European Commission in a document entitled "Italia Domani" with a total value of 235 billion euros between European and national resources.

On June 22, 2021, the European Commission published the proposal for a Council implementing a decision, providing an overall positive assessment of the Italian PNRR. European Commission approved Italy's 191.5 billion euros Plan for Recovery and Resilience. On July 12, 2021, Italy's PNRR was finally approved by a Council Implementing Decision, which transported the European Commission's proposal.

The introduction to the PNRR states that "*the covid-19 pandemic has affected the Italian economy more than other European countries*" in a context that already saw Italy struggling to keep up with other advanced European countries. Therefore, the Next Generation EU Plan represents "*an unmissable opportunity for development, investment, and reform*" ([135]).

Italy is the first beneficiary of the two main instruments of the Next Generation EU: the Recovery and Resilience Facility (RFF) and the Recovery Assistance Package for Cohesion and the Territories of Europe (REACT-EU).

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[134] Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility, published in the Office Journal of the European Union Series L57 of February 18th, 2021.

[135] National Recovery and Resilience Plan (Next Generation Italy), p.3.

REACT-EU is an instrument conceived with a short-term perspective (2021-2022), to help Member States in the recovery phase of their economies. Instead, the RRF will last from 2021 to 2026 and its total value is 672.5 billion euros (about half of which are grants and the remaining half are in the form of low-interest loans). The RFF regulation sets out the six major pillars on which the NRPs will have to focus: 1) green transition, 2) digital transformation, 3) smart, sustainable and inclusive growth, 4) social and territorial cohesion, 5) health and economic, social, and institutional resilience, 6) policies for new generations, children, and young people. As can be seen, one of the pillars of this instrument is the green transition (which derives from the European Green Deal).

5.1 PNRR: CHARACTERISTICS AND REGULATION

General Objectives. – The Italian National Recovery and Resilience Plan has six missions and 16 components and includes a four-pronged reform project.

In line with the objectives of Next Generation EU and of the RFF, the PNRR is developed on three "strategic axes".

The first strategic axis focuses on innovation and digitalization of processes and services (concerning both the productive system and public services).

The second strategic axis, which is of interest for the purposes of this work, is represented by ecological transition: the Plan aims to place ecological transition at the base of the Italian and European development models. The ecological transition is implemented through the reduction of pollutant emissions, the prevention of land degradation, and the reduction of the impact of production activities on the environment. All this is aimed at structuring a more sustainable economy for future generations ([136]).

The third strategic axis is social inclusion. According to the Plan, ensuring social inclusion means improving territorial cohesion, helping economic growth, and overcoming the inequalities that have been accentuated by the pandemic. The three main priorities are gender equality, protecting and empowering young people, and overcoming territorial imbalances. They are not earmarked for specific interventions but are "*cross-cutting objectives*" pursued in all components of the PNRR.

[136] *Supra* 31, p.14.

Reforms and Investments. – The PNRR is, above all, a reform plan. The reforms elaborated in the Plan are divided into horizontal (or contextual) reforms, enabling reforms, and sectoral reforms.

Horizontal reforms result in structural innovations of the legal system; the enabling reforms, on the other hand, concern structural interventions that are aimed at guaranteeing the implementation of the Plan by removing the administrative, regulatory, and procedural obstacles that affect the economic activities and services provided to citizens. Sectoral reforms are instead those contained within the individual missions in which the Plan is divided, i.e., regulatory measures that concern specific areas of intervention or specific economic activities. They are aimed at introducing more efficient regulatory and procedural regimes in their respective sectors.

Moreover, even if not implicitly included in the Plan, the objectives of the PNRR will also be implemented through accompanying measures that will be sustained by planned government interventions (aimed, above all, at rationalizing the tax system).

The first two reforms proposed by the Plan (Public Administration reform and justice reform) fall within the first type of horizontal or contextual reforms.

The first proposed reform concerns Public Administration. It aims to improve administrative capacity at the central and local levels through the strengthening of selection processes for civil servants and aims to digitize administrative procedures. The objective is to encourage the use of digital services to reduce the bureaucracy that entails long and costly deadlines.

The second objective concerns the reform of justice, which would consist of modifying civil and criminal processes and reorganizing judicial offices. With reference to justice, the use of telematic processes is favored. There are also interventions aimed at reducing tax litigation and its timescales. In terms of criminal law, the use of alternative procedures is intensified, as is the more selective use of criminal prosecutions, to reduce the length of trials.

The third objective aims to streamline and simplify legislation. The reform would intervene above all on laws regarding Public Administrations and public contracts, regulations that hinder competition, and those that have facilitated fraud or corruption.

The fourth objective concerns the promotion of competition, defined as "*an essential factor for economic growth and equity, and one that can contribute to social justice*". For this reason, the Government undertakes to submit to Parliament the annual bill for the protection of the market and competition. These reforms are included among the enabling reforms.

Implementation and Monitoring. – The Italian Plan sets 2026 as the year of its completion. It is estimated that gross domestic product in 2026 will be 3.6 percentage points higher than the current trend.

In addition to the resources made available by the Next Generation EU, Italy has set up a budget fund with approximately 31 billion euros, destined for actions that integrate and complete the Plan.

The Plan, besides being based on European resources, is based on an implementation and monitoring system for the implementation of reforms and objectives.

The *governance* and monitoring system was set up to constantly monitor the implementation of the reforms targeted by the Plan. For the elaboration of the *ad hoc governance* mechanism, the Parliament played a fundamental role by adopting the Decree-Law No. 77 on May 31, 2021. It defined the *governance* system based on a clear assignment of power and responsibilities.

The Plan's *governance* structure provides for central coordination by the Ministry of the Economy – Department of General Accountancy of the State, which is responsible for overseeing the implementation of the Plan and sending payment requests to the European Commission. The Ministry, therefore, functions as a "contact point" with the European Commission. Payment requests ([137]) are sent to the Commission once the objectives set forth in the Plan are met. Alongside the central coordination structure are the administrations, which are responsible for investments and individual reforms and for sending reports to the central coordination structure.

The Ministry also manages the PNRR monitoring and implementation system, verifies the consistency of the data provided by the Public Administration to the targets, and provides a periodic report to the control room. Finally, the Ministry is planning to set up a specific PNRR *audit body* responsible for internal control.

The implementation of individual interventions is implemented by central administrations, regions, and local authorities through existing structures that have been simplified and strengthened by the Plan. Central administrations, regions, and local authorities are therefore responsible for implementing the individual interventions.

The Administrations responsible for the implementation of the interventions constantly monitor the regularity of the procedure and expenses and adopt the necessary measures to prevent

[137] Payment requests are submitted to the European Commission in accordance with article 2 of the European Regulation 2021/241.

irregularities in the use of resources. Furthermore, Administrations are responsible for ensuring full traceability of operations and the accounting of PNRR assets.

Within the Central Administrations that are responsible for the implementation of a measure or a mission, a coordination structure is identified for the implementation of the interventions. Central Administrations, in essence, have a general oversight function of the implementation of reforms and objectives. To do this, Central Administrations, regions, and local authorities can strengthen their administrative capacity by hiring staff to work in the structures responsible for implementing the PNRR and can benefit from support from specially selected experts. One of the ways in which the improvement of administrative capacity is ensured is, indeed, the implications of the rules on the recruitment of public administration staff.

In addition, the Plan provides for the creation of several local *task forces* to help Administrations improving their investment capacity and to improve procedural efficiency. The *task forces* that support the administrations are activated through public companies that support them in defining and implementing investment and development policies.

The PNRR monitoring system is based on the collection of detailed information from those responsible for the interventions (municipalities, regions, ministries, and other entities). The Administrations access this information and, after checking it, send it to the Ministry of Economy and Finances which takes care of the aggregation. Information monitoring is implemented thanks to an IT system developed by the Ministry itself.

PNRR monitoring is implemented by the "REGIS" information system, developed at the Ministry of Economy and Finance. It assists all those who are responsible for the *governance* of the Plan. The Parliament then accesses the REGIS information system, to ensure full information sharing. In this system, data on the progress of each individual PNRR intervention are recorded.

A fundamental monitoring method is also constituted by communication. The PNRR portal represents the main method of communication of the Plan and facilitates the involvement (also of the public) in the benefits of the PNRR.

Moreover, the Government reports on the progress of the Plan to Parliament. Pursuant to article 1 paragraph 2015, of the Law of December 30, 2020, number 178 (Budget Law), by June of each year from 2021 to 2027, the Council of Ministers approves and transmits to the Chambers a report from the Presidency based on the data provided by the Ministry of Economy in which data regarding the use of resources are reported. In addition, the Government must periodically report the state of implementation of the Plan to the Chambers.

The PNRR, in fact, affects relations between the Parliament and the Government. It is, in fact, the Government that, albeit assisted by Parliament, has defined the contents of the Plan and is now responsible for its implementation. The only area where new spaces are opening for Parliament is that of the logic of control ([138]).

Impact Assessment. – The final part of the PNRR contains an assessment of the macroeconomic impact of the measures of the plan.

The quantitative evaluation of the PNRR was carried out using the dynamic model of general economic equilibrium "QUEST", developed by the European Commission ([139]). However, this model does not allow for a disaggregated assessment, i.e., analyzing the macroeconomic impact of each mission and component. For this reason, the Plan includes a paragraph where it analyzes the macroeconomic impact at a disaggregated level by Mission and Component. In each Mission and Component, the main areas in which the use of resources for investment is concentrated on certain products are identified.

The Plan also provides an assessment of the 4 main reforms on which the Plan is based. The assessment concerns the structural impact of the main reforms in the medium and long term. Finally, the macroeconomic evaluations measure the territorial, gender, and generational impact of the Plan (especially in the regions of Southern Italy).

5.2 THE "ORGANIZATIONAL" CHOICES OF PNRR

As anticipated, the Plan is composed of 6 Missions, which in turn are divided into Components. The Components, in turn, provide for lines of action, investments, and reforms functional to the realization of the projects that are selected.

Mission 1 is entitled "digitization, innovation, competitiveness, cultural and tourism" and defines digitization as "a transversal necessity" ([140]), which affects every sector of society. For this reason, the objective of the Mission is to ensure better digitization of the country by strengthening the digitization of the Public Administration, of the services provided by the Public Administration to citizens for a reduction of bureaucracy, but also an improvement in

[138] Lupo N., *Il Piano Nazionale di Ripresa e Resilienza (PNRR) e alcune prospettive di ricerca per i costituzionalisti,* in Federalismi.it, Riv. di diritto pubblico italiano, comparato, europeo (January, 12, 2022).

[139] *See* European Commission, "QUEST Macroeconomic Models" available on: *https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/economic-research/macroeconomic-models_en*.

[140] *Supra* 31, p.83.

the digitization of the productive system, and, within the latter, revitalize the economic sectors of culture and tourism.

Mission 2 concerns the Green Revolution and Ecological Transition and being the subject of this study, will be analyzed in detail in the following section.

Mission 3 is entitled “Infrastructure for Sustainable Mobility” and, in line with the climate neutrality goal set by the European Green Deal and Agenda 2030, aims to make the transportation system digital and sustainable. The Mission is divided into two Components (investments in the railway network and logistics and integrated intermodality) for the development of the Italian railway system and the modernization and digitalization of the Italian logistics system.

The fourth Mission, “Education and Research”, aims at the potential provision of education services from kindergartens to universities to reduce structural deficiencies in the provision of these services. In particular, the objective is to act on the entire educational pathway and improve its flexibility. In Italy, in fact, the rate of early school leaving is higher than in other European countries. The Mission aims to reduce this gap, for the development of an economy with a higher rate of knowledge and competitiveness.

“Inclusion and Cohesion” are the goals pursued by Mission 5: goals that cut across the Plan. Once again, it is reiterated that a digital and sustainable economy can only be pursued through the elimination of social inequalities. For this reason, Mission 5 is articulated in the elaboration of policies for employment, in investments in social infrastructures, families, communities, and the third sector, and in a series of special interventions for territorial cohesion. The protagonists of this mission are, above all, municipalities, and metropolitan areas, where episodes of social unease occur.

Finally, the sixth Mission concerns “Health”, the fundamental value of which has been accentuated by the Covid-19 pandemic. Despite this, the pandemic has also accentuated critical issues in the national health care system. The Mission is aimed at aligning the services made available to patients in every area of the country and at innovating, fostering research, and digitalizing the national health care system.

The organizational challenges of the PNRR concern the two different levels in which the PNRR is articulated. The central level, which supervises its implementation and reports to the European Commission, and the second level, which includes the administrations responsible for individual projects, among which Regions, Metropolitan Cities, and local authorities have an important role, especially as promoters of economic and social initiatives and actors of

change. The theme of the effects of the PNRR on relations between the state and territorial autonomies is, in fact, a complex one that requires a more specific study.

From the point of view of the decision-making process, the PNRR is characterized by a *top-down system* in which only the Ministerial Administrations are responsible, while the regions, provinces, and municipalities are responsible for its implementation ([141]). However, the involvement of the autonomies (in aggregate or individual forms) is fundamental: one of the aims of the Plan is the elimination of territorial imbalances that have increased in recent years. In fact, the Plan allocates 40% of resources to the regions of southern Italy.

The territorial autonomies, however, need strengthening not only so that they may be able to implement the Plan: their administrative structures must be strengthened so that they may be able to develop territorial cohesion ([142]).

Only time will permit an evaluation of this state-region relationship. For the moment, it can be anticipated that in 2021 there was a more collaborative climate during the state-region conferences for the implementation of the PNRR. The new resources made available by Europe stimulated interest on the part of all institutions to be involved and facilitated the reaching of compromises and agreements in cooperation between the governments of the territories for the achievement of the results expressed in the PNRR.

PNRR also requires us to reflect on the extent of European sovereignty. As mentioned at the beginning of this chapter, one of the fundamental characteristics of the Italian Constitutional Charter is the fundamental principle contained in article 11, which allows for limitations of sovereignty necessary for the formation of a supranational order that ensures peace and justice. As a result of the PNRR, the limitations of national sovereignty touch the heart of redistributive policies in Italy, more than in other European countries ([143]). This has taken place following an explicit will expressed by Italian national institutions and thanks to legally binding mechanisms, which are part of a wide-ranging "Euro-national procedure" with the objective of developing the Italian economy with resources found on the European financial market ([144]).

These are all elements that the PNRR makes very visible. It is possible to perceive the strong intertwining of European and national law with reference to the guarantee of fundamental

[141] *Supra* 134, p.11.
[142] *Supra* 134, p.12.
[143] Bilancia F., *Sistema delle fonti ed andamento del ciclo economico: per una sintesi problematica*, available on: https://www.osservatoriosullefonti.it, 2020, n. 3, p. 1426 s.
[144] Christie R., Clayes G., Weil P., *Next Generation EU borrowing: a first assessment,* Bruegel Policy Contribution, Issue n. 22/21, November 2021.

rights, but also – and above all – with reference to the separation of powers and the definition of political direction ([145]).

It still seems too early even to judge the progress of the *governance* adopted by the Plan.

The most ambitious actions are planned for the years after 2022 and the Steering Committee has only met twice so far.

The Ministry of the Economy and Finance and the General Accounting Office are called upon to play an important role as co-promoters of investment policies through their monitoring, *auditing*, and impact verification actions to ensure, together with the administrations, the achievement of precise results and provide the necessary accountability. It will therefore be interesting to understand if the Prime Minister is strengthened by this structure and will be able to exercise the powers of the general political direction of the Government referred to in article 95 of the Constitution or if ministers will maintain their traditional autonomy in defining policies related to their area of expertise ([146]).

5.3 MISSION 2: GREEN EVOLUTION AND ECOLOGICAL TRANSITION

Mission 2 of the PNRR, relevant for the purpose of this study, is part of the ambitious European project of decarbonization of the system ("*Net-zero*") set by the Sustainable Development Goals, the Paris Agreement, and the European Green Deal. The Mission immediately states how a radical ecological transition is necessary to achieve climate neutrality. It is stated as if the rise in the average temperature of the planet recorded up to now had not been modified, it would cause irreversible and disastrous changes in ecosystems.

The Plan underlines how the ecological transition represents a "*unique opportunity for the country*" for 3 main reasons. The first lies in the inexpressible value of the natural agricultural ecosystem and biodiversity that characterizes Italy and which must necessarily be preserved. The second reason consists in the fact that, given the configuration of the Italian geographic territory, it is more exposed to climatic risks than other countries. Moreover, the ecological transition is fundamental for the country due to the scarcity of traditional resources (such as oil and natural gas) and the abundance of renewable ones.

The Plan specifies that a process that tends toward ecological transition is already underway in Italy. However, the transition is focused only on some sectors (for example the electricity sector) which represent only a part of the total carbon dioxide emissions of the country.

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[145] *Supra* 134, p. 13

[146] *Supra* 134, p.10.

The ecological transition at the national level is not happening quickly due to "*the enormous bureaucratic and authorized difficulties that generally concern infrastructures in Italy, but which in this context have slowed down the full development of renewable or waste treatment plants*". To accelerate this transition process, Mission 2 brings a total of 59.47 billion to implement the measures necessary to reduce the levels of carbon dioxide emissions by more than 51%, as defined in Europe and by European and national targets.
Given that the ongoing ecological transition at the national level has been defined as excessively slow, the Mission specifies that a complete ecological transition cannot be achieved without a major bureaucratic transition of the authorization and governance processes. The Mission's objective is to implement an ecological transition in an equitable way between all Italian regions, reducing the gap between them.
Mission 2 consists of 4 components: 1) C1: Circular Economy and Sustainable Agriculture; 2) C2: Renewable Energy, Hydrogen, Grid, and Sustainable Mobility; 3) C3: Energy Efficiency and Building Renovation; 4) C4: Protection of the Territory and the Water Resource.

5.3.1 FIRST COMPONENT: CIRCULAR ECONOMY AND SUSTAINABLE AGRICULTURE

The first Component of Mission 2 aims to implement full sustainability through the improvement of waste management, the development of a sustainable food supply chain, and the development of integrated projects.
The first investment concerns, precisely, the waste management system. The Plan aims to improve separate collection and urban waste treatment and recycling facilities, given the gap in management between the various regions and the infringement procedures that are recorded in many of them.
In line with this, the second waste reform concerns the development of circular economy projects, of which Europe is the first promoter. Italy, the Plan specifies, still seems far from European standards given that "*more than 50% of plastic waste is counted as Mixed Plastic Waste and therefore not recovered*". To accompany the investment, a monitoring system will be put in place across the country to prevent any kind of illegal dumping using drones and satellites. A national waste management plan will then be developed to fill the management gaps. In addition, as part of this investment, the Ministry of Ecological Transition and the Ministry of Economic Development will provide support to local governments in the implementation of this reform through in-house companies and an action plan that will limit

the duration of the bidding process and ensure the implementation of the Minimum Environmental Criteria established by law.
The second Component focuses on the development of logistics for the agri-food, fishing and aquaculture, forestry, floriculture, and nursery sectors. In this area, the first investment concerns the creation of an Agrisolar Park, i.e., the installation of solar energy panels to reduce the energy costs incurred by food production, which makes Italy one of the countries with the highest energy consumption in this sector.
The second investment will promote the improvement of agricultural machinery and the use of agriculture 4.0 technologies to reduce consumption. These are circular economy interventions to move towards sustainability of the food production process.
Integrated project development is at the heart of Component 3 of the second Mission. First, the reform invests in the creation of "green islands". These are 19 small islands on which green and self-sufficient models will experiment with so that the islands, not being connected to the mainland and suffering from a scarce water supply, will be able to boast efficient waste collection plants and other facilities for the exploitation of renewable resources.
The second investment aims to develop green communities in rural and mountain areas that will be responsible for maintaining relations with urban and metropolitan communities for the joint realization of energy and economic plans for sustainable development.
Finally, the third Component specifies the need to spread culture and awareness of environmental issues and challenges among citizens, a prerequisite for the realization of the ecological transition. The reform foresees the development of platforms of various types for reaching all levels of the population (through schools, social media, and *Omni-channels*) on ecological transition issues.

5.3.2 SECOND COMPONENT: RENEWABLE ENERGY, HYDROGEN, NETWORK AND SUSTAINABLE MOBILITY

The second Component of Mission 2 is responsible for achieving the goals of decarbonizing the system. In fact, although Italy's greenhouse gas emissions have been reduced by 19% since 1990, this reduction is not yet sufficient to achieve the objectives set at the European level.
The first line of action of this component consists in trying to increase the share of energy produced from renewable sources.
First, the aim is to invest in the development of the agro-agricultural sector through the strengthening of agriculture-energy production systems since the agricultural sector is

responsible for 10% of emissions in Europe. The second investment focuses on energy self-consumption: Public Administrations, families, and small businesses in municipalities with less than 5,000 inhabitants will be identified to install energy storage systems using renewable sources. The third investment concerns the promotion of innovative (*offshore*) plants by encouraging European and foreign investors to develop such projects in Italy. The fourth investment concerns the development of biomethane which is obtained through the energy recovery of organic waste. Indeed, if biomethane is conveyed into the gas network, it can contribute to the achievement of climate neutralization objectives.

These investments are accompanied by reforms that aim at a simplification of the authorization procedures for onshore and offshore renewable plants, a new legal framework to support production from renewable sources, and an extension of the times and eligibility of the current support schemes, and the formulation of a new regulation for the promotion of the production and consumption of renewable gas.

The second pillar of Component 2 is to upgrade and digitize network infrastructures. The Plan, therefore, invests in strengthening the smart grid to optimize the production of renewable energy, but also in strengthening the structures of electricity grids, damaged in recent years by disastrous weather events caused by climate change.

