



Study Guide

Committee on Environment, Public Health
and Food Safety

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1. Greeting of the Board

Distinguished Members of the European Parliament,

It is our utmost honor and pleasure to welcome you to EUropa.S. 2024, and more precisely, to the European Parliament in the Committee on the Environment, Public Health, and Food Safety (ENVI), an institution of paramount importance, concerning political debates and decision-making at EU-level.

In the current edition of ENVI Committee, our debate topic of "Climate Change & Protecting EU waters: Addressing the issues of scarcity & water pollution." consists of a great opportunity for all of us to think about and even more to discuss this challenging issue, given that protecting the water is imperative for sustaining the ecosystem, public health, and economic stability. We, as a Board, strongly believe that this specific topic is of utmost importance, regarding ENVI's agenda, and we hope that you find our agenda item as interesting as we do! We are really looking forward to fruitful debates, although respecting diplomatic courtesy. We have created this study guide to aid your understanding of this topic. However, please remember that this study guide is only meant to introduce you to the basics of the topic and underlying issues; it cannot replace any detailed research you will do in your assigned role of MEP. Also, it is essential to keep in mind that the information included in the present document covers the period until 20th of December 2023, when it was written. As a result, you shall also be aware of potential updates, regarding our topic area until the beginning of the Conference.

We are deeply convinced that your interest and passion in European Affairs will certainly emerge from your participation in EUropa.S. Taking part in this will offer you the chance to experience a real simulation of a Conference at a European Level. We, as a board, will provide our best selves and give our best effort to ensure a mentally gratifying and delightful experience! We will make sure that this Conference will be filled with engaging debates, lively socials, and of course, enlightening academic advancements.

We are really looking forward to meeting you all!
See you soon, until then stay safe and take care of yourselves!

Sincerely,

The Board of ENVI Committee
Kornezou Dimitra – President
Dekouli Athina – Vice-President

2. Introduction to the European Parliament

The European Parliament is one of the European Union's most important institutions since it serves as a forum for political debate and decision-making at the EU level.¹ It is made up of 705 members (MEPs), all of whom are Heads of State or Government, as well as the president, who represent the world's biggest transnational democratic electorate. Members of the European Parliament are directly chosen by voters in all EU member states to

represent citizens' interests in the development of EU legislation and to ensure that other EU institutions operate democratically.

Historically speaking, the 142-member new parliament met for the first time as the "European Parliamentary Assembly" on March 19, 1958, in Strasbourg. On March 30, 1962, it changed its name to the "European Parliament." On the 7th and 10th of June 1979, it held its first elections. Since that time, The European Parliament has continued expanding. In terms of structure, Members of the European Parliament are seated in political groups based on their political affiliation rather than their nationality. There are now seven political parties represented in the European Parliament.

The European Parliament constantly improves its position and plays a significant impact on the effective performance of its mandate. Its basic rules of organization and operation are laid down in the Treaties. More precisely, there are three major responsibilities: first, adopting EU legislation in conjunction with the EU government representatives in the Council. Both institutions operate as equal co-legislators under the regular legislative process. Secondly, MEPs oversee, in a democratic way, the work of EU institutions, notably the European Commission, which is the executive arm of the European Union. Finally, the Parliament exercises joint powers with the European Council on the budget of the EU.¹

2.1 Introduction to the Parliamentary Committee

With 88 Members, the Committee on Environment, Public Health, and Food Safety is the largest legislative European Parliament Committee. This is a powerful symbol and a loud signal that the EU needs to move faster and with more ambition in its fight against climate change. Pascal Canfin of the Renew Europe Group, a French MEP, is the current president. 'During this mandate, we will work towards generating the legislative framework to achieve carbon neutrality in Europe by 2050. We will also continue to work on other policy priorities: biodiversity, the circular economy, public health, food safety, air and water quality, and the use of chemicals and pesticides - just to name a few. We will also closely scrutinize the implementation of policies we have agreed to.' he added in his welcome remarks to the Committee's website. The ENVI Committee is responsible for relations with the following five major EU agencies: a) The European Environment Agency (EEA), b) The European Chemicals Agency (ECHA), c) The European Food Safety Authority (EFSA), d) The European Medicines Agency (EMA), e) The European Centre for Disease Prevention and Control (ECDC).

¹ *Welcome to the European parliament-About Parliament.* Available at: <https://www.europarl.europa.eu/about-parliament/en/home> (Accessed: 28 November 2023).

ENVI Committee has recently adopted its position on a new law that modifies the environmental quality standards (EQS) for groundwater and surface water. The amendments reinforce the principles of control-at-source and polluter-pays by setting into effect a clear hierarchy of measures. MEPs also decided to publish pollutant inventories for each river basin, so increasing transparency for citizens and water services.² The Environment Committee's MEPs voted in favor of adding new chemicals to the lists of EU pollutants requiring member states to monitor and regulate their presence in surface and groundwater. These new substances covered a group of 24 PFAS, multiple pesticides, and, for the first time, some specific pharmaceuticals. The Commission's proposal to guide water pollution monitoring in the EU received support in response to the ENVI Committee's call for action on the issue.

3. Key Terms and Definitions

Surface water: Rivers, lakes, transitional waters, and coastal waters. Surface waters also include territorial waters as far as chemical status is concerned.

Biota: The animal and plant life of a given habitat or region.

Water scarcity: insufficient freshwater resources to meet the human and environmental demands of a given area. Water scarcity is inextricably linked to human rights, and sufficient access to safe drinking water is a priority for global development.

Physical, or absolute, water scarcity: the result of a region's demand outpacing the limited water resources found there.

Economic water scarcity: caused by a lack of water infrastructure in general or to the poor management of water resources where infrastructure is in place.

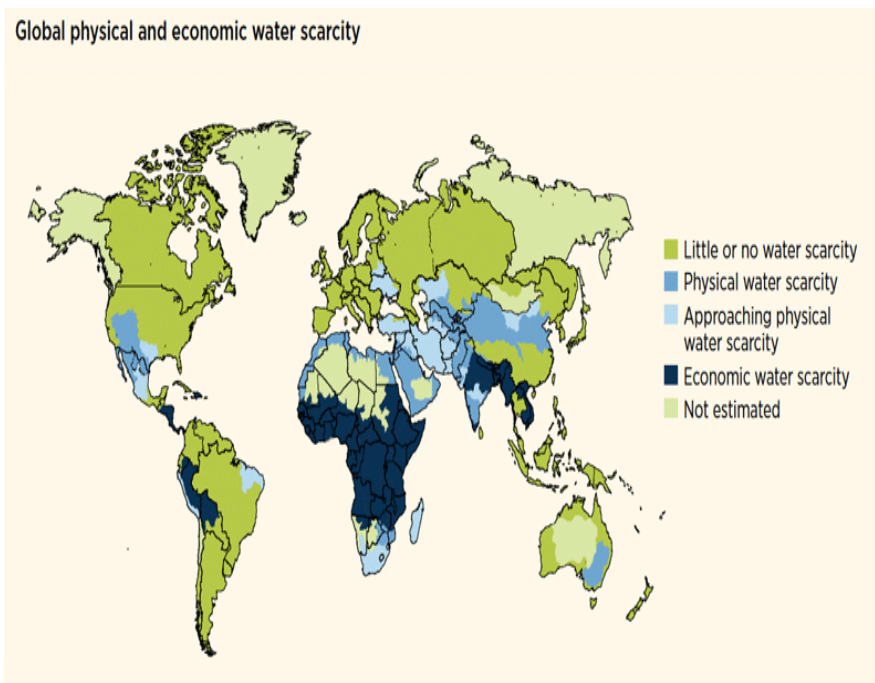
Virtual water: the amount of water that has been used to produce a commodity and is therefore virtually embedded in it.

Blue economy: The initiative comprises a range of economic sectors and related policies that together determine whether the use of ocean resources is sustainable.

4. Introduction to the Topic

² Mouret, S. (2023) *Environmental quality standards : Envi reinforces control at source and polluter-pays principle, EurEau*. Available at: <https://www.eureau.org/news/792-environmental-quality-standards-envi-reinforces-control-at-source-and-polluter-pays-principle> (Accessed: 28 November 2023).

Water is an essential resource that is interconnected, ranging from melting glaciers, lakes, and rivers to groundwater and the ocean. Since water makes up 70% of our planet, it is natural to assume that it will always be abundant. However, freshwater—the kind of water we drink, bathe in, and use to irrigate our farms—is extremely rare; only 3% of the water on Earth is freshwater, and two-thirds of that is hidden behind frozen glaciers or otherwise unusable. Because of this, 1.1 billion people globally do not have access to clean water, and 2.7 billion experience water scarcity for at least one month of the year. Climate change, pollution, overexploitation, and other factors continue to affect Europe's water bodies and the life that depends on them. More than half of the world's wetlands have vanished, and



many of the water systems that support thriving ecosystems and feed a growing human population are under stress. Rivers, lakes, and aquifers are drying up or becoming too contaminated to use. By 2025, two-thirds of the world's population may experience water shortages due to current consumption rates, and ecosystems globally will likely suffer even more.³

Source: International Decade for Action 'Water for Life' 2005-2015, Available at: <https://www.un.org/waterforlifedecade/scarcity.shtml>

In Europe, each year, the drinking, agricultural, industrial, heating, cooling, electricity production, tourism, and other service sectors use billions of cubic meters of water. On the other hand, population expansion, urbanization, pollution, and climate change-related phenomena like droughts are placing increasing pressure on Europe's freshwater resources and quality. According to metrics, the waters of Europe encompass over 11 million square kilometers and vary in depth from large, semi-enclosed seas to shallow, semi-open waters.

³ *Water scarcity - WWF*. Available at: <https://www.worldwildlife.org/threats/water-scarcity> (Accessed: 05 December 2023).

They support a vast array of marine and coastal ecosystems that are extremely diverse in terms of their habitats and species. While some pressures have been lessened in EU member states, marine ecosystem conservation is still an urgent concern. In a similar vein, marine life is also impacted by economic activity, pollution, and overuse of marine resources.⁴ Consequently, it is realized that the lack of water has effects in multiple sections of daily life.

⁴ *Water*, European Environment Agency's home page. Available at: <https://www.eea.europa.eu/en/topics/in-depth/water> (Accessed: 05 December 2023).

5. Legal Framework

«Water Framework Directive» (WFD)2000/60/EC: Directive 2000/60/EC of the European Parliament and of the Council of 23th October 2000

Since 2000, the main legal instrument for water protection, scarcity and drought has been the «Water Framework Directive» (WFD). This suitable framework encourages sustainable water use by protecting available water resources for a long time and mitigating the effects of drought, to ensure a sufficient supply of good surface water and groundwater and to protect territorial and marine waters. Moreover, the Directive's requirement for River Basin Management Plans helps EU member- states execute integrated river basin management- some have also created Drought Management Plans for particularly susceptible river basins. Considering that in the longer term, almost all river basins could be exposed to water scarcity and droughts, organizational and technical adaptation solutions are required. The key objectives of the WFD are set out in Article 45 of the Directive. The WFD's annexes include specifics on things like the RBMPs' contents, the standards for evaluating the condition of water bodies, and the necessity of monitoring. At present, the list of priority substances that Member States are currently required to monitor in surface waters is included in Annex X of the WFD; however, the requirements for these substances are outlined in the Environmental Quality Standards Directive (EQSD)⁵ and must be fulfilled to achieve good surface water chemical status in compliance with WFD Article 4. In accordance with the WFD, Member States must additionally establish and adhere to Environmental Quality Standards (EQS) for substances of national concern, or pollutants specific to a particular river basin. The monitoring of these substances is now playing an essential part in the evaluation of ecological status. Every six years, this list of priority chemicals needs to be reviewed and, if needed, updated.

«Environmental Quality Standards Directive» (EQSD)/ Directive 2008/105/EC

This specific Directive points out some environmental quality standards (EQSs) as concerned the presence of some substances, contaminants, and chemicals, usually identified as priority pollutants, in surface water. They often classified as pollutants, given the fact that they pose a significant risk via the aquatic environment. These materials in question include a variety of pesticides, metals cadmium and nickel. The EQSs are being complied with by EU Member States. Measures against a major increase in the amounts of compounds that tend to accumulate in sediment and/or biota are being taken. The public and the environment

⁵ Lex - 02008L0105-20130913 - en - EUR-Lex, Available at : <https://eur-lex.europa.eu/eli/dir/2008/105/2013-09-13> (Accessed : 06 December 2023).

should both benefit from EQS compliance. In addition to improving the health of the plants, animals, and cattle that drink the surface waters, it should lower the expenses associated with treating these waters for use in the manufacture of drinking water.⁶

Proposal (26 October 2022) for a Directive amending the Water Framework Directive, the Groundwater Directive and the Environmental Quality Standards Directive and Implementation.