The third pillar promotes the production, distribution, and end-use of hydrogen. The goal is the construction of the so-called "*hydrogen valleys"*, i.e., industrial areas where the economy is essentially based on hydrogen. Furthermore, if hydrogen were used in hard-to-debate sectors, characterized by high energy intensity (chemical refinery, oil, steel, cement, of course, paper), decarbonization would be greatly accelerated. For this reason, this intervention aims to favor its use in these sectors. Hydrogen will be used as an experiment, based on the third and fourth investment of the third pillar, for road and rail transport (accompanied by an improvement in knowledge of hydrogen-related technologies, favored by the fifth investment).

The promotion of the use of hydrogen will be accompanied by administrative simplification and the issue of technical safety standards on the production, transport, and use of hydrogen (through decrees of the Ministry of Ecological Transition) and the adoption of measures aimed at promoting the competitiveness of this resource.

The fourth pillar of the second Component is entitled "developing more sustainable local transport". Indeed, it invests in strengthening the cycle network, the development of mass transport systems to reduce the use of cars by citizens, the development of electric vehicle systems, and in the renewal of environmentally low-impact buses and trains. These investments

will be promoted together with the reform which provides for the acceleration of project implementation times and the simplification of the procedures.
The last pillar of this component promotes the development of international leadership, industrial, and development in the main areas of the transition. The first investment concerns the photovoltaic, wind, and batteries for the transport sector and the electricity sector. The second investment concerns hydrogen: to develop the hydrogen market, the technologies necessary to support its final use will have to be developed (e.g., fuel cells for trucks). The third investment concerns buses and other electric means of transport, which will be implemented to replace the current highly polluting vehicles. Finally, it will invest in start-ups that will prove to be green, and through direct and indirect venture capital in specific sectors.
The investments contained in the fifth and last line of this component are intended to promote the development in Italy of competitive supply chains in the areas with the greatest growth, which will make it possible to reduce dependence on imported technologies.

5.3.3 THIRD COMPONENT: ENERGY EFFICIENCY AND BUILDING REDEVELOPMENT

Component number 3 allocates € 15.36 billion for the promotion of energy efficiency and building renovation. In fact, in Italy, more than 1/3 of the country's consumption is represented by buildings.
The first line of the component aims at improving the energy efficiency of public buildings (especially schools located in areas with high seismic risk) and judicial offices. In addition to making energy consumption more efficient, these two measures also aim at adapting structures and carrying out consumption monitoring analyzes.
The reform underlying these investments will provide for the simplification and acceleration of the procedures to achieve this energy improvement (especially through the granting of economic measures such as incentives or funding for programs for the improvement of these buildings).
The second line of intervention is based on the extension of the *Superbonus* 110 percent (introduced by Article 119 of the Relaunch Decree) until 2023. This is a support that is provided to those who intend to carry out energy and anti-seismic renovations of their private buildings. The admitted interventions are conditional on the improvement of the energy classes of the building. For this reason, the *Superbonus* is expected to lead to energy savings of approximately

191 Ktoe / year with a reduction in greenhouse gas emissions of approximately 667 KtonCO2 / year.

The third line of investment concerns the development of district heating systems. The resources of the PNRR will be used to finance projects relating to the construction or improvement of district heating, especially the so-called *district heating efficient*, which are based on the distribution of the heat generated from renewable sources, waste, or generated in high-performance plants. These investments are functional to achieving a lower environmental impact by reducing the use of primary fossil energy and emissions.

5.3.4 FOURTH COMPONENT: PROTECTION OF LAND AND WATER RESOURCES

The last component of Mission 2 considers the relationship between the safety of the territory (mitigation of hydrogeological risks and safeguarding biodiversity) and the protection of public health. The underlying objective of this component is the introduction of measures to protect nature and biodiversity against harmful climate change. The Plan, specifically, considers as necessary the introduction of advanced monitoring systems to immediately identify possible risks (especially the hydrogeological one that threatens Italy more than others in recent years). The first investment of the Component concerns, precisely, the development of a monitoring system to catch the risks on the territory caused by climate change. This monitoring system will be functional to develop risk prevention plans.

The second line of the Component introduces measures to prevent hydrogeological instability. It is the development of structural and non-structural interventions to prevent damage from landslides or reduce the risk of flooding. In addition, this intervention will generically flight to improve safety in urban areas.

To achieve these objectives, it is essential to accompany these reform projects with a reform that simplifies and accelerates the procedures for implementing these interventions.

The third line of intervention of the fourth Component provides for investments to improve the quality of life and well-being of citizens through the protection of poured, soil, and marine areas and investment to implement improve the effectiveness of conservation of natural parks. The third investment focuses on actions aimed at the ecological restoration of the Po area. The fourth and fifth investments, respectively, allocate resources to identify needs for the remediation of orphan sites and the restoration and protection of marine habitats. The reform underlying these investments will introduce measures to reduce emissions of air pollutants.

The last objective of the component is to ensure the sustainable management of water resources. To do this, investments concern the improvement of the resilience of water infrastructure (which could be damaged due to increasingly frequent climate changes) and the reduction of losses in water distribution networks. Again, investments provide the involvement of the agricultural production system (concerning the specific sector of irrigation, a necessary and constant practice) and its improvement and modernization for competitive agriculture.
Finally, the Plan also involves investments in the sewage and purification network, which is not in line with European Directives (especially in southern Italy), due to its very old construction.
Investments in this last line of intervention will be accompanied by reforms aimed at strengthening governance for the implementation of investments and the adoption of measures to ensure the management capacity of water services.
In the final part of Mission 2, the Plan specifies its major cross-cutting dimensions in this area. The initiatives and projects of Mission 2 are mainly focused on reducing the territorial gaps between the territories of Northern and Southern Italy. Therefore, some measures, as the Plan specifies, "*may have a greater impact in the South, such as the reduction of water and some projects for the strengthening of national industry in strategic sectors for the production of renewable energy and sensitive transport technologies*" ([147]).
Mission 2 is also intended to be functional to the reduction of gender gaps, understood as the reduction of gender inequalities, and of generational differences among young people (there is a tendency to increase youth employment with the increase of jobs in sectors of sustainable development).

6. CONCLUSIONS: ELEMENTS OF NOVELTY AND TRADITIONS OF PNRR

The Italian National Recovery and Resilience Plan (PNRR) is developed within the framework of administrative activity that the Italian legal system was already familiar with: planning activity.
As can be seen from the analysis carried out so far, the PNRR represents a complex challenge for Italy: it envisages numerous and ambitious reform and investment objectives.
The main novelty and inversion of the Plan compared to the past consist in requiring the ability to carry out public investments in a reasonable time. The use of European structural funds is

[147] Supra 131, p.151.

always experiencing delays and difficulties ([148]). However, accelerating the pace of reform and investment is a necessary but not sufficient condition for full implementation of the PNRR.

The most significant challenges proposed by the Plan concern improvement of the technical and administrative capacity of public bodies, especially at the local level, streamlining and simplification of procedures for interventions.

The set of measures put in place in terms of tools and technical assistance for implementers should be such to ensure the proper implementation of the Plan ([149]). In particular, the tool put in place to properly implement the Plan is the monitoring system, to continually check the status of implementation and in case problems emerge. The REGIS system will produce alarm signals if there are delays concerning the dates set for the implementation of the projects and this will help the Administrations to avoid possible obstacles.

As mentioned, an ambitious objective of the Plan is the acceleration and simplification of procedures (for example, in public procurement). The regulations issued in this area should therefore have full effect when applied.

Moreover, to increase specific professional and technical skills for project management and monitoring, the Plan envisages the possibility for Administrations to select experts to support them when they must deal with technical content.

What is most often criticized about the PNRR is the set of reforms linked to the Plan. They, indeed, take precedence over the execution of the linked investments. These reforms, indeed, consist of guidelines through very general proxy laws which must be followed by a parliamentary debate. The problem of the concrete implementation of the reforms, therefore, seems to remain ([150]).

Another element of innovation (but also of complexity) concerns compliance with the principle of not causing damage to the environment (so-called *do not significant harm*). All interventions in the Plan must meet the environmental requirements prescribed by European legislation and the authorities must have the skills to verify compliance with these requirements.

A mention should also be made of the importance of collaboration between the Government and Parliament in the first phase of implementation of the PNRR, which must continue

[148] Just think that the data relating to the use of REACT-EU resources for the period 2014/2020 are slightly higher than 50% even though there are two years left to expire.

[149] Franco D., Audizione del Ministro dell'Economia e delle Finanze sul Piano Nazionale di Ripresa e Resilienza, Italia domani (February 23, 2022).

[150] Carlo B., *Con i bonus e le mezze riforme l'Italia non cresce*, in *La Repubblica Affari&Finanza* (February 21, 2022).

throughout the Plan. This collaboration will allow for rapid and timely adoption of all reforms, thus enabling the achievement of the objectives.

However, there are still some doubts about the efficiency and effectiveness of the Plan. One issue that could be problematic, for example, relates to rising commodity and energy prices on PNRR implementation costs. However, European rules provide for a procedure to review the contents of the PNRR if factors arise that call into question the objectives of the Plan. This procedure can only be activated in the presence of a significant increase in prices on the real capacity to achieve the objectives of the Plan and must be approved by the European Commission.

III.

THE ENVIRONMENTAL PROTECTION IN THE UNITED STATES

TABLE OF CONTENTS: 1. Introduction to environmental law in the United States. – 1.1 The U.S. legal system. – 1.2. The American Constitution and environmental protection. – 1.3 State and local involvement in environmental policy. – 1.4 Environmental agencies: the EPA. – 2. Sources of environmental law. – 3. The federal environmental regulatory framework: main environmental statutes. – 4. The administrative law of environmental protection. – 4.1 Judicial control of administrative environmental decision making and access to courts. – 4.1.1 Standing. – 4.1.2. Standard of review and reviewable administrative action: review of statutory interpretation and implementation. – 4.2 Congressional control of administrative decision making. 4.3 – Executive control of administrative environmental decision making. – 5. Enforcement of environmental regulation.

1. INTRODUCTION TO ENVIRONMENTAL LAW IN THE UNITED STATES

The birth of modern American environmental law is conventionally traced to the year 1970. Before that date, common law only provided for institutions to remedy certain conduct that today would be referred to as environmental protection. However, this was an incomplete and non-regulatory scheme. Beginning in 1950, some cities began enacting ordinances to mitigate certain environmental problems ([1]).

On January 1st, 1970, the National Environmental Policy Act (NEPA) was enacted. Following this act, the environmental legislation exploded ([2]). The Clean Air Act followed the NEPA in 1970. In 1972 the Clean Water Act and Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) were enacted to regulate pesticides; in 1973 the Endangered Species Act was followed by the Safe Drinking Water Act in 1974. To regulate hazardous and solid waste management the Resources Conservation and Recovery Act (RCRA) was adopted in 1976 and, lastly, in 1980, the Comprehensive Emergency Response Compensation and Liability Act (CERCA or Superfund).

The explosion of environmental regulation in the 1970s had been stimulated by the environmental movement, driven by an ecologist and ethical viewpoint according to which

[1] The city of Los Angeles, for example, in 1950 adopted some measures for the protection of air quality: having understood that the main problem was car emissions, some measures were adopted to regulate their emissions.

[2] Herz M., *An Introduction to Environmental Law in the United States, TILBURG FOREIGN L. REV. 327 (1994)*, p.328.

society and legislature have a responsibility toward the ecological integrity of natural systems and creatures. For this reason, pollution was considered unacceptable and immoral because created major environmental harm. There was, indeed, the need for an effective regulatory response that would have created a realistic goal to pursue ([3]).

Since the 1960 and 1970s modern movements, two principal theories concerning environmental issues have emerged. The first theory is based on a conservationist idea that holds that the world's natural resources are finite and therefore must be preserved and conserved. This theory is also based on the economic assumption that resources exist to ensure the well-being of citizens and society. Therefore, to preserve the well-being of current and future generations, these resources must be rationally utilized and not wasted. Conservationists also emphasize the "public" nature of natural resources: resources belong to everyone and must be managed in such a way that they can produce the greatest benefit, for the greatest number of people and the longest period. The conservation movement which relied on this theory was primarily based on the multiple-use resource management and the controlled use of resources ([4]). Nevertheless, this movement was not concerned with a large set of issues but focused on the two main concerns: economy and efficiency.

The second theory focuses more on a preservationist approach that believes that nature has an intrinsic and autonomous value. It was concerned with the preservation of natural resources. Human activity, therefore, should not create harm to it. This current of thought qualifies as considering multiple environmental problems that are caused by the controversial relationship between man and the environment. However, the two movements shared the same common goal: to achieve a balanced relationship between long-term conservation of the environment and humankind ([5]).

To understand the importance and influence of these movements, it is enough to think about the fact that the term "environment", as it is understood today, had a limited meaning before 1960, and few people knew the meaning of the term "biosphere".

The political action on the environmental issues laid its foundation thanks to the development of a very influential science-based literal movement. Always more scientific instrumentations

[3] *Supra* 2, p.329.
[4] Baker R., *Environmental Law and Policy in the European Union and the United States*, Praeger, Wesport, 1997, p.98.
[5] *Idem*, p.99.

and methods permitted to rely on the outcomes of the analysis that measured the presence of contaminants and carcinogens in the air ([6]).

From this moment, environmental pollution became the main public health concern. However, even if this environmental issue had been acknowledged, it was still not yet linked to concrete political solutions. This was because the conservation movement continued to emphasize the need for the conservation of natural resources, and the solution was merely seen as an economic one.

The economic solving strategy was presented to President Kennedy in the 1962 summary report of the National Academy of Sciences-Natural Research Council, and it presented the concept of environment as a natural resource stating that "*perhaps the most critical and most often ignored resources is man's total environment*" ([7]).

So far, ecology had never been regarded as serious science. With the increase of ecological studies in the 1960s and with the introduction in 1966 by Senator Henry Jackson and Representative John Dingell of legislation to establish an environmental advisory council, ecology became a major legislative issue. A task force chaired by Ron Linton recommended that the President submitted a proposal for an environmental protection act and for the need for ecological advisors that would have assisted the Department of Health, Education, and Welfare. 30 proposals for environmental advice and protection were introduced during the 90th and 91st congressional sessions and many reports on environmental policy were issued by congressional committees. A joint House-Senate debate was held on July 17, 1968, about the introduction of a national policy for the environment. The colloquium was aimed at making environmental policy a prerogative of the entire Congress, rather than individual committees with specific expertise ([8]). Only through collaboration and dialogue between the members of the executive and the representatives of the scientific organizations would it be possible to build an appropriate policy. The results of this dialogue were published in a congressional "white paper" ([9]).

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[6] *Ibidem.* "Man's Role in changing the Face of the Earth" was published; a nearly forgotten book "Man and Nature" by George Perkins Marsh was reprinted by Harvard University Press. Also, in 1965 the Conservation Foundation convened a conference, Future Environments of North America, the proceedings of which were published in 1966. Books by Paul Sears in 1935, William Vogt in 1948, Fairfield Osborn in 1948, Aldo Leopold in 1949, and especially by Rachel Carson in 1962 and Steward Udall in 1963 contributed cumulatively to a heightened public awareness of an endangered environment.

[7] *Idem*, p. 100.

[8] *Ibidem.*

[9] *Ibidem.*

In 1969, the concept of Environmental Impact Statement (EIS) began to emerge, emphasizing the need to introduce an environmental policy that was also accompanied by concrete actions, so that federal agencies, when submitting their proposals, should have been included an evaluation of the effect of the proposal on the environment ([10]).

Finally, in 1970 the National Environmental Policy Act (NEPA) was enacted to create a coherent national policy for the environment. NEPA created the Council on Environmental Quality (QEC), a multi-member council with the task of promptly informing the presidential administration regarding the relationship between the environment and ongoing human activities.

1.1 THE U.S. LEGAL SYSTEM

To understand how environmental regulation in the United States works, it is necessary to make a brief introduction to the American legal system and what the Constitution provides about the power to make laws.

The United States legal system operates based on dual sovereignty: the federal (national) government ([11]), which exercises the enumerated powers laid down in the Constitution, and other fifty individual state governments that retain substantial powers over their territories and their citizens, overlapping and concurrent with the federal power.

The framework for the operation of the Federal Government is set out in the Constitution. It specifically enumerates the power of the Nation and reserves the remaining powers to the state and the people.

Regarding the legislative power, article 1 of the Constitution reserves it all to Congress. Its power to enact legislation is derived from and based upon constitutionally delegated powers ([12]). Congress must pass legislation in both the House and the Senate, and legislation becomes

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[10] *Ibidem.* The Environmental Impact Statement became later section 102(2)(c) of NEPA requiring all federal agencies to formulate an Environmental Impact Statement for any project that would have a significant impact upon the environment.

[11] The Federal Government is itself divided into three distinct branches. The legislative branch (Congress) is a bicameral body, consisting of the House of Representatives and the Senate. The executive branch consists of the President and the officers, federal departments, and agencies supervised by the President. The judicial branch is made up of the Supreme Court and inferior appellate and trial courts by Congress.

Also, the framework of most state governments is similar to the structure of the federal system, with similar branches of government.

[12] Seerden J.G.H.R., Michiel A.H., Deketelaere R. (edited by), *Public Environmental Law in the European Union and the United States, A Comparative Analysis,* Kluwer Law International, The Hague, 2002, p.518.

law with the signature of the President. The President has a veto power according to article 1 section 7, that can be overtaken by Congress with a 2/3 vote of the chambers. Congress can enact laws regulating individual conduct, but it can also delegate the authority to implement legislation to the President or the federal agencies.

Each state possesses an independent and sovereign government which is parallel to the federal one. The state governments are based upon the individual state Constitution that cannot, however, conflict with the U.S. Constitution. Within the state's borders, state Constitutions are supreme.

State laws deal with local issues and apply within the state, parallel to federal laws and subsidiary to the state Constitution. When there is a conflict between a state and a federal law or a state law that impairs the effectiveness of federal law, the Supremacy Clause of the Constitution ([13]) provides for the superiority of federal law over state law.

Within each state, there may be different levels of government set by the Constitution. Local governments derive their power from the state itself. Their structure varies from state to state but they do not possess independence comparable to that of the state or Federal Government.

Concerning environmental regulation, the responsibilities of local governments generally involve the management of local environmental issues such as waste disposal, drinking water quality, developing, and enforcing land use plans, ensuring local health and safety, to provide for emergency planning and services ([14]). These types of actions frequently advance not only local and state environmental goals, but also federal regulations and standards ([15]). Some matters on the municipal level are governed by local laws, which are usually in the form of local ordinances.

Federal laws referred to in the second clause of article 6 of the Constitution include statutes enacted by Congress, decisions of the federal courts, regulations of federal agencies, executive orders of the President, and treaties. The Constitution specifically provides within this category for statutes, which are legislative emanations of Congress.

Agencies also have legislative power. However, they are federal administrative bodies ("creatures of Congress") that can act only based on the legislative power delegated to them by

[13] Article VI Sec. II U.S. Constitution: "*This Constitution, and the laws of the United States which shall be made in pursuance thereof; and all treaties made, or which shall be made, under the authority of the United States, shall be the supreme law of the land; and the judges in every state shall be bound thereby, anything in the Constitution or laws of any State to the contrary notwithstanding*".

[14] *Supra* 10, p.520.

[15] *Ibidem.*

specific statutes. For this reason, agency regulations are subordinate to and cannot contradict legislative statutory mandates.

In addition to the requirements included in the statutes that give substantive authority to an agency, federal agencies' acts are subject to the provisions of the Administrative Procedure Act ([16]), which govern how agencies act. Judicial review is normally available when an agency fails to comply with the act or other statutory obligations ([17]).

State Constitutions and statutes are usually supplemented by common law developed by state courts. Indeed, the United States is a common law country where only a limited body of federal common law exists. Most common law is formulated by state courts ([18]).

1.2 THE AMERICAN CONSTITUTION AND ENVIRONMENTAL PROTECTION

The famous incipit of the United States Constitution of 1787 reads "*We the People of the United States, in order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defense, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution of the United States of America*". The U.S. Constitution, therefore, already contains in its preamble a textual reference to protecting the needs of future generations. It would seem, therefore, to denote a strong inclination toward the future and to have fertile ground for accommodating the needs of those who are not yet alive. If this is true, however, the American Constitution does not contain any standards or principles for environmental protection. It is one of the few current Constitutions (together with Canada, and Australia) that has not yet included environmental protection as one of the goals of the federation ([19]).

However, the U.S. Constitution, along with the state Constitutions, contains the legal authority for both the federal and the state governments to engage in environmental regulation ([20]).

Several state Constitutions explicitly provide for state power to regulate environmental matters. Indeed, environmental issues that have been debated across the world, have also reached the United States. The debate has become even more complex concerning the emergency of climate change and the effectiveness and necessity of environmental legislation in this field.

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[16] 5 United States Code (U.S.C.) §§ 551-559, 700-706.
[17] *Supra* 10, p.521.
[18] Except for the state of Louisiana that basis its law on the French Civil Code.
[19] Grassi S., *Ambiente e Costituzione*, in riv. quadr. Dir. Amb., Giappichelli, p.7 (2017).
[20] *Supra* 10, p.525.

The environmental movement was able to enshrine the protection of the environment in the Constitution of several states (Hawaii, Illinois, Pennsylvania, Massachusetts, and Montana), but the proposal to enact a federal constitutional amendment has never been accepted. In 1996, an amendment to the U.S. Constitution was proposed as follows: "*The natural resources of the nation are the heritage of present and future generations. The right of each person to clean and healthful air and water, and the protection of the other natural resources of the nation, shall not be infringed upon any person*" ([21]).

The amendment had never been approved because the opponents believed that the Constitution already granted Congress the power it needed to enact any legislation to protect the environment, and that an amendment as such could shift the essential attention that must be dedicated to the building of a strong economy, quality health care, and a good education ([22]).

The American Constitution, therefore, although amendments were proposed so that environmental protection would be included within it, does not provide for an explicit authorization of the Federal Government to regulate environmental matters. Despite this shortcoming, however, some clauses of the constitution have been interpreted as giving this power to the Federal Government.