In October 2022, the Commission adopted a proposal to revise the lists of pollutants in surface water and groundwater. Some other amendments are also proposed.⁷ Several common technical issues are brought out by the WFD's implementation for the Member States, the Commission, the Candidate and European Economic Area (EEA) Countries, as well as for stakeholders and non-governmental organizations. Just five months after the Water Framework Directive came into operation, the Member States, Norway, and the Commission agreed on a «Common Implementation Strategy» (CIS)⁸ to address the problems in a cooperative and coordinated approach.⁹ The goal of the CIS is to ensure that the WFD and its daughter directives are implemented in a logical and harmonious manner. The present CIS Working Groups and Ad Hoc Task Groups, the Strategic Coordination Group, and the Water Directors' meetings have all discussed the draft of this 2022–2024 CIS Work Program. From the perspective of EU water policy, the 2022–2024 period covered by this Work Program will be highly significant because:

- a) an assessment of the 2nd Flood Risk Management Plan and the 3rd River Basin Management Plan will be conducted,
- b) in 2023 both the new Drinking Water Directive and the new Regulation on Minimum Requirements for Water Reuse will come in application,
- c) the first Zero Pollution Monitoring and Outlook Reports will be implemented in 2022 and 2024, accordingly, and they must be supported by the appropriate Freshwater components,

⁶ *Environmental quality standards applicable to surface water* (no date) EUR. Available at: <https://eur-lex.europa.eu/EN/legal-content/summary/environmental-quality-standards-applicable-to-surface-water.html> (Accessed: 15 December 2023).

⁷ *Proposal amending water directives* (2022) Environment. Available at: https://environment.ec.europa.eu/publications/proposal-amending-water-directives_en (Accessed: 06 December 2023).

⁸ *Common strategy on the implementation of the water - europa.eu*. Available at: [https://circabc.europa.eu/sd/a/4de11d70-5ce1-48f7-994d-65017a862218/Guidance%20No%2011%20-%20Planning%20Process%20\(WG%202.9\).pdf](https://circabc.europa.eu/sd/a/4de11d70-5ce1-48f7-994d-65017a862218/Guidance%20No%2011%20-%20Planning%20Process%20(WG%202.9).pdf) (Accessed: 15 December 2023).

⁹ *Common implementation strategy*, Available at: https://www.minzp.sk/files/sekcia-vod/spolocna-implementacna-strategia-2022-2024_eng.pdf (Accessed: 07 December 2023).

- d) various pieces of EU law relevant to water will be evaluated and/or modernized (including the lists of Surface and Groundwater pollutants, the Urban Wastewater Treatment Directive, the Industrial Emissions Directive, the European Pollutant Release and Transfer Register, the Marine Strategy Framework Directive, and the Bathing Water Directive).

6. Historical Background

6.1 Water Shortages as A Global Threat

The world is becoming increasingly concerned about water scarcity, but little is known about how it has evolved over time. Consequently, water shortages and related water crises are not exclusively a phenomenon of the 21st century. On the contrary, their presence doesn't comply with borders or specific historical periods. Five of the eleven regions in the world experience highly or extremely high levels of water stress.¹⁰ Taking a glimpse at a few centuries back, in the 1700s, England became more urbanized because of industrialization. The need for sanitary facilities and clean water sources became a matter of emergency, showing for the first time in the developed world how scarce clean water is. In the 1800s, the term "water shortages" was established to provide an explanation for the lack of clean water in various areas of Europe and justify the scarcity that some nations had to manage. In 1854 during a cholera outbreak in London, Dr. John Snow found the connection between water and the disease's spread, notifying the dangers that unclean water may cause to human health. Entering the next century, abrupt climate changes led to major droughts and since 1900, more than 11 billion people have died from drought. Leading to the 2000s, the importance of water was well understood, and UN-Water was established as a platform for the coordination of issues related to access to fresh water and sanitation.¹¹ While just over 200 million people (14% of the world's population) lived in areas with some degree of water scarcity in the 1900s, by the 1980s, that number had risen to over two billion people (42%), and by the 2000s, it had reached 3.8 billion people (58%).¹² During the 21st century, climate change has led international actors to struggle to deal with its consequences. Over 800

¹⁰ Higgins, K. (2023) *Water scarcity: What history teaches US about water resource management: Published in the Transdisciplinary Journal of Management, The Transdisciplinary Journal of Management*. Available at: <https://tjm.scholasticahq.com/article/67888-water-scarcity-what-history-teaches-us-about-water-resource-management> (Accessed: 08 December 2023).

¹¹ *Global Water Crisis - Water Scarcity Facts & How To Help | World Vision Australia*. Available at: <https://www.worldvision.com.au/global-water-crisis-facts> (Accessed: 10 December 2023).

¹² Kummu, M. *et al.* (2016) *The world's road to water scarcity: Shortage and stress in the 20th century and pathways towards Sustainability, Nature News*. Available at: <https://www.nature.com/articles/srep38495> (Accessed: 10 December 2023).

children perish from diarrhea brought on by inadequate water, sanitation, and hygiene, as well as limited or inconsistent access to water and sanitation facilities in many communities worldwide, contributing to the 785 million people who lack access to clean drinking water globally. About half of those who experienced water scarcity in the 2000s did so because of either a moderate water shortage or moderate water stress, while the other half resided in areas that experienced both water stress and shortage. The lack of clean water was always an issue that had not been resolved. The prospect of dwindling water reserves is alarming the international community to take necessary actions.

6.2 Water Scarcity in the EU: A Long Discussion

Turning our focus to European territory, water shortages, although not so obvious, have particularly concerned the member states of the Union since climate change entered its agenda. Rivers, lakes, seas, and groundwater throughout Europe are under stress due to eutrophication, over-exploitation, pollution, and climate change.

The majority of Europe has sufficient water resources, but droughts and water scarcity are becoming more common and widespread in the EU. In certain areas, the frequency and severity of droughts can cause situations of water scarcity. Overuse of the water resources that are available can worsen the effects of droughts. If temperatures in Europe continue to rise due to climate change, further degradation of the water resources is anticipated.¹³ By enacting the Water Framework Directive in 2000, the European Union has attempted to address the problem and guarantee the quality of the waters throughout Europe. However, a report released by WWF and the Living Rivers Europe Coalition concluded that by 2027, 90% of river basins in various EU countries will still be unhealthy.¹⁴

Despite a 15% decline in water abstraction in the EU between 2000 and 2019, the area affected by water scarcity conditions has not decreased overall; in fact, since 2010, the situation has gotten worse. In 2019, 29% of the EU territory experienced at least one season of water scarcity. It is unlikely that water scarcity will decrease by 2030 due to the combination of these factors as well as the expectation that climate change will intensify, increase the frequency, and worsen the effects of drought events. More work is required to ensure sustainable water use. Southern Europe is more likely to experience water scarcity, with up to 70% of the population living in areas with summertime seasonal water stress and

¹³ *Water scarcity and droughts, Environment*. Available at:

https://environment.ec.europa.eu/topics/water/water-scarcity-and-droughts_en (Accessed: 11 December 2023).