The authorities most frequently rely on the extensive interpretation of the Commerce Clause. Article I section 8 of the Constitution provides that "*Congress shall have the power ... to regulate Commerce with foreign Nations, and among the several states, and with the Indian Tribes ...*". While this Government's power to regulate commerce had been interpreted narrowly until the 1930s, in some key decisions, the Supreme Court enshrined the Government's power to rule not only substantive commercial activities, but also on those activities that had a substantial effect on commerce itself, materials and persons which move through the channels of commerce, the instrumentalities of interstate commerce, and the use of the channels of interstate commerce ([23]). There are few limitations in the reach of this power, if "*the means chosen by Congress is reasonably adapted to the end permitted by the Constitution*" ([24]).

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[21] National Constitutional Center, *Should a clean and healthy environment be a constitutional right?*, p.2, available on: https://constitutioncenter.org/media/files/Environment-THW.pdf.

[22] *Ibidem.*

[23] *United States v. Lopez*, 514 U.S. 549 (1995), *Philadelphia v. New Jersey*, 438 U.S. 617 (1978) where the scope of this constitutional power has been construed very broadly, for example, reaching the interstate movement trash as an item of commerce.

[24] *Heart of Atlanta Motel, Inc. v. United States*, 379 U.S. 241 (1964).

Following *United States v. Lopez*, part of the doctrine began to discuss the potential effects of this broad interpretation of the Commerce Clause on the specific area of federal environmental law, pointing out that if environmental protection was included among the powers of the Federal Government, the regulation of interstate, non-commercial activities that necessarily accompany environmental protection, would also fall to it ([25]). However, most of the modern environmental laws were passed under federal authority to regulate commerce among the several states ([26]). Indeed, the modern Supreme Court, which has always been influential in shaping the contours of federal law, especially federal environmental law, has been concerned with interpreting the purpose of governmental authority in regulating natural resources. There are, specifically, several decisions (11 in total) where the Court has been concerned with interpreting the Commerce Clause's limits on federal and state legislation protecting natural resources ([27]). Regarding these decisions, a part of the doctrine has spoken of "Environmental Commerce Clause" ([28]). The Court has been limiting the scope of the affirmative commerce clause while simultaneously expanding the scope of the dormant Commerce Clause ([29]).

Since the Commerce Clause contains only an affirmative grant of power to Congress and it remains silent as to the effect of the authority of the states in the areas that might overlap with the commerce federal power, the Supreme Court has interpreted it as to include an implied dormant commerce clause. Restrictions on state power are inherent in the Commerce Clause.

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[25] *See, e.g., U.S. v. Morrison,*529 U.S. 598 at 657 (Breyer, J., dissenting) (asking "*why should we give critical constitutional importance to the economic, or noneconomic, nature of an interstate-commerce-affecting cause? If chemical emanations through indirect environmental change cause identical, severe commercial harm outside a State, why should it matter whether local factories or home fireplaces release them?*").

[26] Glicksman R. L., Markell L. D., Buzbee W. W. *et al.*, *Environmental Protection Law and Policy,* Wolters Kluwer, New York, 2019, p.91.

[27] The Environmental Commerce Clause (1978-2001): *City of Philadelphia v. New Jersey*, 437 U.S.617 (striking state ban on importation of waste); *Hughes v. Oklahoma*, 441 U.S. 322 (striking state ban on exportation of minnows to other states); *Sporhase v. Nebraska*, 458 U.S. 941 (striking state regulation on withdrawal of groundwater for use in other states); *Maine v. Taylor*, 477 U.S. 131 (upholding state ban on importation of live baitfish from other states); *Chemical Waste Management v. Hunt*, 504 U.S. 334 (striking state fee on disposal of hazardous waste from other states); *Fort Gratiot Sanitary Landfill v. Michigan*, 504 U.S. 353 (striking state restriction on importation of waste from outside county); *Oregon Waste Systems v. Department of Environmental Quality* 511 U.S. 93 (striking state surcharge on importation of waste from other states); *C&A v. Town of Clarkstown*, 511 U.S. 383 (striking local ordinance requiring deposit of all solid waste within town at a single town-sponsored transfer station); *U.S. v. Lopez*, 514 U.S. 549 (striking federal statute prohibiting guns in school zones); *U.S. v. Morrison* 529 U.S. 598 (striking federal statute providing federal civil remedy for victims of gender-motivated violence); *SWANCC v. U.S. Army Corps of Engineers*, 531 U.S. 159 (striking federal regulation of intrastate wetlands used by migratory birds).

[28] Christine A. Klein, *The Environmental Commerce Clause*, in Harvard Environmental Law Review Vol.27, 2003, p.4.

[29] *Ibidem.*

Another clause that has been interpreted to include a federal environmental regulatory authority is the Taxing and Spending Clause which gives Congress the power "*to lay and collect taxes and to pay the debts and provide for the common defense and general welfare of the United States*" ([30]). Courts have long recognized that Congress may use its taxing power not only to raise revenue but also as a means of enforcing its other regulatory powers. However, since the Commerce Clause has been interpreted broadly to include a large range of powers, Congress had used the taxing clause for regulatory purposes a few times. Indeed, in the United States, pollution taxes have been important in market approaches to pollution control, but they have not played a significant role in environmental regulation as in other countries ([31]).

Within the environmental context, the spending power has been used to support the regulatory programs of the state and local governments and other measures to control or remediate pollution problems. Through its spending power (art.1 sec. 8 cl. 1) Congress has the power to provide financial incentives, by directly providing money or by imposing conditions on related expenditures, for the achievement of certain policy goals ([32]).

Also, the Property Clause has been interpreted as an additional source of federal authority in the environmental context. Article 4, sec. 3, cl. 2 of the Constitution authorizes Congress to "*make all needful Rules and Regulations*" on lands owned by the Federal Government. For this reason, it was held that Congress has the authority to act as a state legislature over the public domain in such areas, in addition to acting in its capacity as an owner of such lands ([33]). This interpretation has allowed the Federal Government to ensure the protection of natural resources on federal lands, but also to control all activities that produce pollution on those lands.

Article 2 section 3 of the Constitution (Treaty Clause) fixes the procedure for ratification of international agreements. The primary negotiator of an agreement between the United States and other countries is the President, that must receive the advice and consent of a two-thirds majority of the Senate. This power implies an important authority to regulate environmental matters that reach across U.S. borders or concern the global environment ([34]).

In addition to these clauses that directly grant specific powers to the Federal Government and that have been interpreted broadly to include environmental matters, there are also clauses in the Constitution that grant Congress additional and ancillary powers beyond those expressly granted. For example, the Necessary and Proper Clause (art.1, sec. 8) grants Congress the

[30] United States Constitution, Article 8 sec.1, clause 1.
[31] *Supra* 10, p.526.
[32] *Ibidem.*
[33] *Kleppe v. New Mexico*, 426 U.S. 529.
[34] *Supra* 10, p.526.

authority to enact any law necessary to carry out its constitutional powers, without, however, conflicting with the limits placed on these powers.

As mentioned above, the Supremacy Clause establishes the supremacy of federal laws over state and local legislation if there is a conflict between them. This supremacy is particularly pertinent to environmental regulation because it occurs both at the federal state and local government levels.

Since Congress can pre-empt state and local government regulation, federal environmental statutes have sought to preserve as much of the states' regulatory authorities as possible. This is because it has been recognized that the cooperation between the state and local government authorities is fundamental to protecting the environment. Moreover, federal environmental statutes frequently only fix a minimum set of environmental standards and they do not usually pre-empt state and local standards. This is because, for the moment, state and local regulations seek to be more protective of the environment field than federal regulations ([35]).

Finally, the Constitution also imposes limitations on the ability of the government to engage in environmental regulation. The main limitation placed on congress regarding environmental issues is set by the Taking Clause of the Fifth Amendment: "*No person shall be … deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation*". Indeed, when a governmental agency (federal, state, or local entity) takes an individual's private property, and when it acquires lands by condemnation, must compensate the landowner for the loss of its taking.

In the past, it had been asserted that environmental regulations were a form of governmental taking of property that must be compensated. The reasoning was that because these regulations usually limit the activities that individuals may exercise on private lands, they damaged the market value of such lands that are affected by those regulations. This compensation requirement has the disadvantage of imposing high financial costs on environmental regulation, but it has also allowed courts to impose limits on the granting of compensation by reference to environmental regulations ([36]).

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[35] *Supra* 10, p.527.

[36] *Loretto v. Teleprompter Manhattan CATV Corp*., 458 U.S. 419 (1982): compensation is due under the Taking Clause when a private individual's property is physically invaded the government's actions; *Lucas v. South Carolina Commission,* 505 U.S. 1003 (1992); *Penn Central Transportation Co. v. New York City*, 438 U.S. 104 (1978): compensation is also required 1) when government regulations completely destroy a property's economically viable use, and 2) in instances of partial economic deprivation when a balancing of private and public interests favors the property owner.

According to the authority granted by the Constitution to the President as head of executive power, he also has powers regarding environmental regulation. Under article 2 section 3 he has the responsibility to "*take care that the laws be faithfully executed*". This means that, through its executive orders, he may direct the implementation of environmental regulation. In exercising this power of issuing executive orders, he must respect the limit of his powers expressly set out in the Constitution ([37]).

Finally, a fundamental role in the implementation and interpretation of environmental law and policy is attributed to the judiciary. As anticipated, the United States is a common law country and the doctrines developed by the judicial involvement are largely influential.

Federal courts exercise their activity under article 3 section 2 which grants them the (federal) power to decide cases and controversies. Federal courts rely upon common law doctrines to decide cases concerning environmental issues (i.e., the common law doctrine of public nuisance and trespass). Nevertheless, Congress may abrogate the applicability of common law doctrine by statute in specific cases ([38]).

1.3 STATE AND LOCAL INVOLVEMENT IN ENVIRONMENTAL POLICY

States and local governments exercise their power of regulation in environmental matters following the states' separate authority granted the by U.S. Constitution. However, their authority may be explicitly limited or preempted by congressional statutes. Moreover, as anticipated above, according to the interpretation of the Dormant Commerce Clause, the Supreme Court has often limited the ability of the states to enact regulations that burden interstate commerce, including legislation that may have the practical effect of regulating commerce that occurs outside the state's borders. This has become particularly important, concerning environmental regulations, and the issue of the ability of states and local governments to limit the flow of trash and other waste into their states ([39]).

Consequently, environmental matters that do not cross the state's borders, are primarily the responsibility of state and local governments. For example, the planning activity is managed and regulated by state and local authorities, as well as the use of natural resources and wildlife, remaining a little capacity for the Federal Government to regulate these subjects. Nevertheless,

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[37] *Supra* 10, p.528.

[38] This is what happened in *International Paper Co v. Ouelette*, 479 U.S. 481 (1987). Congress, through the Clean Water Act had limited the applicability of state nuisance in inter-state water pollution cases.

[39] *Supra* 10, p.529.

it is also true that Congress is very influential regarding the use and management of lands and natural resources since it owns many lands.

Despite the responsibility of state and local government over local environmental issues, it is also true that many environmental issues cannot be categorized into local/state and national concerns. This is because, the management of an environmental activity can affect the activity in another state (this is the relationship between, for example, the demand in one state and the management of that activity in the other state).

Therefore, some federal environmental laws (concerning, for example, the problem of pollution) have been issued to regulate certain matters uniformly throughout the federal territory. Despite this, however, an instrument capable of regulating the problem of the conservation and protection of the environment comprehensively has not yet been issued ([40]). Indeed, striking the right balance between uniform national standards on the one hand and state and local sovereignty on the other has long been a source of concern for environmental regulators ([41]).

However, states and local governments are assigned the task of implementing the laws by the Environmental Protection Act. Many of the environmental laws that EPA is charged with implementing contain explicit provisions that grant states the primary authority to carry out this activity if they meet certain requirements. It is not said that, in any case, attributing greater authority and independence to the states would solve the problem. The states are many and varied and there would therefore be many discrepancies in their willingness and effectiveness to implement environmental protection and regulations.

With the expansion of attribution of responsibility by the Federal Government to states and localities for several environmental regulatory programs, the Supreme Court began to extensively interpret the Taking Clause of the Fifth Amendment, and the regulatory-taking doctrine (the taking of property for public use must provide a just compensation) has been applied to state and local regulatory programs (regulations primarily concerned clean air regulation, hazardous waste, wetlands protection, and coastal zone management). However, since 1992 ([42]), the Court has left the application of the Fifth Amendment's just compensation requirement to the determination of state courts.

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[40] *Supra* 10, p.529.

[41] *Supra* 4, p.114.

[42] The year in which the Supreme Court had devised the regulatory-taking doctrine in the case of *Pennsylvania Coal v. Mahon* (260 U.S. 393).

Starting in the 1980s, then, the issue returned to the federal courts following several decisions that had left state regulators, legislators, and jurists in doubt about the requirements to determine what could constitute just compensation.

Examples of currently regulatory taking issues in local and federal environmental policy mainly concern pollution, and problems related to pollution and other environmental aspects concern state and local regulators who must comply with and enforce the imperatives of environmental legislation under the eyes of the federal courts ([43]).

1.4 ENVIRONMENTAL AGENCIES: THE EPA

Environmental laws, regulations, and guidelines are the responsibility of a variety of federal agencies. A federal agency is a special government organization set up for a specific purpose by legislative actions or through a presidential order.

Concerning the environmental field, primary responsibilities have been attributed to the U.S. Environmental Protection Agency, the Council on Environmental Quality (CEQ), the Department of Interior, and the Departments of Energy, Transportation, Commerce, Agriculture, State, and Justice. These are the main government branches that are responsible for and dialogue for the development of environmental regulation.

In parallel with federal agencies, state-level agencies also have responsibilities of setting standards and guidelines, administering laws, enforcing state regulations, and education programs, and ensuring compliance. Moreover, some state agencies have been authorized to implement and enforce federal programs under federal environmental statutes.

At the federal level, the EPA is the major environmental policy agency in the United States ([44]). Created by President Nixon in 1970 with a new approach, this regulatory agency has only one administrator (appointed by the President and confirmed by the Senate). The agency was originally conceived as an organization that should have operated through administrative offices with "functional" responsibilities (research and monitoring, planning and management, standards, and compliance), but it has evolved into a combination of functional and programmatic units ([45]).

[43] *Supra* 4, p.116.
[44] *Supra* 4, p.102.
[45] *Ibidem.*

All the EPA's organizations' units share the goal of fully protecting and enhancing the environment today and for future generations possible under the laws enacted by Congress ([46]). It has regional offices throughout the United States, and it is responsible for setting and enforcing federal environmental standards and for supervising the implementation of federal environmental statutes by state governments ([47]).

The six major programs and functions controlled by EPA are pesticides, air protection, water protection, radiation, toxic substances, and hazardous waste.

In the early 1970s, the first administration of EPA developed an aggressive enforcement strategy based on the enforcement of environmental laws through the courts. EPA's actions have often been challenged by industry actors, even if at first, they feared claiming its actions because they could have generated a bad public image. Therefore, the role of the courts in the formulation and implementation of environmental laws and policy began to grow. This increase in the intervention of courts in the administration of environmental agencies and programs became a "new partnership" between courts and administrative agencies ([48]).

It has been shown that the federal court decisions have operated distribution of budgetary and staff resources within the EPA, and they have reduced the discretion and autonomy of EPA administrators, increased the power of the EPA legal staff, and decreased the power and authority of EPA scientists ([49]). Compliance with court orders has become one of the agency's priorities both at the overall level and at the individual organizational unit perspective.

During the 1980s, the relations between humans and the environment became even more complex and it was always more evident that the standards and goals set during the 1970s were difficult to achieve, even if state and local governments and the judiciary had made efforts to implement them. One of the most complex areas for Congress to regulate was that of hazardous waste site remediation. For this reason, the Superfund legislation of 1980 attributed to the EPA the responsibility of identifying and cleaning up old and abandoned hazardous waste sites.

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[46] Official Website of the United States Government, United States Environmental Protection Agency, available on: https://www.epa.gov/aboutepa/our-mission-and-what-we-do. The seven major environmental laws enacted by Congress that are implemented by the EPA are: Clean Air Act (CAA), Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) or Superfund, Federal Insecticide, Fungicide and Rodenticide Act of 1972 (FIFRA), Federal Water Pollution Control Act of 1972 (FWPCA) or the Clean Water Act (CWA), Resource Conservation and Recovery Act of 1976 (RCRA), Safe Drinking Water Act of 1974 (SDWA), Toxic Substances Control Act of 1976 (TSCA).

[47] *Supra* 10, p.522.

[48] *Supra* 4, p.306.

[49] A study of twenty years of lawsuits against and by the EPA by O'Leary (1993) in Brief Records: EPA National Library Catalog.

Despite this, few sites have been fully remediated. Because of these failures, a new regulatory approach was formulated to improve the environmental policies. The new approach is based on market incentives and proactive methods such as pollution prevention ([50]).

Another relevant agency within the Office of the President to be mentioned is the Council on Environmental Quality which supervises whether federal agencies comply with the National Environmental Policy Act (NEPA) ([51]). It must ensure that agencies, when acting, consider and evaluate the environmental impact of their actions.

Finally, the Environmental and Natural Resources Division within the Department of Justice represents the Federal Government in all litigation related to the protection of the environment and natural resources, acquisition, administration, and disposition of public lands and resources. It collaborated with EPA to bring civil and criminal enforcement actions against polluters and defends EPA's rules and regulations ([52]).

2. SOURCES OF ENVIRONMENTAL LAW

Environmental law in the United States has developed using common law doctrines (such as trespass and nuisance) that have been the basis to claim environmental protection and, especially, pollution problems. For example, the claim of trespass was used as a tool to claim that pollution violated property rights of individuals ([53]).

The use of common law wrongs to challenge the legitimacy of human activities carried with it disadvantages. Those who desire to claim environmental harm based on trespass and private nuisance, must presumptively have ownership of the land that was harmed by pollution, and harms to other interests, such as one's health, could be equally significant ([54]). Similarly, using other common law remedies such as negligence and strict liability was often useless because they required the plaintiff to prove the damage, and this was difficult to prove.

Moreover, harm caused by environmental damage could not be attributed to a large population rather than to a small number of identifiable individuals, and environmental damages were

[50] *Supra* 4, p.307.
[51] NEPA 42 U.S.C. §§ 4321-4370e.
[52] *Supra* 10, p.522.
[53] Common law doctrines were applied to various forms of air pollution, such as smoke or odors, from an industrial facility. In *Georgia v. Davis Corporation* (251 Oregon Reports, 239, 445), for example, it was affirmed that an adjacent or nearby landowner would suffer harm because his or her property and plants might be damaged through the deposition of smoke particles and other pollutants on the house and land.
[54] *Supra* 10, p.530.

caused by human activities attributable to many persons, and, sometimes, it was impossible to establish a cause-effect relationship between the pollution and its harm ([55]). Given all these circumstances, common law torts were inefficient to solve and to claim pollution problems.

The inability of common law to solve the increasing pollution problems led to a greater role for the Federal Government, rather than that of state and local governments.

Federal efforts began to address water pollution, food safety and insecticides. However, federal efforts did not bring substantial changes because remained at the level of conducting research, collecting information, and providing grants and financial assistance. The government wanted to increase the attention of state and local governments about severe pollution issues to make it their priority. Nevertheless, all federal efforts to increase local and state contributions failed.

During the 1970s, then, the Nixon administration began to create the modern environmental regulatory system as it is shaped today. The system provided for a strong authority of the Federal Government, that could set standards and enforce the laws. Indeed, if before the Federal Government supported the jurisdiction of the states over environmental matters, the new approach provided for direct regulatory oversight and control of pollution and other environmental matters by the Government.

The shift in how Congress approached federal regulation of the environment has also to be attributed to the uncertainty that existed over Congress' constitutional power to regulate such issues. With the expansion of the interpretation of the Commerce Clause, Congress' power to create federal environmental programs increased ([56]).

The institution that gained more power was the newly created EPA. As a result of the development of the new approach for a direct regulation, EPA was given the authority to set standards, issue permits, and institute civil, criminal, and administrative enforcement proceedings ([57]).

The new federal environmental regulatory framework that was created, as we know it today, utilizes a direct regulatory mechanism, specifically, a *command & control* approach. Indeed, to achieve environmental protection, the Federal Government directly imposes specific environmental standards and demand the use of specific equipment or adherence to specific behavior in polluting operations. These requirements are imposed by statute or by administrative regulation.

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[55] Therefore, for a long-time, individual have relied on the instrument of *class action* to challenge environmental damages. however, the costs of class actions were very high, and it was still difficult to provide proof of damage.

[56] *Supra* 10, p.531.

[57] *Ibidem.*

The direct regulatory approach is not the only one used by the environmental regulatory framework. The other approach relies on an indirect mechanism. The indirect regulatory mechanism does not manage human activities (i.e., pollution) but encourages certain activities rather than others to reduce pollution through incentives, and dis-incentives (i.e., taxes and subsidies). Individuals may still want to engage in polluting activities, but they will find it more costly.

There are also some other regulatory mechanisms that do not rely on financial incentives but still fall into the category of indirect mechanisms. These are the publication and diffusion of information regarding polluting activities of industries and companies to increase public awareness and adverse reputational consequences. By publishing detailed data and information, polluters should be induced to act environmentally.

The third type of federal regulatory approach is defined as self-regulatory. Within this category, there are educational and compliance programs that are elaborated by agencies to pressure on polluters to reduce their damaging actions through non-coercive means and by increasing their education about the environment. In this context, EPA elaborates environmental educational programs to inform the public about the consequences of polluting.