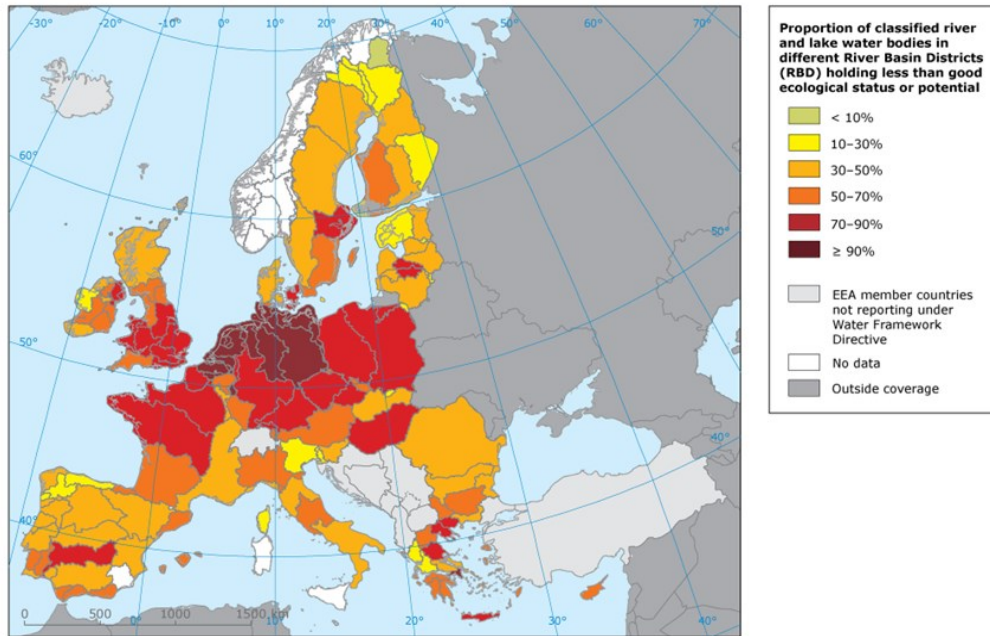
¹⁴ *Water crisis in Europe: How bad is it and what can be done?* (no date) *Euronews*. Available at:

<https://www.euronews.com/2023/10/16/europes-water-crisis-how-bad-is-it-and-what-can-be-done> (Accessed: 12 December 2023).

30% of the population living in permanent water stress. The biggest stresses on freshwater are water abstractions for public water supplies, agriculture, and tourism. But water scarcity is not just a problem in southern Europe; it also affects river basins throughout the European Union, especially in western Europe. In western Europe, high urban population density and high abstraction levels for energy, industry, and public water supplies are the main causes of water scarcity. Drought events have also increased in frequency and severity in these areas over the past ten years, which influences the seasonal availability of water. In contrast to the 167,000 km² annual average impacted area between 2000 and 2022, Europe saw its hottest summer and the second warmest year on record in 2022, which led to the largest overall drought-impacted area: over 630,000 km². The annual impacted area of EU cropland from 2000 to 2022 was approximately 73,000 km², which led to crop failures. The effects of drought limit nature's capacity to provide a variety of environmental, social, and economic advantages. Heatwave frequency and intensity are predicted to rise by 2030, while summer precipitation in the Mediterranean and continental regions is predicted to fall.¹⁵ The availability of freshwater resources, primarily in southern, western, and eastern Europe, is threatened by climate change, which could also make the seasonal variations in water availability worse. Therefore, it is anticipated that the frequency, severity, and effects of drought events will increase. Considering this, as well as the fact that the overall historical trend indicates a worsening situation since 2010, it appears improbable that the scarcity of water will lessen by 2030. Most countries experience acute water scarcity conditions from July to September due to a combination of dry weather, lower flows and higher abstractions for irrigated agriculture, tourism and recreation, and other socioeconomic activities during that time of year.¹⁶

¹⁵ *Drought impact on ecosystems in Europe* (no date) *European Environment Agency's home page*. Available at: <https://www.eea.europa.eu/en/analysis/indicators/drought-impact-on-ecosystems-in-europe?activeAccordion=> (Accessed: 12 December 2023).

¹⁶ *Water scarcity conditions in Europe (water exploitation index plus)* (no date) *European Environment Agency's home page*. Available at: <https://www.eea.europa.eu/en/analysis/indicators/use-of-freshwater-resources-in-europe-1> (Accessed: 13 December 2023).



Source: Proportion of classified river and lake water bodies in different River Basin Districts (RBD) holding less than good ecological status or potential.¹⁷

¹⁷ *Freshwater Quality (2020) European Environment Agency*. Available at: <https://www.eea.europa.eu/soer/2015/europe/freshwater> (Accessed: 15 December 2023).

7. Main Discussion of the Topic

7.1 Addressing the water challenge and scarcity.

It is understandable that there is a huge concern that the unsustainable use and management of water could jeopardize the most fundamental principle required to ensure the health and wealth of nations: universal access to clean drinking water and sanitation. Fresh water is currently abundant throughout much of Europe, but it is dispersed unevenly between and within nations, and there are shortages in several places. Numerous chemicals have been detected in the water, but it has frequently been difficult to determine whether these chemicals have negative health effects. Significant chemical contamination issues are typically localized and can result from both human activity and natural geological conditions. Water stress brought on by water scarcity is a simple matter of imbalance: demand exceeds supply. However, the causes of water scarcity are not simple. Primary contributors are the complex issues of climate change and population growth. Pressures on water resources have increased due to population growth, economic development, and dietary shifts toward a greater consumption of animal products. Water scarcity is characterized by the inability of all sectors, including the environment, to fully meet their demand for water due to the impact of water use on water quality or supply.¹⁸ Water scarcity has ripple effects on the economy and on water basins everywhere. Because agriculture and industry together use over 80% of the world's freshwater, as water scarcity increases, so will food shortages and economic setbacks.¹⁹

7.2 Potential Agricultural Challenges

Agriculture is an important user of water across EU Member States, accounting for around 24 % of total water use. The economies of the EU's member states depend mainly on agriculture. It is the primary source of food supply and a major contributor of economic growth. There's a cost though. Currently, agricultural pollution of water in Europe undermines environmental and public health while hindering economic progress. The interrelationship between Agricultural Activities, Water Quality, and Human Health is a special issue and the last few years the health of mankind- and not only- is significantly

¹⁸*Water scarcity assessments in the past, present, and future*. Available at:

<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2016EF000518> (Accessed: 12 December 2023).

¹⁹ Higgins, K. (2023) *Water scarcity: What history teaches US about water resource management: Published in the Transdisciplinary Journal of Management, The Transdisciplinary Journal of Management*. Available at: <https://tjm.scholasticahq.com/article/67888-water-scarcity-what-history-teaches-us-about-water-resource-management> (Accessed: 12 December 2023).

impacted by the quality of the water. Given that, reaching both good ecological status of surface waters and good chemical status of groundwaters is an ongoing challenge.