Self-regulatory mechanisms still function as a substitute of coercive mechanism. To achieve concrete environmental outcomes the use of the direct regulatory approach predominates in the federal environmental law system. Despite this, *command & control* mechanisms are sometimes inefficient from an economic point of view, while alternative regulatory tools make progress around environmental protection in a cost-effective manner ([58]). Alternative regulatory measures, however, have the disadvantage of requiring polluters to anticipate problems.

The last instrument which is used to facilitate environmental regulation is the environmental assessment mechanism (i.e., issuance of permit). These mechanisms require to consider environmental impacts before any regulatory action, and they facilitate environmental planning. The environmental impact assessment allows the agencies to make conscious environmental decisions without directly imposing rules.

[58] *Supra* 4, p.111.

3. THE FEDERAL ENVIRONMENTAL REGULATORY FRAMEWORK: MAIN ENVIRONMENTAL STATUTES

National Environmental Policy Act. – The federal regulatory framework is based on several statutes that address the issue of pollution in different sectors (air, water, soil). All statutes have in common that they refer to strict liability principles.

The first modern environmental and most influential statute is NEPA, the National Environmental Policy Act. It is often called an environmental Magna Charta of the United States ([59]). The reasons that led Congress to adopt NEPA are still not completely clear. However, the objective was that of limiting so-called program- or mission-oriented agencies that conducted activities damaging the environment ([60]).

The fundamental characteristic of this statute is that, unlike other statutes, it does not provide for specific mandates to the agencies. It requires federal agencies to set up an environmental impact assessment during their planning activities, meaning that it requires agencies to consider environmental values while exercising their power of decision making.

The key requirement that legislates environmental responsibility is to be found in §102(2)(c): "*The Congress authorizes and directs that, to the fullest extent possible: ... (2) all agencies of the Federal Government shall: (C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on – (i) the environmental impact of the proposed action; (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented; (iii) alternatives to the proposed action; (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented".*

§ 4332 requires federal agencies to prepare an environmental impact statement "*for major federal action affecting the quality of the human environment*" ([61]). The "detailed statement" referred to in paragraph102(2)(C) is the current Environmental Impact Assessment (EIA) ([62]).

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[59] *Supra* 21, p.247.

[60] *Ibidem*.

[61] 42 U.S.C. § 4332. Specifically, only actions that are major and subject to federal control must comply with the EIS requirement. Moreover, whether a federal action significantly affects the environment depends on the context and the intensity of the environmental effects (40 C.F.R. § 1508.27) which include aesthetic, cultural, ecological, economic, health, historic, and social effects.

[62] The Environmental Impact Assessment was not included in the original draft of the bill. The original draft only provided for a research program on environmental problems and for the Council on

Therefore, the statute does not require agencies to engage in certain behaviors with respect to the environment, it only asks them to consider the consequences that activities might have on the environment. It means that even if an agency assesses in its environmental impact analysis that a certain activity could cause damage to the environment, it may still engage in that activity. Indeed, in *Strycker's Bay Neighborhood Council v. Karlen* ([63]), it was held that NEPA's requirements are merely procedural and do not impose any substantive requirements for the agency's decisions.

NEPA also requires federal agencies to consider the environmental repercussions of federal activities, undesirable environmental effects that cannot be avoided, alternatives to the proposed consequences, and the action's irrevocable and irreversible resource commitment ([64]). NEPA created the Council on Environmental Quality (CEQ) which is responsible for administering the environmental impact assessment obligations of agencies (and it also has planning responsibilities). The CEQ issued a regulation to identify the components of an adequate EIS: analysis of the scope of the environment affected by the federal action, potential alternatives to the proposed action, and potential mitigation measures ([65]).

Since federal agencies must consider the effects of their actions on the environment before submitting a formal proposal, the agency must conduct this analysis before the planning and development activity.

In theory, NEPA applies to all federal agencies and federal programs ([66]). However, as anticipated above, there are some exceptions to the EIS requirements depending on the type of action involved. NEPA's application to certain programs has been limited by statutes or by the courts ([67]), and it does not apply to the non-discretionary actions of federal agencies.

The first characteristic necessary for NEPA to be enforceable is that it be federal action. There are some decisions and activities carried out by federal agencies that are clearly federal (i.e., a federal permit for a project in wetlands). However, actions carried out by state and local governments can also be considered "federal" if they are funded by federal assistance or are

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Environmental Quality (CEQ). Lately, at a Senate hearing, Lynton K. Caldwell, professor of political science at Indiana University, introduced this requirement.

[63] *Strycker's Bay Neighborhood Council v. Karlen*, 444 U.S. 223 (1980).

[64] 42 U.S.C. § 4332(C).

[65] 40 Code of Federal Regulations (C.F.R.) part 1502.

[66] *Supra* 21, p.251.

[67] *Ibidem.* Indeed, even if NEPA's drafters were expecting that especially Congress and the executive branch of Government would have enforced NEPA, federal courts played a major role in enforcing it (even if NEPA does not expressly provide for judicial review).

under federal control or supervision ([68]). Federal assistance means that the federal agency approves (and funds) a specific project submitted by a state or local agency.

NEPA is a fundamental instrument for planning activities at the federal level. However, nowadays, most environmental planning occurs at the state and local government levels during land-use planning decisions ([69]). Usually, NEPA does not involve these entities unless there is a government connection ([70]). This means that when there is a federal connection, it also covers state and local governments.

NEPA's requirements do not apply every time there is a conflict with NEPA and other statutes (statutes may require that agencies' actions shall not comply with NEPA's and EIS requirements). In addition, CEQ regulations also provide for some categorical exclusions (known as CATX): if the agency believes that NEPA should not be applied in a specific action because it will not have significant environmental effects, it can opt-out of its application. From these categorical exclusions are kept out "*extraordinary circumstances in which a normally excluded action may have a significant environmental effect*" ([71]). After the agency has made its decision with respect to the exclusion, courts may evaluate the correctness of that decision: Courts' review is the most effective tool to avoid that federal agency using categorical exclusion as a way of escaping NEPA entirely.

If any categorical exclusion is applied, the federal agency must prepare an environmental impact statement or prepare an environmental assessment to decide whether an environmental impact statement is required ([72]). In fact, what matters for the purposes of applying the statute is not the result of the action, but rather the process by which the agency decides whether its action is likely to cause any effects on the environment.

The process by which the agency arrives at producing an Environmental Impact Statement is complex. There are threshold issues that the agency must examine. As an example, if the federal agency proposes an action (e.g., road maintenance) and any categorical exclusion exists, the

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[68] *Supra* 21, p.261. *See also* CEQ regulation (40 C.F.R. § 1508.18(b)) that indicates the categories in which these actions "tend to fall". "*These categories include: 1) the adoption of official policies, such as rules and regulations; 2) the adoption of "formal plans… which guide or prescribe alternative uses of federal resources, upon which future agency actions will be bases; 3) the adoption of "programs, such as a group of concerted actions to implement a specific policy or plan" or "allocating agency resources to implement" a statutory program or executive directive; 4) the approval of specific projects such as "actions approved by permit or other regulatory decision as well federal and federally assisted activities*".

[69] *Supra* 10, p.535.

[70] *Ibidem.*

[71] 40 C.F.R. § 1508.4.

[72] *Supra* 21, p.259.

agency must evaluate whether there are potential environmental effects of the proposed action on the environment. If yes, it must produce the Environmental Impact Statement. On the other hand, if the federal agency cannot determine in advance whether the action will affect the environment, it will produce an Environmental Assessment ([73]).

The Environmental Impact Assessment is also produced when a categorical exclusion for a proposed action exists, but the federal agency assesses that there are some extraordinary circumstances that require evaluating of the impact of the action on the environment.

Once the Environmental Assessment is produced, and the agency identifies some consequences on the environment, it will be asked to compose its Environmental Impact Statement. Otherwise, if there is no finding of significant impact, the proposed action can be carried out by the agency without additional requirements.

To prepare an Impact Statement, the agency must file a Notice of Intent (NOI) in the Federal Register ([74]), that describes the proposed action and the scoping process. Scoping, in this context, means determining the scope of the issues to be addressed in the impact statement and the significant issues related to the proposed action.

After the scoping process is completed, the agency prepares a Draft Environmental Impact Statement (DEIS) "*in accordance with the scope decided upon in the scoping process*" ([75]). The DEIS can be reviewed by federal, state, and local agencies, as well as by any agency requesting to view the draft, by the public, and by any *"interested or affected persons or organizations"* ([76]). The agency must respond to the comments in the Final Impact Statement (FEIS), and it can modify the proposed action, propose a new action or alternatives, develop, or evaluate new alternatives, supplement, modify, or improve its analysis, make factual corrections, or explain why the comments do not warrant a further response ([77]).

The FEIS circulates in the same manner as the draft EIS. If the agency prepares the Impact Statement, it must also prepare a *"concise public record of decision",* which describes *"all practicable means"* to avoid or minimize harm, or explain why they have not been adopted ([78]).

[73] *Ibidem.*
[74] 40 C.F.R. §1508.22.
[75] *Idem* §1502.09(a).
[76] *Idem* §1503.1(a).
[77] 40 C.F.R. §1502.4(a).
[78] *Idem* §1505.2.

Lastly, if agencies realize that there are new significant circumstances or information, or substantial changes that affect the proposed action or its environmental impact, they must prepare a supplemental environmental impact statement (SEIS) ([79]).

The Clean Air Act. – The issue of eliminating air pollution and increasing air quality is addressed by the Clean Air Act (CAA) ([80]). This comprehensive regulatory system to protect air quality aims at setting National Ambient Air Quality Standards (NAAQS) on the concentration of 8 air pollutants: sulfur dioxide, nitrogen, oxides, particulate matter, carbon monoxide, ozone, and lead. However, individual states are left free to decide how to achieve compliance with these standards, and their decisions are subject to EPA review and approval ([81]).

After the 1990 amendments, EPA has been given the authority to implement a national permitting program ([82]). Permits are aimed at fixing enforceable emission limitations, self-reporting, and record keeping. This authority can also be delegated to states. A permit must be obtained for any air pollution source that is subject to the Clean Air Act's provisions.

The Clean Air Act, in addition to providing EPA the authority of regulating stationary sources (i.e., industrial facilities), also grants EPA with authority over emissions from moving sources (i.e., motor vehicles) ([83]). The CAA aims also at regulating the use and manufacture of substances ([84]).

Under the CAA, EPA has a broad administrative authority to address the violation of permits, state implementations plan, and other requirements of the Act. Specifically, the amendments of 1990 to the Act created a new administrative authority penalty that EPA did not previously have regarding the Act ([85]).

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[79] *Idem* §1502.9(c).

[80] 42 U.S.C. §§7401-7671.

[81] *Idem* §7410. State implementation Plans are, among other things, to set out enforceable emission limitations on sources, compliance review mechanism, air quality monitoring procedures and enforcement authorities. When a state fails to act upon these standards by creating a state implementation program (SIP), EPA may step in and prepare a federal implementation program for that jurisdiction, though EPA has been reluctant to exercise that jurisdiction.

[82] 42 U.S.C. §§7661a-7661f.

[83] *Idem* §7521-7590. To control these types of emissions, EPA sets emissions standards for new vehicles, regulates the content of motor vehicle fuel, forces the development of low-emission and zero-emissions vehicles by manufacturers, and transportation control measures designed to reduce personal motor vehicle use through increased public transportation and other measures.

[84] 42 U.S.C. §7671-7671q.

[85] *Idem* §7413, §7477.

The Clean Water Act. – The Clean Water Act ([86]) regulates water pollution. Like the CAA, the purpose of the statute is to create a permitting regulatory system to preserve and improve the quality of water. The Act prohibits any discharges into all navigable waters of the United States unless expressly permitted by EPA ([87]).

Similar to CAA, under the Clean Water Act EPA may authorize states to administer their water pollution regulatory program, which must meet EPA standards. Since EPA supervises state programs, it may withdraw authorization if the state program does not meet these requirements ([88]). EPA exercises administrative authority to enforce any violation.

There are also two other significant statutes that address water pollution concerns: the Oil Pollution Act of 1990 ([89]) to avoid discharges of oil, and the Safe Drinking Water Act ([90]), which aimed at setting limits on the contaminants in public drinking system water and protecting groundwater aquifers. However, the SDWA does not apply to private water supplies but only to the public water system, defined as *"a system that has at least fifteen service connections or regularly serves at least twenty-five individuals"* ([91]).

The Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability Act. – The Resource Conservation and Recovery Act is a regulatory program that regulates the management of land disposal of hazardous wastes. It provides for the identification and listing of wastes that are hazardous, the establishment of standards that are applicable to generators, transporters, and operators of treatment, storage, and disposal (TSD) facilities of hazardous waste, and a permit system for these facilities ([92]). To be regulated under this Act, waste may either be specifically listed by EPA or exhibit one or more of four characteristics: ignitability, corrosivity, chemical reactivity, or toxicity ([93]).

Under the Act, EPA possesses broad authority to obtain information and inspect facilities dealing with hazardous waste, to monitor and test for the presence or release of hazardous waste, and to seek injunctive relief against anyone whose handling, storage, treatment,

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[86] 33 U.S.C. §§1251-1387.
[87] *Idem* §1311.
[88] *Idem* §1342(b) & (c).
[89] Idem §§2701-2761.
[90] 42 U.S.C. §§ 300f-300j.
[91] 42 U.S.C. §300f(a).
[92] *Idem* §§ 6922-6924; §6925; §6926. The waste that is covered by RCRA includes garbage, refuse, sludge, and other discarded materials that may be in solid, liquid, semisolid, or gaseous. However, various wastes such as domestica sewage, irrigation returns flows, nuclear wastes, and Clean Water Act regulated discharges are excluded. Also, recycling of waste is exempted from RCRA regulation.
[93] *Idem* §261, subpart D.

transportation, or disposal of solid or hazardous waste may present an imminent and substantial endangerment to health or the environment and require them to abate such a danger ([94]).

The Comprehensive Environmental Response, Conservation, and Liability Act (CERCLA, also called Superfund) regulates a liability scheme for the cleanup of contamination due to improper hazardous substance disposals. This Act also creates a governmental trust fund on which EPA can draw to finance environmental clean-ups. The trust fund is replenished through cost-recovery actions against parties liable for the clean-up costs under CERCLA. However, unlike RCRA, CERCLA does not provide for delegation of authority to state governments ([95]).

Under CERCA, EPA has the authority to take actions to protect the public health and welfare of the environment under these circumstances: an actual release or threatened release of hazardous substances, and an actual release or threatened release of any other pollutants, or contaminants that could present an imminent and substantial danger to the public health and welfare ([96]). EPA may remove such hazardous substances, pollutants or contaminants as well as take any other necessary measure, which, however, must comply with the National Contingency Plan, a set of EPA regulations that are designed to structure the clean-up activities ([97]).

CERCLA gives the Environmental Protection Agency the authority to respond to hazardous substance leaks and mandates broad and strict accountability for the costs of such efforts as well as harm to natural resources. Current owners and operators of facilities that pose a threat of releasing or have released hazardous substances, persons who owned and operated the facility at the time hazardous substances were disposed of, persons who arranged for hazardous substance disposal or treatment, and persons who accepted hazardous substances for transportation, are all subject to strict liability for their releases or threatened releases of hazardous substances to the environment ([98]).

The Toxic Substances Control Act. – The Toxic Substances Control Act (TSCA) grants EPA the power of regulating toxic substances that are not expressly governed under other environmental statutes.

EPA may regulate the processes of manufacturing, processing, distributing in commerce, using, or disposing of new and existing chemical substances when they present an unreasonable risk

[94] *Idem* §6927, §6934, §6973.
[95] *Idem* §9611, §9612(c).
[96] *Idem* §9604(a).
[97] 42 U.S.C. §9604(a).
[98] *Idem* §9613(f).

of injury to health or to the environment ([99]). However, the regulatory activity must be exercised by EPA through least burdensome means possible.

EPA must test chemicals whenever there are not sufficient data to understand whether they may present a risk to the environment.

TSCA poses attention to the new chemical substances or their use: they cannot be manufactured or used without providing EPA with 90 days' notice. This time allows EPA to assess whether to regulate these new substances ([100]).

The Federal Insecticide, Fungicide, and Rodenticide Act. – Pesticides and other substances designed to eradicate the organism are regulated under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) ([101]). The aim of the Act is to protect the environment and humans from pesticide use.

EPA requires registration for pesticides and regulates the use, sale, and labeling of these substances ([102]). Specifically, it must register a pesticide if it assesses that the product will not cause an unreasonable adverse effect on the environment. Unreasonable environmental effects are defined as "*any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide*" ([103]). When these requirements are met, NEPA does not have the authority to deny the registration.

4. THE ADMINISTRATIVE LAW OF ENVIRONMENTAL PROTECTION

Environmental law, like many other areas of federal law, is substantially influenced by administrative rules and regulations established by a federal agency. In this case, it is the Environmental Protection Agency (EPA). Because of the scientific and technical requirements which are necessary in this field of law, agency engagement is required to operationalize the statutory mandates. The EPA's regulatory authority is thus drawn directly from and constrained by legislative legislation.

Environmental statutes frequently include several procedural requirements for the agency to follow when exercising its assigned responsibilities. However, there is a lot of variation in these standards, with some setting explicit and precise requirements and others remaining entirely

[99] 15 U.S.C. §2603(a).
[100] *Idem* §2604(a).
[101] 7 U.S.C. §136 – 136y.
[102] *Idem* §136j.
[103] 7 U.S.C. §136(bb).

silent. The Administrative Procedure Act's provisions apply if the applicable statute is silent regarding procedural requirements for the use of such authorities ([104]).

The Administrative Procedure Act, which applies to all federal agencies, mandates that: 1) a draft rule be published, 2) a public comment period be provided, and those comments are considered, and 3) the final rule be approved with a statement of reason.

The APA regulates different types of actions through which agencies may proceed. The main distinction is between informal or formal rulemaking (depending on the type of process used), usually designed to apply widely. However, agencies may also proceed by adjudication (to address the implementation of concerns related to specific circumstances), by permitting or approval of specific projects, and by enforcement actions (judicial or administrative) against violations of permits, regulations, and statutory requirements.

Rule-making process is similar to the legislative. The informal rule-making process provides for the collection of information to prepare a draft rule, the issuance of public notice regarding the prosed draft rule and the consideration of the effects of publishing the rule, public comment on the proposed rule, the consideration of comments, and, lastly, the promulgation of the rule. This type of process does not require big formalities regarding collecting information or other procedural requirements ([105]).

Unlike the informal process, formal rulemaking requires more formal hearing-types procedures and is more complex ([106]). It is within the discretionary evaluation of the agency to decide whether to use the formal process. However, its use is rare, unless it is required by a statute.

Adjudicative processes follow the same procedure as rulemaking. However, it is not legislative in nature. Within each agency, there is an administrative court that allows individuals' claiming through a more informal and faster process than judicial review ([107]). Similar to judicial proceedings, agency regulations provide for cross-examination, an independent decision-maker who must make a decision based on the record ([108]).

Individuals affected by agency decisions may also address judicial review. However, individuals must show that they have constitutional standing to bring the action to federal

[104] The APA, 5 U.S.C. It is a general statute designed to restrict agency discretion and applies in addition agency-specific statutes. It was enacted in the 1940s during a period when increasing amounts of congressional power were delegated to agencies. Its primary purpose was to safeguard public access to information and ensure public participation in agency decisions.
[105] 5 U.S.C. §553.
[106] *Idem* §556-557.
[107] *Supra* 10, p.545.
[108] 40 C.F.R. part 22.

courts. In these cases, dissatisfied individuals may only address agency-internal mechanisms for relief ([109]).

Finally, another important administrative act in environmental regulation is the Freedom of Information Act (FOIA) ([110]), aimed at ensuring the transparency of agency actions and decisions. Indeed, under this Act, individuals may request the release of information to the public to a governmental agency (i.e., agency records, statement of policy, staff mutuals).

The Act has been used in the past by individuals to obtain the public release of environmental information. The policy of the Act is to grant individuals access to agency information. The Act provides for some exceptions under which certain information cannot be published ([111]).

4.1 JUDICIAL CONTROL OF ADMINISTRATIVE ENVIRONMENTAL DECISION MAKING AND ACCESS TO COURTS

4.1.1 STANDING

It may be that decisions made by an agency that impact the environment are challenged by a group of individuals or an organization. Indeed, most the federal environmental statutes allow citizens to bring a civil action to enforce compliance with the specific statute ([112]). For this reason, it is important to address the role of the courts in overseeing the agency's actions and decisions ([113]).

Generally, citizens are allowed to bring suits against agencies (usually EPA) to compel the agency to promulgate a regulation or regulatory standard because it failed to perform a statutory duty; or against polluters for having violated regulatory requirements. Citizens' suits are also a way to ensure the enforcement of environmental law.

Generally, citizens' suits are very liberal ([114]) in the sense that any person or organization may claim that their interests have been affected by a statutory violation of an agency. However, there are some constitutional doctrines that limit the broad scope of this provision.

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[109] 5 U.S.C. §702.
[110] 5 U.S.C. §552.
[111] *Idem* §552(b).
[112] Clean Water Act (CWA), 33 U.S.C. §1365; Safe Drinking Water Act (SDWA), 42 U.S.C. §300j-8; Clean Air Act (CAA), 42 U.S.C. §7604; Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §9659.
[113] *Supra* 21, p.161.
[114] *Supra* 10, p.554.

Individuals or organizations that seek judicial review of agency decisions must have the standing to access the court, otherwise, the claim will be dismissed. "Standing" means the right to file or sue in federal courts and it is the basis of the judicial standing doctrine.

The idea of judicial standing is very much based on the U.S. Constitution. Article 3 speaks about the "original jurisdiction" that the Supreme Court has over some cases and the "appellate jurisdiction" that has over others.