Meanwhile, there has been no improvement in the general use of pesticides in the EU since 2011, and the extremely high nitrate concentration in groundwater has not decreased in 30 years.²⁰ Due to the xxx of water, the agricultural ecosystem of the European Union is vulnerable to a number of challenges, usually associated with unsustainable managements practices, such as pollution from pesticide residues and overuse of chemicals and fertilizers. Through the Common Agricultural Policy 2023-2027 (CAP), the European Union aims at providing not only safe, healthy, and sustainably produced food for society, but also, to protect its natural resources and enhance biodiversity.²¹

7.2.1 Pollution by Pesticides

In several European Countries, such as Denmark (100%), Austria, Switzerland and over 70% of France, groundwater is the primary resource of drinking water. Groundwater pesticide contamination is one of the greatest threats to aquifer quality status globally. However, widespread pesticide use is a major source of pollution — contaminating water, soil, and air, driving biodiversity loss and leading to pest resistance. To maintain crop yields, Europe's agriculture industry continues to rely extensively on chemical pesticides, with sales of these substances being consistent during the previous ten years. Moreover, inappropriate agricultural methods may increase the number of sediments, bacteria, and infections in water. A range of pollutants, for example, fertilizers, pesticides, antibiotics, clenbuterol, and chemical additives are commonly used in agricultural activities in addition to water. Improper usage of these compounds might negatively impact the quality of water bodies nearby. To be more specific, although pesticides and fertilizers can increase crop production, their use is capable of posing a potential threat to the aquatic environment:²² 22% of Europe's surface water bodies and 28 % of the groundwater area are significantly affected by diffuse pollution from agriculture, both by nutrients and pesticides.²³ Based on data on pesticide sales in Europe, 400.000 tons of pesticides were sold annually between 2011 and

²⁰ *Policy coherence for the protection of water* - Wiley Online Library. Available at:

<https://onlinelibrary.wiley.com/doi/full/10.1111/reel.12509> (Accessed: 14 December 2023).

²¹ *CAP at a glance, Agriculture, and rural development*. Available at:

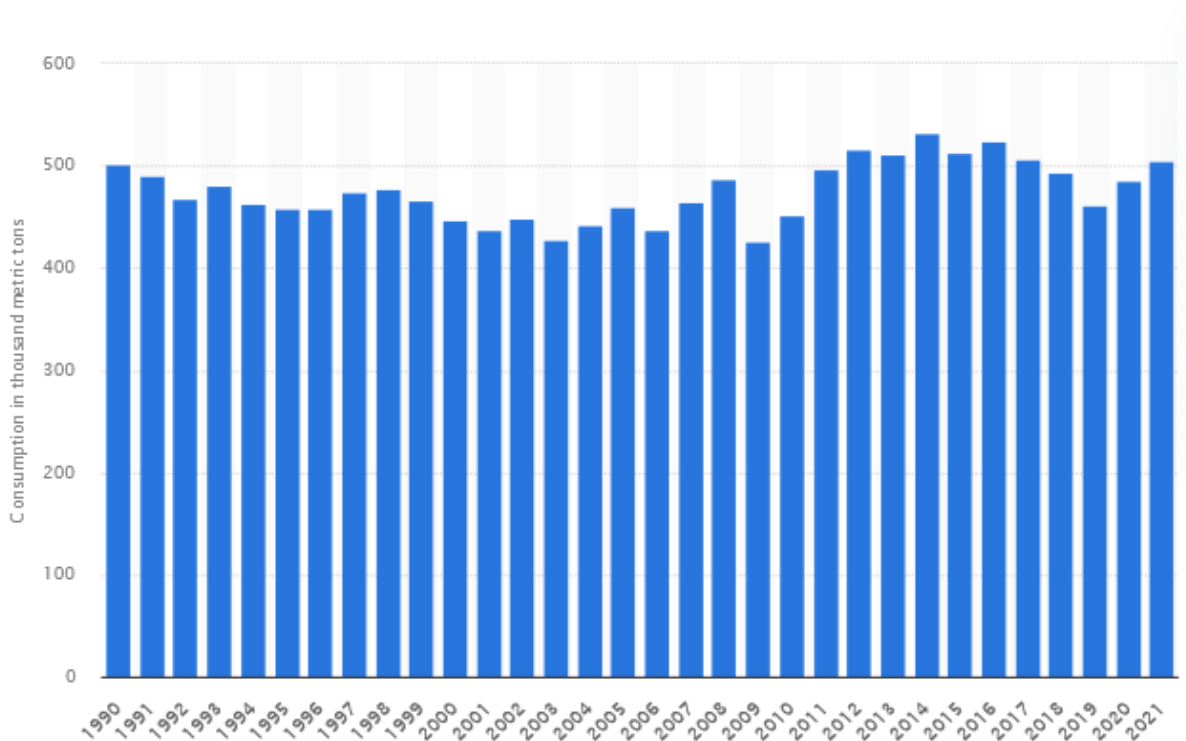
https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-glance_en (Accessed: 14 December 2023).

²² Wang, S.-W. and Fan, C. (2023) *Challenges of water quality management for agricultural development*, MDPI. Available at: <https://www.mdpi.com/2073-4441/15/10/1816> (Accessed: 15 December 2023).

²³ *EEA report identifies the key water challenges that hamper EU waters from achieving the environmental targets - water Europe* (2021) *Water Europe - A Common Vision for a Water-Smart Society*. Available at: <https://watereurope.eu/eea-report-identifies-the-key-water-management-challenges-that-slow-down-eu-environmental-targets/> (Accessed: 15 December 2023).

2016 (European Economic Area, 2016). Considering that, 0.4 % of all surface water bodies and 6.5 % of the groundwater area fail to achieve good chemical status. Pesticide pollution is one of the key drivers of biodiversity loss in Europe, as well. To meet the target, which is none other than the reduction of pesticide use, a new regulation on the sustainable use of pesticides was recently proposed by the European Commission.

Source: Statista, Agricultural consumption of pesticides in Europe from 1990 to 2021, Published by Statista Research Department and 7, D. (2023) Europe: Pesticide consumption volume, Statista. Available at: <https://www.statista.com/statistics/1426146/european-pesticide-agricultural-use/> (Accessed: 15 December 2023).



It would require that states establish their own national reduction targets, ensure that professional pesticide users, including farmers, adopt environmentally friendly methods of controlling pests, and prohibit the use of pesticides in sensitive areas, such as protected areas and urban green spaces.²⁴ Furthermore, in 2020, the European Commission’s Farm to Fork Strategy²⁵ introduced two **pesticide reduction targets**: a 50% reduction in the use and risk of chemical pesticides and a 50% reduction in the use of more hazardous pesticides. The

²⁴ *More action needed in the EU to reduce the impacts of chemical pesticides* (no date) European Environment Agency’s home page. Available at: <https://www.eea.europa.eu/en/newsroom/news/more-action-needed-in-the-eu> (Accessed: 15 December 2023).

²⁵ *Farm to fork strategy* (no date) *Food Safety*. Available at: https://food.ec.europa.eu/horizontal-topics/farm-to-fork-strategy_en (Accessed: 15 December 2023).

Strategy is a key part of the European Green Deal²⁶ and aims to make Europe's food systems fair, healthy and sustainable. Achieving the targets will require more work by EU policymakers and Member States, the briefing notes. The chart below depicts the use of pesticides in European agriculture varied over time, from 1990 to 2021. The European consumption of pesticides in 2021 amounted to a total of 505,157.1 metric tons. Europe's highest pesticide consumption by the agricultural industry during this period occurred in 2014, when it reached 532,710.91 metric tons.

7.2.2 Reduction of first-sector products- potential food crisis

Given the fact that our food system and water are closely interconnected-water scarcity means less water for agriculture production which in turn means less food available, threatening food security and nutrition-it is both a cause and a casualty of water insufficiency. It is anticipated that this concerning situation will get worse as water stress is exacerbated by climate change. There is a strong correlation between a nation's capacity to produce food and the availability of renewable water resources. The "water footprint" concept was established to have a consumption-based indication of water use that may offer helpful information. The total amount of freshwater required to generate the goods and services that the country's citizens consume is known as the "water footprint." Moreover, extremely high temperatures that are not common for multiple regions and an ongoing drought in Europe serve as vivid examples of the real-world effects on the environment and the food system. Although, in Europe, droughts and water scarcity are no longer uncommon or extreme events; on an average year, water stress impacts 20% of the continent's land area and 30% of its population. Given the rising frequency, severity, and impact of droughts, climate change is also predicted to exacerbate the issue. According to estimations for global population growth, future food consumption is projected to increase, which will ultimately have a direct impact on the amount of water used for agriculture.²⁷ Having said that, the food that one person consumes each day requires 2,000–5,000 liters of water on average to produce, using the present methods of food production. Regarding the size and rate of expansion of the world population, the amount of water required for food production is enormous.²⁸ Given that the agricultural industry is accountable for 78% of the world's freshwater and ocean pollution, it is imperative that the European Union manages the effects

²⁶ *The European Green deal*, European Commission. Available at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en (Accessed: 15 December 2023).

²⁷ Savani, L., Galindo, C. and Galindo, L.S. and C. (2023) *Europe's triple threat: Securing our water, food, and Health for a Sustainable Future*, EuroHealthNet Magazine. Available at: <https://eurohealthnet-magazine.eu/europes-triple-threat-securing-our-water-food-and-health-for-a-sustainable-future/> (Accessed: 15 December 2023).

²⁸ *How can we solve water scarcity?* (2023) *New Food Magazine*. Available at: <https://www.newfoodmagazine.com/article/167119/climate-change-and-food-innovation/> (Accessed: 15 December 2023).

of agriculture on our current water sources. Agrochemical, sediment, and organic matter discharges into bodies of water can have disastrous effects on aquatic ecosystems, human health, and other food production endeavors.

8. Influence on the Energy Sector

Water is necessary to produce all forms of energy, including electricity, and water scarcity can have a significant negative impact on energy systems since the energy sector depends heavily on water availability. When it comes to the limited natural resources at hand, drinking water may be the most pressing issue, but most freshwater on Earth is unfit for human consumption. A large portion of it is used in the energy production process. To take that into account, a coal-fired manufacturing facility requires 427 gallons of fresh water per megawatt-hour (MWh) to maintain operations and prevent equipment overheating.²⁹ In 2021, the world's energy system utilized approximately 370 billion cubic meters (bcm) of freshwater, which accounts for approximately 10% of all freshwater withdrawals worldwide. Water is necessary for nearly all aspects of energy supply, including the production of electricity, fossil fuels, and biofuels.³⁰ For example a water shortage can create problems in various sectors of energy production.

- **Thermoelectric electricity generation:** Large amounts of water are required to generate steam and for cooling purposes in thermoelectric power plants, which use steam turbines to generate electricity. Drought conditions can lead to reduced plant efficiency and generation capacity as well as affect the supply chain for coal, natural gas, biofuel, and nuclear fuel.
- **Hydroelectric power generation:** When water levels in reservoirs drop, less water pressure is needed to turn the hydro turbine blades, which reduces productivity. Hydroelectric power is produced by channeling water through power plants housed within dam structures.
- **Hydraulic fracturing and refining:** Decreased water availability impacts natural gas and petroleum production and refining. Droughts can force fuel refining and hydraulic fracturing (fracking) operations to temporarily shut down or require alternative water sources, raising costs and ultimately driving up consumer prices.

²⁹ *Can renewable energy solve the global water crisis?* (2018) *Renewable Energy Magazine, at the heart of clean energy journalism*. Available at: <https://www.renewableenergymagazine.com/emily-folk/can-renewable-energy-solve-the-global-water-20181214> (Accessed: 11 December 2023).

³⁰ *Iea- Clean energy can help to ease the water crisis – analysis, IEA*. Available at: <https://www.iea.org/commentaries/clean-energy-can-help-to-ease-the-water-crisis> (Accessed: 11 December 2023).

- **Biofuels:** Drought-related reductions in soil moisture and water availability can hinder the growth of feedstocks for biofuels.³¹

The transition towards a net zero era, which means moving from an energy system based on fossil fuels to a renewable energy system, may impact the cost and availability of energy. A faster pace of development in clean energy could alleviate the global water crisis.

8.1 Exploitation of renewable sources

Most European countries have sufficient resources; it is generally acknowledged that annual use which exceeds 30% of the total renewable water resources is unsustainable in the long run. Water resources are reported to be insufficient in Moldova. To maintain sustainability, resources must be managed to ensure that the rate of use does not exceed the rate of renewal. Water resources are reported to be insufficient in Moldova, southern Ukraine, the lower reaches of the River Volga, the Caspian lowlands, and parts of Kazakhstan.

The world's need for fresh water could be significantly decreased by using renewable energy sources, especially solar power. The evidence is found in rural India, where a forward-thinking engineer named Manik Jolly created a solar-powered water filtration plant that uses only the sun's energy to turn 99 percent of the water into drinkable water through a series of processes that include UV and reverse-osmosis filtration. This innovation is leading the way in new technology and methods, but it's not without its problems. For instance, a lot of wasted water is produced during the reverse osmosis water filtration process; while this is still better than nothing at all, it's not ideal. Water scarcity persists in many parts of the world because there are several obstacles to any potential solution, particularly in terms of cost. Other viable options include plants that desalinate ocean water, but this is a more expensive proposal.³²

Also, electricity derived from renewable sources uses less water than electricity derived from fossil fuels. Increasing the use of renewable power, whether through the installation of renewable-generation capacity methods or sourcing a larger share of grid power from renewable sources, is therefore a promising way for businesses to reduce their risk exposure while also alleviating local water stress.

In a growing number of places where water is scarce, desalination is emerging as a viable solution to meet demand for water. Enhancing climate change resilience can be achieved

³¹ *Energy* (no date) *Drought.gov*. Available at: <https://www.drought.gov/sectors/energy> (Accessed: 11 December 2023).