Although the Court has been often inconsistent about the doctrine of judicial standing, it has now settled upon the rule that there is an irreducible minimum that the Constitution requires under article 3 to possess standing: 1) the plaintiff must have suffered an injury in fact, an actual or threatened personal injury which must be concrete and imminent; 2) it must be an injury that can be fairly traced to the challenged action of the defendant (so-called chain of causation or causal link); 3) there must be an injury that is likely (not speculative) to be redressed by a favorable decision (redressability of the relief) ([115]).

It may be easy to satisfy these requirements when the claimants are directly affected by an agency action (i.e., residents affected by pollution that live in the vicinity of an industrial facility). While it may be more difficult to meet these requirements when citizens suffer indirect harm (i.e., harm occurs at a distance), or whether the harm is of intangible nature ([116]).

The landmark case that recognized the basis for standing to challenge agency decisions is *Lujan v. Defenders of Wildlife* ([117]). The case was about the statutory interpretation of section 7(a)(2) of the Endangered Species Act of 1973 which requires federal agencies to consult with the Secretary of the Interior or Commerce before undertaking actions that might jeopardize endangered or threatened species. The Secretary promulgated a joint regulation stating that the ESA consultation requirements extended to federal actions taken in foreign nations. After this revision, a new joint regulation was adopted to limit the geographic scope to the United States and the high seas.

Defenders of Wildlife, an organization dedicated to the protection of wildlife sued the Secretary of the Interior claiming that the new interpretation and regulation were wrong and asking for a declaratory judgment that would have required the Secretary of Interior to restore the initial interpretation of the geographical scope of the statute.

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[115] *Steel Co. v. Citizens for a Better Environment,* 523 U.S. 83 (1998).
[116] *Supra* 10, p.555.
[117] *Lujan v. Defenders of Wildlife*, 504 U.S. 555 (1992).

The organization asserted to have suffered injuries because governmental activities carried out without consultation would have increased the rate of extinction of endangered species.
On the other hand, the Secretary claimed that the plaintiffs could not access the court because of their lack of standing. Indeed, the issue was whether the plaintiffs had standing to litigate a generalized grievance against the government if there was no real personal injury other than the harm suffered by all citizens. However, the ESA provides that any person may initiate a civil suit on her own behalf, to enjoin anyone, including governmental entities, from violating the ESA.
So, the Court had to decide whether the public interests in the proper administration of the laws can be converted into an individual right by a statute that denominated it as such, and that permits all citizens to sue.
The Supreme Court denied this right by affirming that judicial standing under article 3 of the Constitution contains 3 elements. Plaintiffs must have suffered an actual injury (either procedural or substantial), defined as "*an invasion of a legally protected interest which is: a) concrete and particularized... and actual or imminent*" ([118]). In addition, the plaintiff must show that a causal link between the harm and the conduct at issue exists. This means that "t*he injury is fairly traceable to the challenged action… and not the result of the independent action of some third party*" ([119]). Finally, it must be probable that the injury can be redressed. It is the plaintiff that must show the existence of these three elements to access a court: the burden of proof is on the claimant.
The Supreme Court goes on in its reasoning by stating that allowing citizens or organizations to sue based on an abstract right and obliging the Executive Branch to follow statutory procedures would endanger the separation of power.
The Court believes that the plaintiffs did not demonstrate how the threat to endangered species could cause them an injury. Moreover, the plaintiffs also failed to show how a favorable outcome could have redressed their alleged injuries.
The argument about the procedural injury suffered by the plaintiffs under the citizen-suit provision was also rejected. According to the Court, the plaintiffs were merely claiming a generally available complaint about the government, and they were not seeking to enforce a procedural requirement that protects a separate, concrete interest.

[118] *Supra* 117, p.560.
[119] *Idem*, p.590.

This judgment reflects two opposing conceptions of the availability of judicial review of agency decisions: administrative standing should be predicated on private rights provided by common law or legislation, and second, that the intended beneficiaries of regulatory programs can lawfully police public acts ([120]).

4.1.2 STANDARD OF REVIEW

When plaintiffs show the existence of the three judicial standing requirements, courts judge the merit of the agency decisions. The application of the different standards of review reflects the conflict between judicial inclinations to defer administrative expertise and to provide meaningful review of agency decisions to ensure that they conform to legislative mandates ([121]). In addition to asserting that they suffered actual damage from agency actions that have effects on the environment, plaintiffs often ask the courts to review the agency's statutory interpretation. In a claim before the court, claimants may assert that an agency developed a wrong interpretation of its enabling legislation or that the agency developed an improper implementation of a statute, on which there is general agreement on its meaning in each situation. The distinction between these two types of action is relevant because it determines the specific standard of review ([122]).

The first type of claim involves a question of law, while the second requires the application of law or policy to the fact situation before the agency. During the 1960s, the Supreme Court afforded deference to agency statutory interpretations and even greater deference to agency interpretations of their own regulations ([123]). This deference is particularly present in the case of *Chevron U.S.A. INC. v. Natural Resources Defense Council, Inc*. ([124]). Indeed, a doctrine was articulated and later known as "*Chevron Deference*" ([125]).

The case involved the interpretation of the word "source" developed by EPA after the 1977 amendments to the Clean Air Act. The amendments introduced the duty of polluters to ask for a permit from the state regulator and to meet certain requirements to build new sources of air pollution. Nevertheless, the meaning of "new sources of pollution" was not defined, and EPA formulated an initial interpretation that included any change or addition to a plant or factory.

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[120] *Supra* 21, p.161.
[121] *Idem*, p.200.
[122] *Supra* 21, p.161.
[123] *Ibidem.*
[124] 467 U.S. 837 (1984).
[125] *United States v. Mead Corp.,* 533 U.S. 218, 226 (2001).

Then, in 1981, it adopted a "*bubble concept*" under which "*an existing plant containing several pollution-emitting devices could install or modify one piece of equipment without a permit if the alteration did not increase the total emissions from the plant*" ([126]).

The plaintiff of the case was the Natural Resources Defense Council (NRDC), an environmental protection group that challenged EPA's interpretation of the word "source" by claiming that any plant should have had to ask for a permit whenever it created a new source of pollution or modified an existing source to the extent that additional pollution was created ([127]).

The environmental group challenged this interpretation in federal court. Both the federal court and the court of appeals agreed with the NRDC. Justice Stevens delivered the opinion of the Supreme Court that upheld the EPA's interpretation.

The Court affirmed that if a statute is silent or ambiguous with respect to a specific issue, a reviewing court may not simply limit to imposing its own interpretation of the statute. The Court created a test (so-called *Chevron* two-steps test) that a court must apply every time it faces the construction of a statute by an agency. The Court stated that a court must evaluate: *"First, always, is the question whether Congress has directly spoken to the precise question at issue. If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously intent of Congress. If, however, the court determines Congress has not directly addressed the precise question at issue, the court does not simply impose its own construction on the statute… Rather, if the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute"* ([128]). From this, it derives that the court must first consider whether the issue had been addressed by Congress and if its intent was explicit in the statutory language. In this case, the court and the agency must give effect to the will of Congress. If, on the other hand, the intent of Congress was not explicit because the statute was silent or ambiguous on a particular issue, in that case, the court must evaluate the construction of the statute made by the agency to verify that it was permissible.

The agency may legitimately fill the gaps that Congress legitimately left because it implies an explicit confer of authority, but the court must evaluate whether the power of the agency has not been exercised in a way that is arbitrary, capricious, or contrary to the statute. If the attribution of authority was not explicit but implied by Congress, the agency has the authority to fill the gap and the court cannot interfere in any way.

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[126] *Chevron U.S.A. INC. v. Natural Resources Defense Council, Inc*. 467 US 837 (1984), p.855.
[127] *Idem,* p.837.
[128] *Supra* 126, p.837-838.

The Supreme Court granted this deference to the agencies because it considered them as the bodies which had been entrusted with the power of administering the statutes and, for this reason, in the best position to make policy choices that take into consideration different and competing interests.

In this case, the Supreme Court considered that the "bubble policy" elaborated by EPA was reasonable. The only role of a court is, indeed, to determine whether the agency's decisions are reasonable when Congress did express any intent about the issue of the interpretation of the word "source" ([129]). For this reason, the court may only limit to judge the reasonableness of the policy adopted. The Court, considering the various interests, decided that EPA's policy was reasonable and that the Court should respect it.

Once an agency determines what a statute means, it must apply the statute, as so interpreted, to the factual situation before it. The role of the judiciary in resolving challenges to the determination of fact, law, and policy to apply the statute was addressed in the case *Citizens to Preserve Overton Park, INC. v. Volpe* ([130]). Here, a group of citizens challenged a plan to build an interstate highway through Overtone Park by the Department of Transportation. They claimed that this construction would have led to the destruction of many acres of the park. The plaintiffs claimed violation of section 4(f) of the Department of Transportation Act of 1966 that set some requirements for projects involving public parks ([131]), and the secretary of transportation must make sure that these requirements were met when reviewing all the projects involving public parks. Moreover, they also claimed the violation of the Federal-Aid Highway Act of 1969 that made sure that under the national policy *"special efforts should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites"* ([132]).

Specifically, the plaintiffs claimed that when approving the highway's construction, the secretary did not include any factual findings in his announcement, did not explain why any other feasible and prudent routes existed, or why this program could not be modified to minimize the harm.

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[129] *Idem*, p.840.

[130] 401 U.S. 402 (1971).

[131] Section 4(f) of the Department of Transportation Act of 1966 Publ. Law No. 89-670:*"After the effective date of this Act, the Secretary shall not approve any program or project which requires the use of any land from a public park, recreation area, wildlife and waterfowl refuge, or historic site unless (1) there is no feasible and prudent alternative to the use of such land, and (2) such program includes all possible planning to minimize harm to such park, recreational area, wildlife and waterfowl refuge, or historic site resulting from such use".*

[132] Publ. Law No. 627 (June 29, 1956).

The Supreme Court held that the Administrative Procedure Act requires a court to consider three factors when reviewing an agency's decisions. First, whether the agency acted pursuant to its power; second, whether the agency acted in an arbitrary or capricious way, an abuse of its discretion, or contrary to the law; and, finally, whether the agency followed the necessary procedural requirements ([133]). The Court considered the decision of the Secretary to build the highway legitimate, but his failure to make formal findings and state the reasoning under this decision was arbitrary and capricious.

The effect of narrowly construing the agency's statutory authority in this judgment is essential to eliminate the power of the agency to exercise discretion whenever a decision must be made about the construction of a highway through a park ([134]). The most significant aspect of this case is that it established a three steps process that permits the courts to evaluate the agency's decisions and set them aside if they are arbitrary and capricious but also to set aside the agency's actions whether they are outside the scope of their statutory authority.

This represents a clear shift from the traditional scope of review under section 76(2)(A) of the APA which allows the court to set aside an agency's decisions whether they are arbitrary or capricious.

In evaluating if the agency's action is arbitrary, capricious, an abuse of discretion or contrary to the law, the court must analyze whether the agency considered all the relevant factors involved and whether it erred in taking that judgment. The Court found that, in this case, the District Court did not use all available records to conduct a judicial review of the defendant's actions, and since the district court used insufficient evidence, it upheld the defendant's actions. Justice Marshall, reasoning for the majority, wrote "*We agree that formal findings were not required. But we do not believe that in this case judicial review based solely on litigation affidavits was adequate"* ([135]).

The ensuing arguments, which established the limitations of agency review in similar cases, had a greater judicial impact on the ruling. The court, however, concluded that this was a limited exemption that should only be utilized when there was "no law to apply". The relevant legislation (the Department of Transportation Act of 1966 and the Federal-Aid Highway Act of 1968) were explicit in the Overton Park case, indicating that the case did not fit under that exception ([136]).

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[133] 401 U.S. at 420-421.
[134] *X. Judicial Review – Scope. Overton Park: a new mode of review and its consequences* in Administrative Law Review Vol. 1972[115] (1971).
[135] *Supra* 130, pp. 402, 420.
[136] *Supra* 134.

The Supreme Court remanded the case to the District Court to conduct a plenary review of the actions of the Secretary and for his additional explanations.
In writing its opinion, the Supreme Court was concerned with the exam of the environmental issue, as well as the administrative one. It observed that both in the Department of Transportation Act of 1966 and the Federal-Aid Highway Act of 1968 the issue of park preservation had been defined as a national policy. Therefore, starting from this premise, the justices stated that park preservation deserved special attention.
After this case, litigation by environmental groups to stop government decisions and agency actions became always more prevalent.
In a separate comment, Justice Blackmun emphasized a significant problem in the use of administrative power: a new statute might change a regulatory environment and put existing projects in jeopardy. Such statutes frequently require court explanation, which is why instances like these are so important ([137]).

4.2 CONGRESSIONAL CONTROL OF ADMINISTRATIVE DECISION MAKING

Most of Congress' power to control agency actions is exercised by limiting the scope of its authority. Indeed, agencies may issue, enforce regulations, and take other actions to protect the environment only if Congress has authorized them to do so ([138]).
The most significant tool for Congress to exercise plenary control over agency involves agency funding ([139]). Indeed, one way through which Congress tries to induce agencies to conform their decisions to the legislative norms is the appropriation process.
The Taxing and Spending Clause of Article 1 section 8 clause 1 of the U.S. Constitution gives Congress the power to tax and spend for the common defense and general welfare of the United States and explicitly provides that *"no Money shall be drawn from the Treasury, but in Consequence of Appropriations made by Law"* ([140]). For this reason, Congress controls the funding of agency operations and programs through the enactment of appropriations. Generally, appropriation measures specify the amount of funding available to the agency, the purpose, and

[137] *Supra* 126, p. 421.
[138] *Supra* 21, p.227.
[139] *Cincinnati Soap Co. v. United States*, 301 U.S. 308, 321 (1937) ("*No money can be paid out of the Treasury unless it has been appropriated by an act of Congress").*
[140] U.S. Const. art. 1, § 9, cl. 7.

the duration for which it can be used ([141]). Agencies must respect the amount of money granted by the appropriations and comply with its purpose.

However, Congress has made more direct use of the appropriation process. Indeed, agencies that perform well enough to earn legislators' approval may be rewarded with more funds, while those that perform poorly may see their budgets trimmed. Indeed, since the Congress tax and spending power is not well defined, the Supreme Court specified in *Lincoln v. Vigil* held that *"Congress may always circumscribe agency discretion to allocate resources by outing restrictions in the operative status"* ([142]).

Congress has included measures in appropriations bills that complement or override agency enabling statutes as well as environmental legislation such as the National Environmental Policy Act and the Endangered Species Act. These provisions have the potential to increase or decrease the discretion available to the relevant agency ([143]).

To control agency activity or specific policies, Congress may prohibit the use of funds or condition them through the so-called "appropriation riders". Generally, an appropriation rider means that Congress may impose some conditions on the availability of budget authority when granting authority over budget on a federal agency ([144]).

One case where Congress wanted to induce agencies to conform to certain actions involved, indeed, appropriation riders. A lot of environmental groups claimed that the timber contracts that involved the liquidation of the forests in the Pacific Northwest region in the 1980s violated many environmental laws. In 1984, Congress began to pass some appropriation measures to restrict judicial review of timber harvest plans, passed by two agencies. For example, in 1989 Congress enacted a timber that said that if agencies managed 13 national forests known to include northern spotted owls in accordance with the rider's standards, they would be deemed in compliance with statutes. Moreover, the timber stated that compliance with its guideline for timber management would not be subject to judicial review ([145]).

Many environmental groups challenged the constitutionality of the timber, claiming that it violated the separation of powers by infringing judicial authority. However, the timber was

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[141] U.S. Gov't accountability off., off. Of the Gen. Couns., Principles of Federal Appropriations Law 1-8 (4th ed. 2016).

[142] *Lincoln v. Vigil*, 508 U.S. 182, 192–93 (1993) (upholding the decision to discontinue the Indian Children's Program by the Indian Health Service, where funding for the program was provided in an annual lump sum appropriation to the agency).

[143] *Supra* 10, p.228.

[144] Congressional Research Service, *Congress's Power Over Appropriations: Constitutional and Statutory Provisions* (June 16, 2020), p.57 available on: https://crsreports.congress.gov.

[145] *Idem*, p.229.

affirmed by the Supreme Court because it influenced the underlying substantive law that governed timber rather than dictating the outcome of pending litigation ([146]).

The timber is just an example of how the appropriation process has been used to influence agency discretion in certain directions.

The second type of control by Congress is exercised through substantive standards and analytical requirements. In the 1990s, Congress opened a new era of agency legislation, imposing limits on agency discretions. Specifically, legislators enacted some statutes to supplement the factors that agencies were authorized to consider under existing legislation and to redirect their priorities.

The application of this principle was put in place for the first time in the Unfunded Mandates Reform Act in 1994 ([147]), where any federal agency was required to assess the effects of its regulatory actions on state, local, and tribal governments, and the private sector, before issuing any regulations that would have influenced them ([148]).

For a time, Congress controlled agency discretion through its legislative veto. It adopted statutes that vested in the entire Congress or congressional committees the power to overturn agency regulations. Nevertheless, this practice was declared unconstitutional in *INS v. Chadha* ([149]) because the exercise of veto is a legislative function that does not comply with the requirements of bicameralism and the presentment of article 1 of the U.S. Constitution.

For this reason, after this decision, Congress enacted the Congressional Review Act (CRA) ([150]) which requires any agency to submit the regulation and explanatory documents to both Houses of Congress until 60 days after the submission before it can take effect. The 60-days window gives Congress the option to pass a joint resolution of disapproval that either stops or repeals a rule that has already taken effect within that time frame, using expedited procedures that reduce the chances of obstructive efforts by proponents of the regulation. The CRA is not vulnerable to the constitutional flaws that sank the legislative veto in *Chadha* since such a resolution requires majority support in both Houses of Congress and the President's signature ([151]).

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[146] *Robertson v. Seattle Audubon Soc'y* 503 U.S. 429 (1992).
[147] Pub. L. No. 104-4-109 Stat. 48 (1995).
[148] *Supra* 26, p. 230.
[149] 462 U.S. 919 (1983).
[150] 5 U.S.C. §§801-808.
[151] *Supra* 26, p.23.

4.3 EXECUTIVE CONTROL OF ADMINISTRATIVE ENVIRONMENTAL LAW DECISION MAKING

The President, like Congress, is interested in stamping his policies on the implementation of environmental legislation. Although the President can sway the decisions of agencies like the Environmental Protection Agency by hiring and firing high-ranking officials, his ability to dictate substantive decisions delegated to agencies by statute may be limited ([152]).

By forcing agencies to clear their regulatory ideas with a President-accountable person, the President can influence the substance of agency decisions ([153]).

The earlier Executive Orders on the environment were canceled by President Clinton's Executive Order ([154]), although federal agencies were still required to do cost-benefit analyses. Unless a statute specified a different regulatory strategy, it compels agencies to choose among various regulatory approaches that maximize net benefits. Agencies should follow "principles of regulation" to the extent permitted by law, which includes designing regulations in the most cost-effective way possible, proposing and adopting only those regulations whose benefits are reasonably determined to justify their costs, and tailoring regulations to impose the least burden on society ([155]).

A list of planned regulatory actions must be provided to OIRA by agencies. If either the proposed agency or OIRA determines that a certain action is noteworthy, the proposing agency must provide an explanation to OIRA. The explanation must clarify the necessity for the regulatory action, evaluate the proposal's prospective costs and advantages, as well as potentially effective and reasonably feasible alternatives, and explain why the proposed action is preferable to the alternatives. OIRA must provide "*meaningful guidance and oversight so that each agency's actions are consistent with applicable law, the President's proprieties, and the principles set forth in the Executive Order*" ([156]).

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[152] Percival V. Robert, *Presidential Management of the Administrative State: The Not-So-Unitary Executive,* 51 Duke L.J., 2002, p.963.

[153] President Reagan's Executive Order No. 12,291, 3 C.F.R. 127 (1982), *reprinted in 5 U.S.C.* §601 note. For important rules, it required agencies to do cost-benefit evaluations. The directive delegated oversight of agency compliance to the OMB's office of information and regulatory affairs, which is part of the President's executive office. Unless their substantive enabling acts demanded differently, it prevented agencies from issuing any regulation whose benefits did not outweigh its costs. The Office of Information and Regulatory Affairs (OIRA) could halt the publication of a major rule while it is being reviewed for compliance with the order.

[154] No. 12,866, 58 Fed. Reg. 51, 735 (Sept 30, 1993).

[155] *Supra* 26, p. 234.

[156] *Supra* 144 § 6(b).

Another Executive Order that implemented Clinton Order was issued by Obama ([157]). It requires executive agencies to propose or adopt regulations only if the benefits outweigh the costs; to tailor regulations to impose the least burden on society and to choose regulatory approaches that maximize net benefits; rely on performance rather than design standards if possible; and to identify and assess alternative to direct regulation, such as market mechanisms and information disclosure ([158]). This Executive Order directs agencies to quantify projected benefits and costs as precisely as feasible, but it also allows them to consider quantitative values that are difficult or impossible to quantify, such as equity, human dignity, justice, and distributive impacts, to the extent authorized by law.

The Presidents' efforts to limit agency authority in making regulatory decisions have gone beyond imposing cost-benefit analysis requirements ([159]). Recently, President Trump issued some Executive Orders on the regulatory process. Executive Order No. 13, 771, 82 Fed. Reg. 9339 requires any agency that proposes or adopts a rule to "*identify at least two existing regulations to be repealed*" and that "*any new incremental costs associated with new regulations shall, to the extent permitted by law, be offset by the elimination of costs associated with at least two prior regulations*" ([160]).

President Trump also established that each agency should form a Regulatory Reform Officer (RRO) whose responsibilities include overseeing the implementation of Orders and a Regulatory Reform Task Force that identifies regulations that impose costs that exceed benefits, and agencies must prioritize regulations defined as outdated, unnecessary, or ineffective.

These efforts to have the President or people close to him that review regulatory decisions pose both agency and legal concerns. Because Congress has delegated the rule-making duty to a specific agency rather than the executive office, the main legal question is whether the executive branch scrutiny violates the separation of powers.