³² *Can renewable energy solve the global water crisis?* (2018) *Renewable Energy Magazine, at the heart of clean energy journalism*. Available at: <https://www.renewableenergymagazine.com/emily-folk/can-renewable-energy-solve-the-global-water-20181214> (Accessed: 11 December 2023).

through desalination; additionally, desalination is politically and economically significant to attain self-reliance for regions; Israel and Singapore are two instances of countries that have made investments in desalination to lessen their reliance on imported water due to their geopolitical circumstances. Furthermore, as populations grow, policymakers face challenges in providing clean water for cities. Desalination is regarded as a secure supply with high reliability for these water demands. Water supply to dynamic sectors of the economy, namely commercial and industrial users, is a priority. Failure to provide water to these sectors leads to high costs in the social, political, and economic spheres. Consequently, desalination is turning into a viable and affordable solution to meet water demand in a growing number of places.³³

Water use is affected differently by different pathways to a low-emission future. Technologies with high water requirements, like carbon capture, biofuels, concentrated solar power, and nuclear energy, could make a pathway to lower emissions worse or even limit it if efforts aren't made to reduce water use in these and other fossil energy sources.³⁴

9. Effects on Public Health

Freshwater is a vital abiotic and interconnected resource for human survival on this planet, and that's why it is crucial for health, drinking, and food preparation to have access to clean water. It is also essential to sanitation and hygiene systems. There are hazards to one's health and well-being when chemicals, minerals, or bacteria contaminate water bodies. These risks can arise directly from contaminated drinking or bathing water, as well as indirectly from contaminated food products. In the EU, the quality of bathing water and the quality of water for human consumption are regulated under the 'Bathing Water Directive-2006/7/EC' (15th of February 2006)³⁵ and the 'Drinking Water Directive-2020/2184' (16th of December 2020)³⁶ respectively. Moreover, under this particular topic of public health and water pollution, 'Urban Wastewater Treatment Directive- 91/271/EEC' is fundamental both to ensure public health and to protect the environment from the effects of untreated urban

³³

Ahmadi, E., McLellan, B., Mohammadi-Ivatloo, B., Tezuka, T., 2020. The Role of Renewable Energy Resources in Sustainability of Water Desalination as a Potential Fresh-Water Source: An Updated Review [WWW Document]. Sustainability. Available at: <https://doi.org/10.3390/su12135233> (Accessed: 11 December 2023).

³⁴ Clean energy can help to ease the water crisis – Analysis - IEA [WWW Document], n.d. . IEA. URL Available at : <https://www.iea.org/commentaries/clean-energy-can-help-to-ease-the-water-crisis> (Accessed: 11 December 2023).

³⁵ EUR-Lex - 32006L0007 - EN - EUR-Lex [WWW Document], n.d. Available at : <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32006L0007> (Accessed: 15 December 2023).

³⁶ EUR-Lex - 32020L2184 - EN - EUR-Lex [WWW Document], n.d. URL <https://eur-lex.europa.eu/eli/dir/2020/2184/oj> (Accessed : 15 December 2023).

wastewater. It is undeniable that water pollution can directly affect human health- a person who ingests chemical toxins in their water can be exposed from bacterial diseases to viral diseases. Some examples are cancer, hormone disruptions, damage to immune and reproductive systems, cardiovascular problems. According to estimates made by the European Commission, every year at least 11% of Europeans are affected by water pollution or scarcity. 480 persons in Germany died away in 2016 because of exposure to contaminated water, poor sanitation, and poor hygiene, according to WHO data. France was with 172 recorded deaths and the UK followed with 130. In addition, limited access encourages individuals to buy bottled water. 10% of the population depends on food and vegetables that are grown in contaminated water, too. One of the reasons that this is happening is that every aspect is highly connected with each other: to be more specific, water of poor-quality damages crops and agricultural cultivation in general, and consequently, contaminates food, threatening both human and aquatic life. Therefore, the EU Commission estimated that increasing access to clean water would help European households save more than €600 million annually. It also highlighted that it could help accomplish one of the goals of the Paris Climate Agreement, which is to decrease greenhouse gas emissions by 1.2 million tons CO₂ by 2050 by reducing the annual consumption of bottled water from 100 to 88 liters.³⁷

10. Impact on the economic sector

As it can be understood, any crisis regarding the water element will also lead to negative results in the economic sector, as the relationship between the economy and water is interconnected. Also, if there is water scarcity then the effects on the production of goods will be certain. The main issue is the amount of water needed to produce food, which will increase as human activity increases as well.³⁸

A circular water economy is an approach to water management that seeks to maximize the use and reuse of water resources, reduce waste and pollution, and promote sustainable and equitable access to water for all, where desalination may play an important role. Desalination definitively needs cheap and abundant energy, and investments which also depend on the accessibility of inexpensive and plentiful energy. Expensive and scarce energy may negatively impact the desalination process and contribute to water scarcity.

³⁷ Tidey, A., 2019. Millions in Europe drink contaminated water : UN [WWW Document]. Euronews, Available at: <https://www.euronews.com/my-europe/2019/03/19/millions-in-europe-drink-contaminated-water-un> (Accessed: 15 December 2023).

³⁸ Issues, 2022. Water Scarcity: The Food Factor [WWW Document]. Issues in Science and Technology. Available at: <https://issues.org/molden-water-food-scarcity/> (Accessed : 16 December 2023).

10.1 Shortage of trade goods

Water is being used often to export trade goods between countries and continents. Long-distance transfers of water are necessary for international trade in commodities.³⁹ The reduced production of consumer goods due to the lack of water will probably also lead to a reduction in the trade of these goods. Producer countries seeking to cover their domestic needs will reduce exports of manufactured products. The consequence is the reduction of consumer goods from the markets, as well as the reduction of income for each country. Such a possibility will have serious consequences on the European markets and will lead to isolation tendencies of the continent and each country separately.