The impact of executive control on the EPA has been explored in a few cases. Several courts have ruled that the Office of Management and Budget (OMB) has the authority to postpone the issuance of EPA regulations beyond congressionally mandated deadlines ([161]).

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[157] President Obama's Executive Order No. 135, 563, 76 Fed. Reg. 3821 (Jan 18, 2011).

[158] *Supra* 26, p. 234.

[159] For example, President Reagan's Executive Order No. 12,630, 53 Fed. Reg. 8859 (Mar. 15, 1988) directs federal agencies to avoid regulatory actions that would amount to taking of property without just compensation; Executive Order No. 12, 612, 52 Fed. Reg. 41, 685 (Oct. 26, 1987) requires agencies to avoid regulations to consider principles of federalism in regulatory decision-making processes.

[160] §2(a); §2(c).

[161] *NRDC v. EPA* 797 F. Supp. 194 (E.D.N.Y. 1992); *EDF v. Thomas* 627 F. Supp. 566, 570 (D.D.C. 1986).

5. ENFORCEMENT OF ENVIRONMENTAL REGULATION

Environmental laws are enforced by governmental agencies under federal and state laws, and by private citizens that invoke citizen suit provisions in federal environmental statutes or civil law claims.

Within the Federal Government, the EPA and the Department of Justice are the responsible bodies for enforcing environmental laws. The Office of Enforcement and Compliance Assurance (OECA) is a central enforcement office. There are also specialist enforcement units inside the OECA, but most of the job of creating and referring cases for enforcement is done by the EPA's regional offices. EPA investigates and develops enforcement concerns in the first instance, and it has also substantial jurisdiction to launch administrative enforcement actions ([162]). As a result of this authority, EPA may be able to respond to regulatory infractions in a more informal and timely manner. Enforcement matters are only pursued in judicial enforcement actions when administrative efforts fail to secure compliance or when specifically authorized by statute, usually in cases of more serious infractions ([163]).

In the United States, the field of environmental law is based on "cooperative federalism". Many environmental federal statutes provide responsibility for developing programs that apply federal rules within the state to local governments. For this reason, if the state program satisfies the federal requirements, state agencies become responsible for applying the program. States implement not only national norms and regulations through their own state laws, but also enforce regulations promulgated and permits issued under such state laws ([164]).

The cooperative federalism that exists between state and federal agencies when it comes to implementing federal environmental initiatives also extends to enforcement. Both federal and state agencies have concurrent enforcement authority over regulatory infractions. State and federal agencies commonly engage in enforcement agreements that spell out the conditions under which EPA will intervene and conduct enforcement action in a state program that has been approved. Some of the statutes also impose statutory restrictions on the Federal Government's ability to file enforcement actions when a state enforcement action is pending or has already been completed.

[162] *Supra* 10, p.550.
[163] *Ibidem.*
[164] *Ibidem.*

Regarding compliance monitoring of environmental regulations, one of the most common strategies for detecting infractions is self-monitoring and reporting ([165]). Indeed, many environmental regulations require regulated entities to monitor their own compliance with statutes and to submit all or part of the data to the appropriate authorities ([166]). Any failure to report or false compliance may be subject to the same enforcement actions or may be punished under the federal False Claims Act. In addition, government monitors compliance through inspections or self-monitoring.

When a breach is discovered, government enforcement might use several different approaches. In addition to civil and criminal responses that the government may use, administrative actions, that are relevant for the purposes of this work, are advisory in nature and may take the form of a notice of non-compliance or warning letter. In these actions, EPA demonstrates the infringement that was discovered and the steps that must be taken to fix it. These informal responses carry no punishment or ability to compel actions; nonetheless, if such notices are ignored more severe consequences may result. The government may also reply through formal administrative responses which are court-ordered and independently enforceable responses. The response may demand the recipient to take corrective action within a set time frame, or it may require the recipient to refrain from specific conduct and ensure future compliance.

Government enforcement is not the only instrument to ensure compliance with environmental regulations. Indeed, as noted above when talking about the federal environmental regulatory framework, many statutes contain provisions that allow citizens to bring a civil action to enforce compliance with them ([167]). Generally, statutes allow for "action-forcing suits" against an agency for failure to perform a statutory duty, and suits against polluters who have violated environmental regulatory requirements.

When filing a lawsuit against a polluter, citizen plaintiffs must notify the polluter, the Environmental Protection Agency, and the applicable state where the violation occurred. This notification must be sent at least 60 days before the complaint is filed in court and must include a detailed description of the alleged infractions. Because the state or EPA can launch enforcement action throughout that 60-days period, it acts as a grace period for Government enforcement. Such citizen claims are forbidden if an enforcement action against the polluter is

[165] *Ibidem.*

[166] CWA, 33 U.S.C. §1318(a).

[167] Clean Water Act (CWA), 33 U.S.C. §1365; Safe Drinking Water Act (SDWA), 42 U.S.C. §300j-8; the Clean Air Act (CAA), 42 U.S.C. §7604; RCRA, 42 U.S.C. §6972; Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. §9659.

already active and being properly prosecuted by the time the 60-day notice period expires. Citizen plaintiffs may, however, intervene in the government's lawsuit in that case ([168]).

The penalties imposed by a court because of the citizen suit must be remitted to the Federal Government ([169]). Even while the citizens may be granted attorney fees if they are the successful parties, the plaintiffs may not be awarded private damages.

Civil lawsuits brought by private individuals originating from polluting activities are not preempted by citizen-suit provisions. As a result, common law annoyance, trespass, and ordinary diligence doctrines may still be used to establish responsibility ([170]).

The most common sanctions deriving from violating an environmental statute are monetary penalties. Indeed, criminal sanctions are generally imposed only in presence of particularly harmful violations. The factors to determine the amount of the violations are determined by the statutes ([171]).

[168] *Supra* 10, p.554.
[169] *Ibidem.*
[170] *See,* e.g., CAA, 42 U.S.C. §7604€; CWA, 33 U.S.C. §1365(e).
[171] See, e.g., CWA, 33 U.S.C. §1368(a), CAA, 42 U.S.C. §7606(a). Some factors considered are, for example, the seriousness of the violation, the economic benefit that may have accrued to the polluter from the violation due to compliance cost savings, any history of violations, good faith efforts to comply with applicable requirements, the economic impact of the penalty on the violator, and such other matters as justice may require.

IV.

ECOLOGICAL TRANSITION IN ITALY AND THE UNITED STATES: COMPARATIVE PERSPECTIVES AND EVALUATIONS

TABLE OF CONTENTS: 1. The environmental protection in Italy and the United States: two systems compared. – 2. Foreseeable developments in Italian environmental law. – 2.1 Environmental law after the constitutional reform. – 3. Foreseeable developments in U.S. environmental law. – 4. Foreseeable developments in international environmental law. – 5. Conclusions.

1. THE ENVIRONMENTAL PROTECTION IN ITALY AND THE UNITED STATES: TWO SYSTEMS COMPARED

The objective of this work was to try to analyze different developments of environmental law and its advancement to protection in Italy and the United States, especially studying the administrative tools used to protect the ecosystem. It is possible to develop some considerations about the guarantees offered by the current regulatory frameworks after having reconstructed the evolution of environmental protection in the two countries.

The differences between the two models of environmental protection arise first from the structure of the national legal systems.

Italy ranks among the *civil law* systems and among the founding countries of the European Union, from which a large part of the principles and norms that make up the Italian legal framework is derived. As specified in Chapter II, the sources of Italian environmental law derive from the international legal system, the European environment, national legislation, and, recently, the Constitution. Indeed, while the Treaty establishing the European Economic Community contained no reference to environmental matters, nowadays environmental protection is the subject of specific regulation and constitutes its own subject matter within the framework of European law. The activity of the European Union is expressed, among others, in the pursuit of the objective of sustainable development ([1]). Since 1973, when the Community Institutions prepared the first policy document for environmental protection (First

[1] Dell'Anno P., Picozza E. (Diretto da), *Trattato di Diritto Dell'Ambiente, Volume I, Principi Generali,* CEDAM, Padova, 2012, p.153.

Environmental Action Program), several environmental action programs have been adopted and have provided the basis for anticipating the content of individual pieces of legislation subsequently passed ([2]).

Generally, the environmental intervention measures used by the Italian legal system can be distinguished between direct regulatory or *command & control* instruments (the environmental disciplines and uniform or differentiated standards and all environmental planning activities), economic-financial instruments ([3]), voluntary instruments, and awareness and information instruments, which consist essentially of public policies directed at obtaining an environmentally friendly behavior ([4]). They are all authoritative instruments used by public authorities to regulate the environmental sector.

The distinction between the different instruments is useful to analyze and understand the legal nature of PNRR, the recent plan that Italy adopted to make use of the resources allocated by the European Union in the form of *grants* and *loans.* Indeed, in Chapter II, after having analyzed the birth and development of environmental law in the Italian tradition, two of the main planning instruments that interact with the environment were analyzed: plans and programs.

The PNRR is a plan, distinguished by certain requirements in line with the Union's priorities for action, which has been submitted for consideration and for approval by the EU Commission and Council. On the administrative level, there are those who have argued that it is a plan with a primarily if not exclusively political value, thus *"with a rather limited degree of direct binding force for the institutional actors involved in its implementation"* ([5]).

The PNRR represents an extraordinary opportunity to reform the Administration. Indeed, the reforms contained in the plan are not new reforms, but reforms that have long been deemed

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[2] Gratani A., *Uno sguardo ai principali profili evolutivi della tutela ambientale comunitaria,* in *Quaderni delle RGA Speciale 20 anni,* 2006, p.51.

[3] Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA), *Poteri autorizzatori e poteri di controllo della pubblica amministrazione. Profili generali e di tutela dell'ambiente,* Manuali e Linee Guida 160/2017 Roma, 2017, p.23: "*The economic-financial instruments can be classified into three general categories: a) direct price-intervention instruments (e.g., environmental taxation, returnable deposits); b) indirect price-intervention instruments, which operate through financial or fiscal measures (e.g., subsides or incentives); and c) instruments directed at creating an artificial market (e.g., tradable pollution permits). Economic-financial instruments are made to include "all those measures that affect choices between different technological alternatives or acts of consumption through the modification of private cost-benefit conveniences*". *See* Gallo F., Marchetti F., *I presupposti della tassazione ambientale*, in Grassi S., Cecchetti M., Andronio A. (a cura di), *Ambiente e diritto,* Firenze, 1999, Tomo II, p.359.

[4] Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA), *Poteri autorizzatori e poteri di controllo della publica amministrazione. Profili generali e di tutela dell'ambiente,* Manuali e Linee Guisa 160/2017 Roma, 2017, p.23.

[5] Clarich M., *Il PNRR tra diritto europeo e nazionale: un tentativo di inquadramento giuridico,* in ASTRID-Rassegna, 2021, n.12, pp. 11 s.

necessary (administration, justice, digital and ecological transition). However, these reforms are found thanks to the PNRR in a different context. With the Next Generation EU, there has been a mutualization of debt and the availability of many resources after a period of austerity. Because of this, the Economy Minister defined the PNRR as *"a great learning process"* because the Public Administration must now show its decision making and spending capacity ([6]).

Moving on to the study of the United States, they are a federal state founded on *common law*, with the U.S. Constitution at the apex of the system and the laws of the federated states that can create law over anything not regulated by the Constitution or federal laws. It is, therefore, a complex environmental law, consisting of several laws enacted at the federal level that focus primarily on pollution prevention, the law of the states, and cases decided by the courts that constitute key precedents for the interpretation of environmental law.

The earliest root of U.S. environmental law can be found in the common law doctrine of the law of nuisance. Tremendous harm to the environment was challenged through this tort, understood as an offense, nuisance, or injury. It is an act that is not justified by law, or an omission of a legal duty, that obstructs or causes inconvenience or harm to private persons or the public in the exercise of common law. Using common law doctrines, from the late 1960s to the early 1980s, environmental issues exploded in the United States. Despite this, environmental law operates in a country where environmental protection is not found in the Constitution or the Bill of Rights. The protection of human health and improvement of the natural environment of the United States is operated through *standards*, which are a significant source of environmental legal expertise and experience. In addition, the U.S. Congress has enacted several federal laws focused primarily on pollution control. Beginning in the 1960s, due to industrial development, the U.S. Government felt the need to strengthen the system of environmental controls. Therefore, with the enactment of the National Environmental Policy Act (NEPA) in 1969, the first requirements for a prior analysis of the effects of policies and programs affecting the ecosystem were introduced.

As a *common law* system, playing a key role in the development of U.S. environmental law are the decisions of the Supreme Court, which are primarily concerned with resolving disputes over the application of federal laws.

[6] Clarich M., *Le tendenze della legislazione amministrativa ed il PNRR,* Giuffrè Francis Lefebvre, Webinar del 5 maggio 2022.

One of the main actors responsible for environmental protection is the Environmental Protection Agency, which is now the U.S. federal agency that implements environmental legislation.

The approach to environmental law in the United States is thus fragmented. It is a federal system in which a plurality of entities operates, within a broader framework of international commitments (with some important exceptions if one considers that with the Trump administration the United States had definitively exited the Paris Agreement to combat climate change).

To offer a brief comparative reflection between Italy and the United States, a good starting point is the constitutional prominence of ecosystem protection. Although the codification of environmental protection does not in itself constitute a guarantee and assurance of greater and more effective legal protection, the codification of environmental protection is nonetheless evidence of growing social sensitivity to the ecological issue ([7]). In addition, the constitutional recognition of environmental interests and values provides an opportunity to stimulate innovative interventions from an administrative as well as legislative standpoint ([8]).

U.S. environmental law is thus heavily focused on a system of environmental controls. Here, again, the main role is played by the EPA which is responsible for identifying in detail the possible consequences of an analyzed proposal. In addition, the U.S. legal system devotes special attention to private participation in administrative environmental proceedings. Anyone with an interest in obtaining information from the EPA has the right to do so under the Freedom of Information Act (FOIA) ([9]).

For the formulation of the most recent environmental policies, the concept of ecological transition has played a key role in both countries. This is a process focused on a broader view of the environment, one that does not refer only to strictly ecological aspects. Indeed, while the continuous improvement of environmental quality and the reduction of impacts and use of raw materials are universally recognized principles, their practical implementation has often clashed with those policies that viewed them as obstacles to labor and industrial production. For this reason, the novelty of the ecological transition is to bring a new idea of sustainability that not

[7] Crosetti A. *et al.*, *Introduzione al diritto dell'ambiente*, Bari, Edizioni Laterza (2018), pp. 56, 57, 58.
[8] *Ibidem*.
[9] Liberatori E., "L'Environmental Protection Agency: il rapporto con il cittadino nella tutela ambientale" in Laboratorio per l'Innovazione Pubblica, http://www.lab-ip.net/lenviromental-protection-agency-il-rapporto-con-il-cittadino-nella-tutela-ambientale/ (2017).

only reconciles social needs but also creates new jobs ([10]). The push for ecological transition comes from internationally highlighted needs that can no longer be postponed.

As the process toward ecological transition can be achieved through planning activities that will also need to consider energy efficiency and energy conservation, regulatory developments assume a key role in considering future steps. Both the European Union and the United States present a *bottom-up* approach to the ecological transition, in which the market, through civil society's demand for products with a lower environmental impact, will play a crucial role in the ecological transition ([11]).

The Italian PNRR is part of this process toward ecological transition. It represents nowadays the principal tool through which to operate a process of environmental protection tending toward ecological transition. The debate on the topic is broad because high expectations are around the projects to be implemented with funding from the Next Generation EU Program.

The key to the PNRR is encapsulated precisely in the concept of "transition".

Transition, in the ecological sense, is one of the three pillars, shared at the European level, within which sustainable development revolves. A pillar that, together with digitalization, innovation, and social inclusion, is a response to contribute to the so-called European Green Deal and, in particular, to the goal of making the European Union the first climate-neutral continent by 2050 ([12]).

The Plan is designed to provide a response to the social and economic damage caused by the pandemic in Europe while respecting the uniqueness of each Member State. Given that realizing an ecological transition requires a design that considers not only the potential impacts, social and environmental but also certain activities capable of producing a concrete improvement, interventions in the infrastructural, social, and digital system are necessary, especially through measures to support young people, which are able to affect the life and economy of the territories, in a favorable context of economic-financial balance.

Digitalization and innovation, ecological transition, and social inclusion are, therefore, presented as strategic priorities for the country. They constitute the main structural nodes on which to intervene for the transformation of processes, products, and services, with the goal of restarting growth and improving the competitiveness of the economy, the quality of work, and

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[10] Fontana I., Rossi P., *È il momento della transizione ecologica,* in Ecoscienza, Sostenibilità e Controllo Ambientale, Rivista di Arpae, Bologna, 2021.

[11] *Ibidem.*

[12] Carlino G. (introduzione di), *Transizione ecologica, innovazione digitale e inclusione sociale: la realizzazione del Next Generation EU,* Atti del 66° Convegno di Studi Amministrativi 16, 17, 18 settembre 20221, Varenna, p.3.

people's lives, outlining the challenges that must guide the direction and quality of Italy's development, without ever losing sight of the needs of public finance ([13]).

As far as the United States is concerned, the process toward environmental sustainability promoted by the new Biden administration aims first and foremost to achieve the energy transition. The President's proposal, for which he has planned to allocate 2 trillion dollars, relies on gas to facilitate less use of highly polluting fuels such as coal and oil. Indeed, Biden believes that the era when oil and coal were the primary source of energy is nearing an end ([14]).

Biden Administration immediately showed its commitment to climate change: one of his first actions was to rejoin the Paris Agreement to restore U.S. leadership on the world stage to tackle the climate crisis ([15]).

The environmental policy of the United States toward sustainability is concentrated on nature, life support system, and community, and it links what is to be sustained (the environment) and what is to be developed (the economy and society) ([16]).

The new plan is called Clear Energy Plan and aims to reach a 100% clean economy in the United States by 2050. Similar to the program incited by the European Union in various countries, the Clear Energy Plan is based on a system of incentives. Utilities can access federal funds only if they increase their share of clean energy supplied to consumers by 4 percent year on year. The subsidies consist of 150 dollars per MWh of fer electricity generated when the share exceeds that of the year before by at least 1.5 percent. The draft text of the Clean Energy Plan also gives a definition of what it considers to be clean energy. Utilities that expand the share of electricity that generates no more than 0.1 tCO2e/MWh, a threshold equal to about $1/10^{th}$ of the average carbon intensity of coal, will be eligible for federal subsidies. This means gas would also stay out ([17]).

This is the main pillar of the Clean Energy Plan, but funds are provided in the text on many other fronts. For electric mobility infrastructure 13.5 billion will be invested, and 7 billion loans and check plans for new clean transportation technologies, and another 5 billion to convert fleets of school buses, garbage vehicles, and other heavy vehicles to electric. Moreover, the

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[13] *Ibidem.*

[14] Naìm M., "Usa, la transizione verde di Biden", in Repubblica.it (January, 17 2021).

[15] White House, "Fact sheet: President Biden Renews U.S. Leadership on World Stage at U.N. Climate Conference (COP26) available on https://www.whitehouse.gov/briefing-room/statements-releases/2021/08/05/fact-sheet-the-bipartisan-infrastructure-investment-and-jobs-act-advances-president-bidens-climate-agenda/ (November 01, 2021).

[16] Hunter B. D., Salzman J., Durwood Z., *International Environmental Law and Policy,* Foundation Press, 2022, p.124.

[17] *Supra* 14.

plan provides methane emissions tax for electricity, and 9 billion for grid improvements, 17.5 billion to decarbonize federal buildings, 18 billion for energy efficiency on the domestic side, 2.5 billion for photovoltaic projects in low-income communities ([18]).

President Biden has signed in December 2021 an Executive Order to direct the Federal Government to use its procurement power to achieve five sustainable goals and catalyze America's clean energy industries. The Clean Energy Plan is thus part of the broader sustainability plan that aims to achieve the following 5 goals: 100 percent carbon pollution-free electricity (CFE) by 2030; 100 percent zero-emission vehicle (ZEV acquisitions by 2030), including 100 percent zero-emission light-duty vehicle acquisitions by 2027; net-zero emissions from Federal procurement; a net-zero emissions building portfolio by 2045, including a 50 percent emissions reduction by 2032, and net-zero emissions from overall Federal operations by 2050, including a 65 percent emissions reduction by 2030 ([19]).

The plan to reach a sustainable nation founds on agencies' actions. Through the plan, all federal agencies are being directed to design a zero-emission fleet strategy that includes right-sizing their vehicle inventories, purchasing more electric and zero-emission cars, and developing charging stations and other infrastructure ([20]).

This organization is given by the way environmental policies are managed, which, as detailed in Chapter III, are largely managed by federal agencies, particularly by the Environmental Protection Agency (EPA). The Biden Administration expects that, as declared in the Executive Order, the Federal Government's purchasing power will enhance private industry's capacity to develop electric vehicles and batteries, as well as promote job growth in sustainable manufacturing and engineering.

Italy and the United States are two quite different legal realities. The differences range from the legal system in which their law is based (respectively: *civil law* and *common law*) to the form of government. These are both characteristics that inevitably influence the environmental policies of the two countries. Nevertheless, the administrative tools used by the two countries in the pursuit of sustainability are not that different. The substantial difference mainly lies in

[18] Rinnovabili.it "Fuori il gas dal Clean Energy Plan che decarbonizzerà gli Stati Uniti", available on Rinnovabili.it (September 13, 2021).

[19] The White House, *Federal Sustainability Plan Catalyzing America's Clean Energy Industries and Jobs,* available on https://www.sustainability.gov/pdfs/federal-sustainability-plan.pdf (December 2021), p.7.

[20] The White House, *Executive Order on Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability,* available on https://www.whitehouse.gov/briefing-room/presidential-actions/2021/12/08/executive-order-on-catalyzing-clean-energy-industries-and-jobs-through-federal-sustainability/ (December 8, 2021).

the fact that in the U.S. there is more talk of "sustainability" rather than "ecological transition". Indeed, the National Environmental Policy Act committed the United States to sustainability, declaring it a national policy *"to create and maintains condition under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic, and other requirements of present and future generations"* ([21]).

Italy's efforts, promoted by the PNRR as one of the pillars of the Next Generation EU project, instead focused more on the "ecological transition", understood as a broader process that addresses major issues such as sustainable agriculture, circular economy, the energy transition, sustainable mobility, energy efficiency of buildings, water resources and pollution, in order to improve the sustainability of the economic system and ensure an equitable and exclusive transition to a zero environmental impact society.

2. FORESEEABLE DEVELOPMENTS IN ITALIAN ENVIRONMENTAL LAW

The risks and threats facing the biosphere in recent years have highlighted the need for the law to develop new principles and regulatory techniques. Environmental law has had to adapt to balance its tools to dynamic and unpredictable phenomena and perspectives.

In Italy, the protection of the environment and natural resources has been elaborated through the affirmation of principles developed at the international level, in particular: the principle of sustainable development, the precautionary principle, and the principle of intergenerational equity. Such principles have played a fundamental and decisive role in the constitutional arrangements of environmental law, which are strongly future-oriented ([22]).

In particular, the principle of intergenerational equity has functioned as a guiding criterion for environmental protection disciplines. This theory holds that *"all members of each generation of human beings that is possible to identify receive a natural and cultural heritage from past generation and at the same time enjoy it, assuming the risk of guardians of that heritage, to enable the transfer of that heritage to future generations"* ([23]). Indeed, intergenerational equity, implying the duty to use the inherited natural and cultural heritage in such a way as to hand it over to future generations improved and not worsened, has matured in jurisprudence and doctrine with the assumption of responsibility to future generations.

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[21] 42 U.S.C. §§4321 *et seq.*

[22] Grassi S., *Ambiente e Diritto,* Estratto da Accademia Toscana di Scienze e Lettere "La Colombaria". Atti e Memorie Vol. LXXXIII. 2018 (N.S. – LXIX), Leo S. Olschki Editore, Firenze, 2018, p.99.

[23] Bifulco R., D'aloia A. (a cura di), *Un diritto per il futuro,* Joevene Editore, Napoli, 2008, cap. di Grassi S., p.2.

The principle of intergenerational equity is inextricably linked to the principle of co-responsibility, understood as a responsibility of all levels of government in dealing with the environmental crisis. Since there are different dimensions of spatial scopes and ecological problems, it is necessary to define the criteria for identifying responsibilities regarding strategic choices and policies and the performance of public functions ([24]).

The reference to obligations to future generations allows for the elaboration of a legal conception of the environment in terms of duties of solidarity associated with the protection of the environment as a constitutional value, a legal conception that enriches the recognition of environmental protection as a fundamental right to the environment introduced by the recent constitutional reform.

More generally, the connection between the Italian legislative and constitutional framework for the protection of the environment and the international and EU principles for its protection emphasized the need to move away from a concept of protection of environmental interests (according to the traditional view of the administrative state controlling and regulating the protection of environmental interests concerning individual areas of discipline ([25]).

The environmental emergency was also highlighted by the recent global pandemic that forced millions of people into lockdown. As people were confined to their homes, traffic and economic activities came to a halt resulting in a drastic decrease in pollutant emissions. Comparing air quality in the years leading up to 2020 with the months of lockdown and those immediately following, one study ([26]) showed nitrogen dioxide levels in European countries reduced by between 30 and 50 percent. Globally, harmful emissions dropped by 7%, the highest ever. Scientists called the lockdown an "unintentional experiment" that showed clear benefits for air and marine pollution. Nature had begun to regain its territory, but benefits were promptly wiped out when people began to come out of their homes and work resumed. The United Nations Organization certified the benefits of lockdown on the environment and harmful emissions were negligible ([27]).

The health crisis has also raised questions about our constitutional system and, in particular, whether constitutional norms can eliminate inequalities and contribute to necessary social

[24] *Supra* 21, p.102.
[25] *Supra* 23, p.4.
[26] Zongbo S. *et al.,* "Abrupt but smaller than expected changes in surface air quality attributable to COVID-19 lockdowns", in Science Advances (January 13, 2021), available on: https://www.science.org/doi/10.1126/sciadv.abd6696.
[27] Franceschini R., "Quante occasioni perdute per l'ambiente nel 2020 del Covid" in Repubblica.it (December 30, 2020).

cohesion ([28]). Failures to respond to citizens' health demands have highlighted the shortcomings of the health and social system.

Overall, therefore, the pandemic has highlighted two important issues: the question about pollution and the constitutional question. The answer to these issues and the keyword for the change that the pandemic has revealed as urgent and necessary, especially about the removal of inequalities and disparities, is "transition".

The concrete implementation of the transition from an intensive and unsustainable production system to a model that, instead, finds its strength in environmental, social, and economic sustainability, requires regulatory tools, mechanisms to incentivize and overcome dissent, and substitutive powers.

These institutions were provided for in Decree-law 77 of May 31, 2021 ([29]), converted by Law No. 108 of July 29, 2021, defining governance and simplification rules, and in Decree-Law No. 80 of June 9, 2021 ([30]), converted by Law No. 113 of August 6, on the recruitment of personnel in the Public Administration.

This legal framework is part of the regulatory forecasts aimed at overcoming the traditional model for the realization of public works with halving and contingency times and with the establishment of substitutive powers and structures called to speed up approvals and reduce conflicts between administrations.

Moreover, the complex structure for the implementation of the interventions envisaged by the PNRR from an institutional, administrative, and functional point of view, is also reflected in the control methods, whose attention is paid to the inclusion of the new structures envisaged and procedural innovations on the administrative structure. In this perspective, the Italian Corte dei Conti, in its role of oversight of legality and as the guarantor of the economic-financial balance of the financial statements, participates in the impartial checks of the achievements of results and the constant information to the competent representative bodies.

The principle of financial legality must indeed always be guaranteed, and with appropriate balances between constitutional principles, and the path of convergence towards the objectives of fiscal consolidation must be preserved ([31]). The Italian Corte dei Conti plays a fundamental

[28] Paravati C. (a cura di), *Prima e dopo la pandemia, Quattro webinar Celsis – Rosselli* in Quaderni del Circolo Rosselli, Fascicolo 142, Pacini Editore, 2022, p.110.
[29] Decree-Law convertito con modificazioni dalla L. 29 luglio 2021, n. 108 (in S.O. n. 26, relativo alla G.U. 30/07/2021, n. 181).
[30] Decree Law convertito con modificazioni dalla L. 6 agosto 2021, n. 113 (in S.O. n. 28, relativo alla G.U. 7/8/2021, n. 188).
[31] *Supra* 13, p.11.

role in auditing internal control systems, and the internal control system represents a necessary tool to conform the administrative activity to the principles of efficiency, effectiveness, and cost-effectiveness.

The governance system of the PNRR has as its objective the enhancement of sound management but also the efficiency of administrative intervention. In this way, the purpose of correct use of public resources is pursued not only through a logic of compliance with the law but also of results for the benefit of the Nation.

Ecological transition, a key mission of the investment planning contained in the PNRR, has incorporated the principle of sustainable development, the precautionary principle, and the protection of the interests of future generations. These are principles that, at present, are not only grounded in the European legal system but also in constitutional norms. For it to be a real opportunity for growth of the country's potential, the implementation of the PNRR cannot disregard these principles.

Despite the "happy" goals proposed by the PNRR, however, what scares Italy the most today is the energy crisis, which exploded in early 2022, and is just one of the many damaging events that have resulted from the conflict between Russia and Ukraine. The invasion of Ukraine has shone a spotlight on the European Union's energy dependence on fossil fuels, most of which have been so far guaranteed by Russia, as the single supplier. With the European growing demand for natural gas that exceeds the supply, the balances of the European Union are in danger of being jeopardized by a lack of prior coordination on a controversial issue such as energy ([32]). Distracted results for European businesses as well, which, according to the data, have experienced an increase in energy spending from 10% up to 20%, resulting in a loss of competitiveness in international markets ([33]).

Italy is dependent for 46% of its gas needs on Russia. For this reason, the country could bear the brunt of the energy crisis if Russian gas pipelines are shut down in response to sanctions applied by the European Union for the Kremlin attack in Ukraine ([34]). Of the 46% of gas imported from Russia, Italy uses 23 percent to produce its electricity. However, the country's energy dependence does not end with gas but extends to other sources, renewable and non-

[32] Ferraiuolo M. V. F., "L'Unione e le sue crisi: possono la guerra e l'energia unire di nuovo l'Europa?" (April 22, 2022), available on: https://www.eurobull.it/l-unione-e-le-sue-crisi-possono-la-guerra-e-l-energia-unire-di-nuovo-l?lang=fr.

[33] Mazzamauro C., "Crisi energetica: le soluzioni auspicate dalle imprese" (April 19, 2022) available on: https://ilgiornaledellambiente.it/crisi-energetica-soluzioni-imprese/.

[34] Castrichini R., "Crisi energetica 2022 in Italia e Europea, qual è la situazione attuale" (March 3, 2022), available on: https://www.economymagazine.it/crisi-energetica-2022-in-italia-e-europa-qual-e-la-situazione-attuale/.

renewable: the Higher Institute for Environmental Protection and Research (Ispra) puts Italy's level of dependence on energy imports to meet its needs at 78% ([35]).

The solution to breaking this energy dependence relationship lies in renewable energy that, compared to that produced by conventional sources, can drastically reduce the level of emissions ([36]). The production of renewable energy such as biogas, methane, and hydrogen, can provide Italy with a higher level of energy security, and is able to quickly scope with increase in demand and ensure energy price stability. In this framework, the REPowerEU Document ([37]) was presented to propose a focus on renewable energy and simultaneously decreasing the import and financing of fossil fuels from other countries as much as possible. Nevertheless, the answer to the crisis may not be sustainable. The energy crisis, indeed, could endanger the ecological transition goals on which the PNRR and other environmental policies are based. This is because the wave of new projects planned to make independent of Russia could be harmful because they would increase long-term emissions ([38]). Moreover, while Italy is working to implement an anergy transition, the implementation of an energy transition is happening at a slow pace, compared to what would be required to meet national reduction obligations ([39]).

For the moment, the energy emergency, after highlighting Europe's energy dependence on other world states, also underlined the lag in the development of alternative and renewable energy sources.

2.1 ENVIRONMENTAL LAW AFTER THE CONSTITUTIONAL REFORM

By asserting the concepts that identify the environment as a basic constitutional value in which the communities recognize themselves, environmental protection places the Constitutions in front of the need to realize the obligations to future generations ([40]).

With the explicit and solemn constitutional recognition of the right to the environment, Italy is now in line with many countries, and the evolution of environmental protection elaborated at

[35] IGW, "L'impatto della guerra Russia – Ucraina sulla crisi energetica" (March 30, 2022), available on: https://www.igwsrl.com/impatto-guerra-russia-ucraina-sulla-crisi-energetica/.
[36] *Ibidem.*
[37] European Commission, "Opening remarks by Executive Vice-President Timmermans and Commissioner Simson at the press conference on the REPowerEU Communication" (March 8, 2022) available on: https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_22_1632.
[38] Rinnovabili.it, "La risposta globale alla crisi energetica? L'Italia è tra i peggiori" (June 9, 2022) available on: https://www.rinnovabili.it/energia/politiche-energetiche/crisi-energetica-italia-gas/.
[39] *Ibidem*.
[40] *Supra* 22, p.12.

the European level. Indeed, numerous Constitutions have already identified the environment or environmental protection as a constitutional value or a value to be protected.

The Italian constitutional reform was then able to consolidate interpretative and applicative results already present in the system and elaborated by legislation and the jurisprudence of the Constitutional Court. It had been at least two decades that there had been discussions about whether the right to the environment should be included in the Constitution, and the constitutional protection of the environment had already been affirmed by the Court by reading together article 9 (protection of the landscape) and article 32 (right to health) in its jurisprudence. It is well known, indeed, that the recognition of the right to the environment and its protection as a "fundamental right" of individuals had been elaborated over the years by way of interpretatively by the jurisprudence of the Constitutional Court but also by the Supreme Court of Cassation which has delineated its scope, recognizing the priority of environmental protection among the national public interests ([41]).

The Italian Constitution has thus shown to be able of incorporating the new goals and principles of environmental protection. However, the Constitution has always been forward-looking. Principles capable of projecting toward the new needs of environmental protection had been introduced as early as 1948. The most obvious examples are article 9 (where the Republic is expected to promote the development of culture and scientific research in parallel with the protection of the landscape and the historical and artistic heritage) and article 117 second paragraph letter *s* (which places among the powers attributed to state legislation *"the protection of the environment and the ecosystem").* Article 117 had formally included the environment in the Constitution, but only to specify that it was a matter subject to the exclusive legislation of the state and the concurrent legislative power of the regions. Especially articles 9 and 33 para. 1 (guaranteeing the freedom of art and science) have enabled the development in environmental legislation of the fundamental principles of prevention and precaution.

The recognition of jurisprudential elaboration as the law should certainly be viewed favorably because it can eliminate any interpretative doubts. Moreover, to include the protection of the environment, biodiversity, and ecosystems is to recognize them as values without having to interpretatively derive them from other constitutional values and rights.

The framework provided to the environment by the constitutional reform is very broad. It has juxtaposed the environment within the protection of biodiversity and ecosystems. Moreover,

[41] Cass. Sez. III Civ. 19 giugno 1996, n. 5650, in Riv. giur. amb., 1997, p. 679; Corte cost. 28 maggio 1987, n. 210, in Foro it., 1988, p.32.

the protections accorded to three environmental aspects have all been united by the reference to the protection of the interests of future generations. Protection thus encompasses both the naturalistic element and all other elements that, directly or indirectly, may affect human life and its quality. The reform thus expressly inserts the novelty of the reference to the protection of the interests of future generations ([42]).

Another fundamental novelty that can be inferred from the reform and that is relevant for this work is that the overall reading of the constitutional amendments has introduced the principle of sustainable development in article 41 since sustainability is to be pursued concerning the protection of the environment and the community while also taking into account the interests of future generations (according to article 9 as amended) ([43]).

It is precisely this distinction that some believe could be confusing. The distinction of ecosystems and biodiversity protection in the fundamental statement to the environment could undermine the concept of the unity and wholeness of the environment with the effect of distinguishing the naturalistic features of flora and fauna as distinct from the land, the landscape itself, and natural resources ([44]).

In general, however, the introduction of these principles into the Constitution represents a fundamental turning point, which adopts an objectivist conception of the environment. Even though court rulings are increasingly relevant, Italy, unlike the United States is a civil law system where rulings are not binding. The constitutional reform will require that all laws and actions of the state conform to the protection of the environment, which is now one of the supreme principles of the Constitution.

Notwithstanding this, even before the constitutional reform, there were those who emphasized the need *"to identify, in the parliamentary forum and at the level of legislative sources of an organic nature, the objectives of protection and programs of development, coordinating environmental policies with all other policies"* ([45]), rather than including in the constitutional norms of general nature that affirm the environment as a constitutional value or the fundamental right to the environment. Indeed, there are those who argue that it would be more appropriate to prepare an organic law of principles that would give the possibility to provide for a reconnaissance of constitutional principles on the environment, cross-cutting principles to the

[42] Amendola G., "L'inserimento dell'ambiente in Costituzione non è né inutile né pericoloso (February 25, 2022), available on: https://www.giustiziainsieme.it/it/news/132-main/ambiente/2198-l-inserimento-dell-ambiente-in-costituzione-non-e-ne-inutile-ne-pericoloso?hitcount=0.
[43] *Ibidem.*
[44] *Supra* 42, p.3.
[45] Grassi S., *Ambiente e Costituzione*, in riv. quadr. Dir. Amb., Giappichelli, 2017, pp. 23-24.

various sectors of environmental discipline, and provide the criteria for the allocation of powers and forms of coordination between the different institutional levels to complement and specific what is already established in Title V of the Constitution.

In this way, it would be then possible to direct action to rationalize existing regulations according to an organically defined framework. Those who advocate the need to construct the subject of environmental law by principles believe that only principles can coordinate the various areas of legal disciplines that environmental protection involves in a cross-cutting manner.

In this regard, it will therefore be necessary to clarify the scope of principles for environmental protection actions to be able to precisely identify the environmental resources and balances that need to be safeguarded. According to the proponents of this theory, indeed, only the identification and clarification of these principles will be able to adequately approach the introduction of instruments capable of giving effect to the principles of sustainable development, precaution, and intergenerational equity in all public actions for the proper achievement of protection goals ([46]).

There are even those who have described the textual addition of environmental protection as unnecessary because it would be repetitive of a precept (ecological balance) that is already present and uncontested. The addition of the environment among the fundamental principles would thus be harmful because of the confusing and vague connotation, which would have the effect of trivializing the fundamental principle of landscape protection. According to critics, to place environmental protection alongside landscape protection is to equalize the two notions and thus nullify the importance of landscape and its protection ([47]). A risk that the opponents of the reform also link to the ambiguity of the very notion of ecological transition because it would legitimize any work that finds justification in combating global warming and thus always overrides landscape protection ([48]).

Despite these criticisms, the inclusion of environmental protection among constitutionally guaranteed rights and duties does not seem unnecessary. The recognition of the environment, in addition to the landscape, as an object of constitutional protection not only avoids any interpretative doubts but also distinctly places the value of the environment among the

[46] *Supra* 22, p.13.

[47] Severini G., Carpentieri P., "Sull'inutile, anzi dannosa modifica dell'articolo 9 della Costituzione" (September 22, 2021) available on: https://www.giustiziainsieme.it/it/diritto-e-processo-amministrativo/1945-sull-inutile-anzi-dannosa-modifica-dell-articolo-9-della-costituzione.

[48] *Ibidem.*

fundamental principles of the state. It is a certain acquisition and is no longer subject to possible jurisprudential fluctuations.

What can be negatively objected to the reform is that the new constitutionally guaranteed right to the environment has not been configured as a "*fundamental right of the individual and interest of the community*" as is the right to health. Thus, it would have lost that primary and absolute value that had been recognized to it by constitutional jurisprudence and this could raise relevant critical issues when there is a juxtaposition with another constitutionally guaranteed value. There could be the risk of subordinating, as has happened so many times, environmental protection to the needs of the economy and profit ([49]). It seems, therefore, that the constitutional reform on the environment needs to be read, evaluated, and applied as a whole, without forgetting the absolute connection between environment and health.

The question that now arises is whether the tools recently identified for the implementation of the ecological transition and environmental protection (PNRR and constitutional reform) are effectively able to provide a concrete response to the ecological crisis. Constitutional norms live only if they find consensus and if they are recognized by the community as guiding their coexistence ([50]).

Only time will tell what influence this reform will have on environmental law and whether it will bring new developments. For the time being, it can be anticipated that every law will have to conform to environmental respect, which has become a supreme principle of our Constitution. It is presumed, however, that continued technological development and scientific research may in the future enable unimaginable solutions to some of the environmental problems facing the country today.

3. FORESEEABLE DEVELOPMENTS IN U.S. ENVIRONMENTAL LAW

The United States has nurtured several initiatives and policies based on the principle of sustainable development. It is a broad and difficult-to-define concept with the dual characteristic of defining programmatic goals and procedural criteria. Generally, sustainable development aims at rational use of resources and establishing principles of intergenerational equity.

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[49] Amendola G., "L'ambiente in Costituzione. Primi appunti", available on: https://www.osservatorioagromafie.it/wp-content/uploads/sites/40/2022/02/Saggi-Amendola-articolo-costit-2022.pdf, p.2.

[50] *Supra* 27, p.111.

Rather than talking about "ecological transition" in the United States, it is referred to as "energy transition" because the country has taken the lead in developing sustainable energy. Some states, notable Texas, have started some of the largest renewable plants in the country to power many households and avoid carbon emissions at the same time.

Since the modern environmental statutes came into effect, several calls for changes to the existing regulatory system have been raised.

International developments and trends are increasingly influencing and shaping American environmental politics and law. On the issue of global climate change, for example, some would claim that the U.S. has become a follower of international community initiatives. In short, American environmental lawyers may learn a lot from their international counterparts ([51]).

Business leaders criticize environmental regulation based on *command & control* mechanisms with regulated entities that monitor the achievement of environmental goals. Businesses are indeed looking for more innovative and feasible means of environmental protection. Furthermore, the rising relevance of international environmental issues such as climate change has compelled the U.S. environmental regulation system to factor worldwide consequences into its operations. These issues have gotten a lot of attention in the previous decade ([52]).

Unlike the classic environmental regulations based on *command & control* mechanisms (which heavily rely on standardized pollution source performance standards), to achieve environmental goals, market processes employ financial incentives. These mechanisms could include imposing pollution-related taxes or fines or granting or selling traceable (and hence potentially valuable) pollutant emission rights. The Clean Air Act's emission-control initiatives were the most visible regulatory framework to employ this regulatory strategy ([53]). Nevertheless, there are still some environmental regulations and policies that depend on *command & control* systems.

Economists complain that *command & control* regimes are less economically efficient than market-based regimes. As a result, even though *command & control* regimes are likely to persist, market-based mechanisms will continue to increase and find their way into the U.S. environmental law shortly, making them a vital aspect of environmental rules ([54]).

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[51] Yang T., Percival V. R., *The Emergence of Global Environmental Law,* Santa Clara Law Digital Commons, 2009, p.618.

[52] Seerden J.G.H.R., Michiel A.H., Deketelaere R. (edited by), *Public Environmental Law in the European Union and the United States, A Comparative Analysis,* Kluwer Law International, The Hague, 2002, p.557.

[53] 42 U.S.C. §§ 7651-7651o.

[54] Other approaches have also been used by the Environmental Protection Agency to create additional flexibility and foster regulatory innovation. "Project XL" is one of these notable programs. The project,

Other pressures on environmental regulations and policies come from the racial minorities that have called for the EPA to respect the principle of fairness during environmental decision making to avoid the inequitable distributions of environmental burdens. The environmental justice movements claim the continuous growth of environmental racism and distributional inequities in environmental protection. Indeed, President's Clinton Executive Order in 1994 required federal agencies to evaluate the impact of their decisions on environmental justice. The Environmental Protection Agency established an office of environmental justice as well as a federal advisory council to address environmental justice issues. However, the issues identified by the environmental justice movement have proven difficult to address, and complaints and worries about the EPA's activities and inactivity in this area have persisted.

U.S. environmental law has been influenced by international and global environmental problems. Likewise, U.S. law has influenced international law. However, international environmental agreements often rely on the implementation of regulations at the national level. Regarding the development of U.S. environmental law, big changes have been registered to U.S. environmental regulations in the past years. Suffice it to think that since EPA was created, 200 environmental regulations have been enacted every year ([55]).

The fundamental and distinguishing feature of U.S. environmental law is that the course of action changes depending on which President is in office. Indeed, because the President has the power to issue executive orders, he plays a key role in setting environmental policy. U.S. environmental law is thus faced with a changing governance framework and future challenges. Under Trump Administration, there were no big regulatory initiatives or programs considered, and a more moderate approach to environmental protection for the preference of business and jobs was pursued. However, Trump Administration continued to show support for the Executive Order signed by President Obama for Federal Sustainability to increase the environmental sustainability of new projects, energy use, production, and new regulations ([56]).

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which began in 1995 and is still working, was designed to allow participating industries to take advantage of new innovative pollution management technology by realizing reporting and permitting requirements, allowing for greater flexibility in production processes and a significant reduction in administrative compliance costs. Participating facilities should also deliver better local environmental quality than would otherwise be possible, while also generating innovative technologies that can be copied at other sites.

[55] Richardson, S. D. "Emerging environmental contaminants and current issues", presented at Alberta Research Council, Edmonton and Vegreville, AB, Canada (March 02, 2006).

[56] Great American Insurance Group, "Future Environmental Regulatory Trends" available on: https://www.greatamericaninsurancegroup.com/for-businesses/property-casualty-divisions/alternative-markets/feature/future-environmental-regulatory-trends.

One of the future major concerns in U.S. environmental law is, indeed, increasing sustainability as well as stimulating the use of green energy and fighting climate change ([57]).

Concerning the incentive toward the country's sustainability, EPA still develops a fundamental role. To assess the long-term viability of rules, program evaluations, and remediation programs, EPA has established a set of sustainability indicators as part of its programs. They are through to be extremely valuable in weighing the pros and downsides of various solutions in any environmental decision-making process, by considering the goal of the project, the summary measure that provided information about the state of the system being measured, as well as any changes in it, and the values that were utilized to evaluate specific indicators. EPA will thus review the sustainability of a project, verifying the amount of energy that will be used for a project, whether the energy comes from a green renewable source or a non-renewable fossil fuel source, and what areas will be affected by the project, and whether the project will cause damaging effects.

In partnership with other stakeholders, EPA is also developing programs to encourage the development of renewable and green energy. These programs are not necessarily part of a big regulatory program, but they are developed by collaborating with other entities, especially the Department of Energy.

Lastly, one of the main EPA's concerns at the domestic and international levels is combating climate change. EPA maintains several programs aimed at preventing and combating climate change. For example, the Creating Resilient Water Utilities Program (CRWU) aims to prepare the water sector for climate change impacts, including drinking water, wastewater, and stormwater utilities. Again, another program called the Emergency Response for Drinking Water and Wastewater Utilities program wants to support drinking water and wastewater planning, response, and recovery ([58]).

Recently, rather than focusing on known and prevalent environmental toxins as in the past, contemporary trends are focusing on emerging contaminants in order to address immediate known issues and avert expected future environmental concerns ([59]).

The new Biden Administration had immediately announced its commitment to achieving environmental priorities by going forward with key issues in a variety of sectors, including climate change, environmental justice, and dangerous chemicals. Its commitment should be

[57] *Ibidem.*

[58] EPA, "EPA Programs and Initiatives Addressing Climate Change in the Water Sector" available on: https://www.epa.gov/climate-change-water-sector/epa-programs-and-initiatives-addressing-climate-change-water-sector.

[59] *Ibidem.*

particularly focused on the issuance of new regulations for implementing the National Environmental Policy Act. Moreover, being climate change one of the biggest threats of the era and since the U.S. has currently no regulations on greenhouse gas emissions from existing power plants, it is expected that Biden Administration will rule on the issue ([60]).

In addition to actions concerning climate change, methane, water, and chemicals, on his first day in office, President Biden issued an Executive Order establishing the first-ever White House Environmental Justice Advisory Council, entrusted with increasing the Federal Government's efforts to address present and historic environmental justice. The Biden Administration is therefore likely to prioritize environmental justice factors in enforcement decisions, permit reviews, and infrastructure investment allocation ([61]).

Lastly, Biden Administration is expected to focus also on endangered and vulnerable species. The new administration has announced that it will reverse a Trump-era rule that limited the Federal Government's ability to prosecute corporations that kill protected species.

Even though environmental regulations have changed significantly, the overall framework of the U.S. environmental regulatory system has essentially stayed unchanged since its inception in the early 1970s. Federal statutes are still largely based on a *command & control* structure that bases rules and regulations on scientific and economic concerns.

Concerns about the limitations of *command & control* approaches have pushed regulators to seek other processes that would allow for more flexibility while also making compliance more cost-effective. Simultaneously, concerns expressed by the environmental justice movements and the international community have led regulators to widen the area of issues they handle, including distributional and procedural fairness, as well as international and global issues. These patterns are likely to continue ([62]).

The most recent developments in U.S. environmental law have involved the Supreme Court, where currently sit 6 justices appointed by Republican presidents prevailing against 3 appointed by Democrats. The Court's conservative majority has announced decisions in the crosshairs of public discussion, chief among them the one that would overrule *Roe v. Wade* ([63]), thus abolishing the possibility of legitimate abortion for an expectant woman.

The Supreme Court's conservative pronouncements could also involve the environmental issue. Specifically, the justices have tended to be aggressive toward the issue of administrative

[60] Kidwell J., *Biggest Environmental Policy Actions To Watch In 2022* (January 3, 2022), available on: https://www.kirkland.com/news/in-the-news/2022/01/biggest-environmental-policy-actions.
[61] *Ibidem*.
[62] *Supra* 42, p.561.
[63] 410 U.S. 113 (1973).

regulations. In one of the latest cases, *West Virginia v. Environmental Protection Agency* ([64]), the justices heard an argument from West Virginia, a major coal-mining state, according to which the U.S. Environmental Protection Agency should be constrained in how it regulates planet-warming pollutants from the energy industry, in a case that could have far-reaching ramifications for individuals affected by the crisis ([65]). The scope of the case will be critical not only because it can affect the climate issue, but also because of the involvement of important constitutional issues. The state is challenging EPA's power under the Clean Air Act to impose limits on greenhouse gas emissions because this would violate the nondelegation doctrine, which imposes on Congress to avoid delegating any legislative authority to executive branch agencies because of the Constitution's separation of powers ([66]). For this reason, as opposed to the *Chevron* doctrine (according to which judicial deference is appropriate where the agency's response is not unreasonable and the Congress has not addressed the specific problem at hand), the nondelegation doctrine holds that legislative activity rests entirely with Congress.

If the Court favored the latter, therefore, it would entail a major downsizing of the powers of the administrative state. Because this doctrine is based on the constitutional separation of powers, many constitutional scholars think that the Court should intervene when the agencies appear to have been given the authority to impose new rules on the private sector rather than simply interpreting what Congress has enacted ([67]). Some conservative justices noted that government agencies should not be allowed to impose regulations that have not been formally authorized by Congress ([68]).

West Virginia v. Environmental Protection Agency concerns the Clean Power Plan (CPP), wanted by President Obama but adopted by the EPA, which was willing to use the Clean Air Act to force gas-fired electric generating plants to reduce emissions, even though Congress had not given that power to the agency. Under the Trump Administration, the EPA nullified that plan. The nullification, however, was overturned by the DC Court giving the EPA the power to mandate emission reductions. Following this decision, West Virginia and other states appealed ([69]).

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[64] Granted October 29, 2021 (still pending).

[65] Milman O., "US Supreme Court signals it may restrict EPA's ability to fight climate crisis", The Guardian (February 28, 2022), available on: https://www.theguardian.com/environment/2022/feb/28/supreme-court-epa-biden-climate-crisis.

[66] Wallison J.P., "The Supreme Court Confronts the Administrative State" (January 3, 2022), available on: https://www.aei.org/op-eds/the-supreme-court-confronts-the-administrative-state/.

[67] *Ibidem.*

[68] Leonhardt D., "A Supreme Court Preview", New York Times (June 8, 2022), available on: https://www.nytimes.com/2022/06/08/briefing/supreme-court-abortion-guns-cases-preview.html.

[69] *Ibidem.*

Given that since the Clean Air Act was enacted it has never been amended to address the threatening climate change, one of the possible outcomes of the case is that the Court could reduce EPA's statutory authority. The Court could also consider this case as an example of a legislature that unconstitutionally delegated legislative jurisdiction to an administrative agency, reinstating the nondelegation concept ([70]).

It only remains to see what the Supreme Court will decide on the case, being aware that such a conservative and restrictive decision could significantly restrict the Federal Government's power to rule on the climate issue, thus changing the balance between Congress and federal agencies in U.S. and environmental constitutional law.

4. FORESEEABLE DEVELOPMENTS IN INTERNATIONAL ENVIRONMENTAL LAW

The universality of problems affecting environmental law raises awareness of the need for action, so much so that one wonders whether rules and principles need to be set at the international level.

Traditionally, the national legislation adopted in the various countries and the protection accorded to the environment even at the constitutional level was often insufficient. This is because the damage caused to the environment is a phenomenon that knows no geographical boundaries, and the balance of the ecosystem became an object of general concern. This led states to enter multilateral, regional, and bilateral conventions and to prepare instruments aimed at protecting the environment in all its forms. Thus, since the 1970s, environmental protection has gradually assumed greater weight in the consideration of the international community, which has begun to look at it as a global issue.

The Rio Summit of 1992 represented a turning point because the formula of sustainable development with the cooperation between nations was finally elaborated. The great powers recognized their responsibility in the production of pollution, and they were convinced that they had to work together to support developing countries and achieve a greater balance between the exploitation of natural resources and their production. However, while the 1992 Summit resulted in the elaboration of important principles, succeeding, on the one hand, in raising awareness in industrialized countries that they should be more resolute in preventing pollution, and, on the other hand, in outlining the essential guidelines of an environmental policy for developing countries that lacked sector legislation, the outcomes were unsatisfactory.

[70] *Ibidem.*

To date, unfortunately, the environmental situation has far from improved, and there are still questions about the need to build a global environmental law. Indeed, environmental degradation continued despite the proliferation of international environmental agreements, and new environmental challenges have emerged.

Some argue that part of the problem is due to the sheer volume of international legal instruments or treaty congestion ([71]), but part of the reason for international environmental law's failure to meet global environmental concerns is that the "effectiveness" of this new body of legislation received little attention during its formation. In recent years, the scholarly and policy literature has focused on the effectiveness of international environmental law in general, as well as specialized regimes for specific concerns.

Among the most hotly debated environmental issues at present is whether to create a specialized environmental court, either at the international or national level, composed of experts that could decide on the resolution of cases concerning environmental issues. Considering this new type of jurisdictional body, which is specialized in environmental matters and autonomous from the ordinary jurisdiction, the relationship between justice and environmental jurisdiction is in the first place.

The so-called Environmental Courts and Tribunals (ECTs) or "green tribunals" of the Indian matrix are a relatively new legal approach based on specialized environmental courts that are beginning to characterize the most recent wave of green litigation. Over the last five years, the number of specialist environmental courts and tribunals has increased dramatically ([72]). This is because as anticipated, almost all countries, especially developing ones, have fundamental environmental protection legislation in place, but there is a huge gap between what the law says and what is happening on the ground ([73]).

In the United States, specialized environmental courts or tribunals are exceptions. The country is normally more favorable to general courts and tribunals ([74]). This is due to three main reasons that have prevented the establishment of new specialized judicial bodies: the absence of environmental protection in the original framework of the Constitution, the consequent

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[71] Leary D., Pisupati B. (edited by), *The future of international environmental law,* United Nations University Press, Tokyo, 2010, p.7.

[72] Invited paper presented at the Yale University and UN Institute for Training and Research's 2nd Global Conference on Environmental Governance and Democracy, *Strengthening Institutions to address climate change and advance a green economy,* Yale University, (17-19 Sept. 2010), p.1.

[73] Stein P., *Why Judges are Essential to the Rule of Law and Environmental Protection,* in Judges and the Rule of Law: Creating the Links: Environment, Human Rights and Poverty, Thomas Breiber, 2006, p.57.

[74] Amirante D., Environmental Courts in Comparative Perspective: Preliminary Reflections on the National Green Tribunal of India, in Pace Env. L.R. Vol.29 (2012), p.441.

development of environmental law as a new and ancillary discipline, and the unwillingness to reform the judicial system ([75]).

The doctrinal debate on the need for such a court had begun years earlier when, in 1971, the U.S. Supreme Court refused to exercise its original jurisdiction in *Ohio v. Wyandotte Chemicals Corp*. ([76]), citing sophisticated technical issues in which it lacked knowledge. This judgment has been used to support the creation of a special environmental court with exclusive jurisdiction over environmental cases because, according to its supporters, whatever potential may be for building environmental expertise in lower federal courts would never be achieved due to the increasingly caselaw they had to deal with ([77]). Moreover, after *Wyandotte,* the President's Advisory Council on Executive Organization proposed the creation of a new Administrative Court that would have evaluated the decisions of many agencies. The main concern was that environmental law was a newly born field of law in the 1960s, whose scientific and technical complexity could have required more knowledge than the one that federal judges could offer.

These various proposals led Congress to adopt the Federal Water Pollution Control Act ([78]) Amendments in 1972, whose Title V asked the U.S. President to make an investigation of the feasibility of creating a separate environmental court and to report the outcome of this study to Congress. The investigation of the President and the Attorney General focused especially on the question of whether the creation of such courts would have benefited the country ([79]). Starting from the assumption that only a few specialized courts have succeeded in the American context, the inquiry reasoned on whether the establishment of the environmental court or tribunal would have reduced the judges' workload and would have increased the uniformity and consistency of the decisions. Nevertheless, according to the report, a separate environmental court could not be established at that time. After having evaluated the main arguments presented by the court supporters, it determined that an environmental court would not be the best option. Indeed, the rejection of the proposal was confirmed during the U.S. Judicial Conference by the U.S. Government ([80]).

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[75] *Idem,* p.450.
[76] 401 U.S. 493 (1971).
[77] Whitney, *The Case for Creating a Special Environmental Court System,* 14 WM. & Mary L. Rev. 473 (1973); H.R. REP. 92-911, 92d Cong., 2d Sess. (1971), p.484.
[78] Pub. L. 92-500 (1972).
[79] *Supra* 60.
[80] Pring G. & Pring C., *Greening Justice: Creating and Improving Environmental Courts and Tribunals*, 1-87, 324 (World Resources Institute, The Access Initiative, 2010) in Course Materials.

After that rejection, pressure from those who supported a judiciary reform continued to grow. The main arguments are founded on the assumption that the court would have been able to generate technical expertise comparable to that of the Tax Court (one of the few successful specialized courts), and the expertise that is required for the just settlement of the complex environmental issues that are currently being litigated.

Currently, more than 350 environmental courts operate in 41 countries, and the United Nations Environment Program designed a guideline for policymakers that want to improve the adjudication of environmental disputes ([81]).

The United States has, currently, only two statewide environmental courts: the State of Vermont Environmental Court and the Environmental Court of Hawaii. The State of Vermont Environmental Court is a statewide court that hears appeals and enforcement actions on environmental statutes, while the Hawaiian court works within the judicial structure of the state and its judges are appointed in the state's district and circuit courts. The Hawaiian experience has demonstrated that the efforts to ensure a fair, consistent, and effective resolution of disputes concerning the environment, and to avoid the problems connected with a federal court system can be avoided through the establishment of such a court ([82]).

The most famous reality of the environmental court system is India's National Green Tribunal. Since its inception, India's National Green Tribunal has been regarded as the world's foremost environmental court. Despite this, it has received much criticism complaining that it has excessed its jurisdiction and that it does not often render technical judgments. Moreover, the NGT has handled many cases, but only 60% of them have produced a judgment. In the most important cases, judgments struggle to come ([83]).

The NGT was established after a lengthy and exceptionally difficult process. The main factor that led to its creation, in addition to the pressure of the environmental movement and the favorable orientation of Indian courts, was the pressure of the Indian Supreme Court towards the creation of a system of specialized environmental courts. The Indian Supreme Court was pushing for the foundation and the consolidation of environmental law, both substantively and

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[81] United Nations Environment Programme, *Environmental Courts & Tribunals: A Guide for Policy Makers* by George Rock Pring & Catherine Kitty Pring, Global Environmental Outcomes LLC (GEO) and University of Denver Environmental Courts & Tribunal Study VI (2016).

[82] Mergen A. C., "An environmental court for Hawai'i – will other states follow?" (January 01, 2016) available on: https://www.americanbar.org/groups/environment_energy_resources/publications/trends/2015-2016/january-february-2016/an_environmental_court_for_hawaii-will_other_states_follow/.

[83] Rinnovabili.it, "India wants to harness the environmental court", available on: https://www.rinnovabili.it/ambiente/india-tribunale-ambientale-333/.

procedurally ([84]). It emphasized an urgent need for reforms that would equip the authorities concerned and the jurisdictions involved with technical and legal members specialized in environmental law issues.

Neither the American nor the Indian system had been completely successful. The benefit of creating a specialized system of environmental courts is, in fact, controversial. The creation of ECTs could bring some benefits to a country's administration of justice, benefits that relate primarily to the alleviation of cases that judges must resolve with the consequent easier access to justice for plaintiffs and defendants, the creation of predictability, and the increased expertise of judges concerning environmental matters. However, the creation of ECTs also involves the creation of new rules for *standing*, a fragmented court system, and the need to establish also criminal, civil, and administrative judges since environmental justice almost always involve dealing with these related issues.

Given the presence of such problems and given that environmental cases need expeditious resolution to ensure that damage to the environment does not multiply, an initial solution could be found in the establishment of "green benches" or single green judges within the national judiciary system of each country. Thanks to this legal approach, the courts would also consist of environmental experts who can provide their opinions for the resolution of cases, but their inclusion would not result in a total upheaval of the judiciary system. For the time being, therefore, this may be the right intermediate solution easier to apply in different countries.

[84] *See e.g.,* Law Commission of India, 186th Report on Proposal to constitute Environment Courts (Sept. 2003). Citing: "*Pursuant to the observations of the Supreme Court of India in four judgments where reference was made to the idea of a 'multi-faceted' Environmental Court with judicial and technical/scientific inputs*".

CONCLUSIONS

Although the history and current approaches of Italian and U.S. environmental law differ considerably, both countries are faced with the necessity of tackling the many related challenges presented by the modern welfare world and having to do so at the right policy level. It is, indeed, in the interests of both Italy and the United States, as well as Europe and the globe at large, to maintain and strengthen strong connections. Due to the possibility of differing viewpoints in such a connection, a well-established discussion and mutual understanding are essential.

After then having reviewed the principles of environmental law that are widespread internationally – and that unite Italy and the United States – there is an understanding of how the two countries respond to major environmental threats.

Italy faces the challenge of ecological transition, understood as a process of societal innovation to environmental sustainability. This is one of the six missions of PNRR, the National Recovery and Resilience Plan, that the Italian government has prepared for the management of Next Generation EU funds, a financial instrument to support the Member States in restarting after the Covid-19 emergency.

To illustrate to the European Commission how the investments will be managed, therefore, the planning model was chosen. The plan is an administrative tool that defines priorities, objectives, and actions compatible with available resources. The term thus refers to a macro decision making process where overall needs are analyzed to achieve a specific goal.

Environmental protection in the United States, on the other hand, prioritizes the implementation of sustainable development. The country is aiming for an energy transition to achieve climate neutrality by 2050, aligning with the European outlook. Indeed, the new President's ascension to office has revitalized the focus on environmental issues, leaving behind the climate-unfriendly policies advocated by his predecessor.

At the federal level, the implementation of sustainable development is handled by federal agencies, especially the Environmental Protection Agency, which manages the Environmental Impact Assessment process of plans and programs that affect the ecosystem through the Environmental Impact Statement.

The federal laws enacted by Congress mainly concern pollution and are still based on *command & control* mechanisms. The key role is undoubtedly attributed to case law, which has contributed to the development of environmental law in the United States by resolving significant disputes over the application of federal laws.

The challenge of ecological transition can represent numerous development opportunities for both Italy and the United States. The Italian PNRR, investing in sustainability and ecological transition, represents a unique challenge for the revitalization of the Italian economic system. All we can do is wait for its concrete implementation. Only time will tell us whether European resources have been used strategically and to achieve goals that respect our territory.

Looking ahead, close cooperation between the U.S. and Italy will be crucial with respect to common environmental and energy policies. The common front in the fight against climate change and the challenge of the future of the planet will be one more occasion in which to strengthen these ties and develop fruitful and concrete cooperation projects, intensifying transatlantic relations.

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Looking for the materials here has represented a fundamental opportunity to expand my knowledge and broader my perspective on this topic.

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