10.2 Speculative Risks

From extraction to consumption, almost every phase of the value chain depends on water. Water-related issues pose a significant risk to businesses, disrupting operations and the supply chain and driving up expenses. Businesses are human endeavors, meaning that issues facing humanity also affect businesses. Given that businesses are heavily reliant on water and that they are a major cause of water-related impacts (the food, fashion, chemicals, pharmaceuticals, energy, industrial, and mining sectors account for 70% of global freshwater use and pollution), businesses have a stake in ensuring that there is water security for future generations. Industry, which includes resource extraction and manufacturing, accounts for 19% of global water withdrawals, while agriculture accounts for 70%. Depleting water supplies have caused major disruptions to business operations and supply chains, resulting in higher costs. These factors have included power plant closures, periods of impassibility for billion-dollar trade routes, and tightening of regulations, including caps and restrictions. The economic toll of these disruptions is high; if businesses choose to do nothing, the financial losses associated with water-related issues could only worsen. Global businesses lost \$38.5 billion to water-related losses in 2018, and \$13.5 billion in stranded assets across four major industries (oil and gas, electric utilities, coal, and metals and mining) resulted from depleted and contaminated water supplies in 2022. The consumer staples sector is most at risk from water scarcity, with a \$200 billion impact, according to a recent research note released by Barclays analysts. This is primarily because the sector depends heavily on agricultural commodities, which are very susceptible to changes in the price of water and disruptions from droughts and flooding. Water-related issues have the potential to significantly alter consumer perceptions as well. Companies that source and operate in

³⁹ WTO | Publications - The relation between international trade and freshwater scarcity [WWW Document], n.d. Available at: https://www.wto.org/english/res_e/publications_e/wtr10_forum_e/wtr10_hoekstra_e.htm (Accessed : 16 December 2023).

water-stressed or water-insecure areas run a serious risk to their reputation if disputes over allocation and other issues with local communities arise.⁴⁰

10.3 Potential of Blue economy

To meet the environmental standards, it has set, the EU needs to act in the sector of water, and anything related to it and of course in a sustainable way. For the economic sector a great potential can be driven by the “Blue Economy” initiative. The goal of the blue economy concept is to ensure environmental sustainability while simultaneously fostering social inclusion, economic growth, and the preservation or enhancement of livelihoods. The Atlantic, Seas, and Coasts are the basis for all sectoral and cross-sectoral economic activity that is associated with the EU Blue Economy, which comprises both marine-based and marine-related activities.⁴¹

An innovation regarding the blue economy is blue investment, which refers to the financial help SMEs and start-ups get from the European Investment Fund so they can develop in a bluer way. Blue Invest started in 2019 with the purpose of speeding the new ocean-based innovations, technologies, and solutions so it will promote investments in the domain of blue economy.

There are four objectives:

- i) support the readiness of the investments and provide access to funds,
- ii) access to the market,
- iii) direct the investors into blue economy investments,
- iv) launch a related community and investment system.

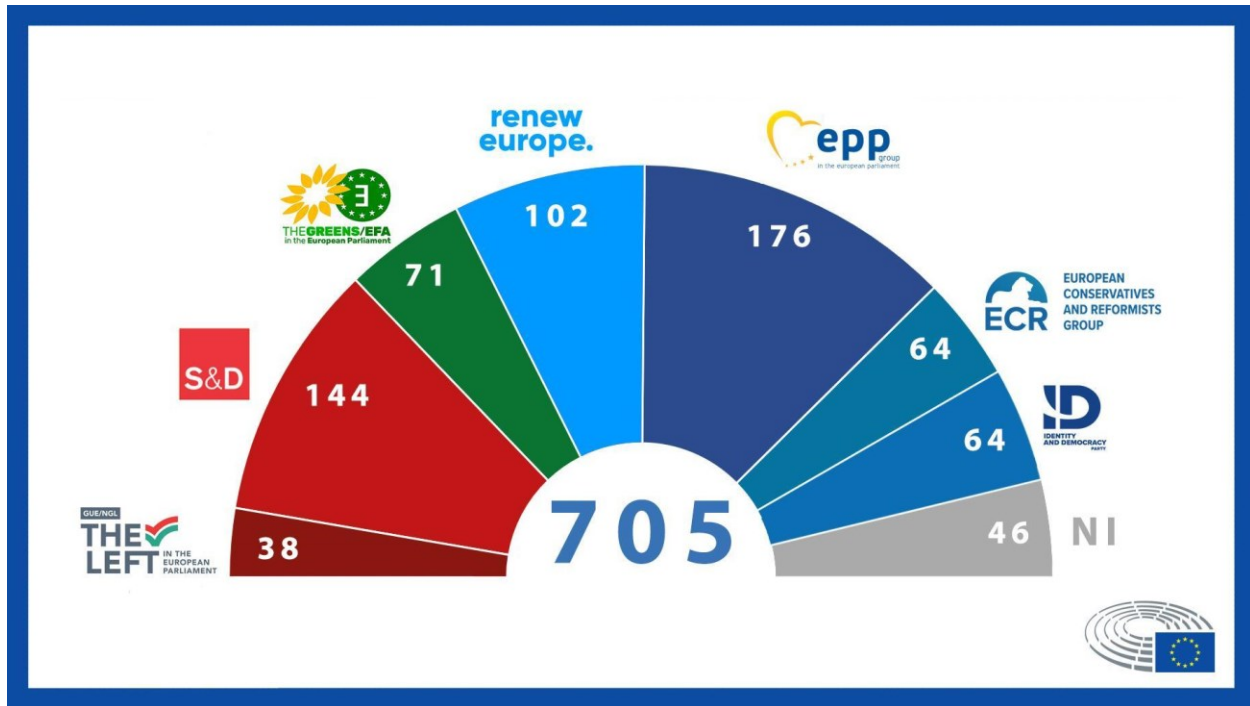
To support the interested investors and SME’s EU has been helping them by giving them access to exclusive events, where they expand their network, as well as to market intelligence and learning opportunities. Also, it provides them with coaching programs depending on their readiness performance.⁴²

⁴⁰ MacCarthy, L., 2023. Illiquid: How water challenges affect businesses (and what to do about it) [WWW Document]. Quantis. Available at: <https://quantis.com/water-stress-business-priority/> (Accessed : 16 December 2023).

⁴¹ Topics [WWW Document], 2023. . EU Blue Economy Observatory. Available at: https://blue-economy-observatory.ec.europa.eu/index_en?prefLang=en (Accessed : 16 December 2023).

⁴² BlueInvest [WWW Document], 2023. . Oceans and fisheries. Available at: https://oceans-and-fisheries.ec.europa.eu/ocean/blue-economy/blueinvest_en (Accessed : 16 December 2023).

11. Political Groups' Positions⁴³



Source: European Parliament, Parliament's seven political groups, Available at: <https://www.europarl.europa.eu/about-parliament/en/organisation-and-rules/organisation/political-groups>

European People's Party (EPP)

The EPP Group is the largest and oldest group in the European Parliament. A center-right group, which is committed to create a stronger and self-assured Europe, built at the service of its people. Their goal is to create a democratic Europe, in which everyone should be able to have access to clean and good quality water. More specifically, the EPP group emphasizes the importance of sustainable, future-oriented water management practices, being the voice and defender of European farmers in rural communities. MEPs of EPP strongly support the implementation of a multifunctional agriculture, which is supported by their 'Common Agricultural Policy⁴⁴ - mostly focused on family farms in Europe. Moreover, they highlight

⁴³ The political groups [WWW Document], n.d. . The political groups. Available at: <https://www.europarl.europa.eu/about-parliament/en/organisation-and-rules/organisation/political-groups> (Accessed: 15 December 2023).

⁴⁴ CAP and the environment [WWW Document], 2023. . Agriculture and rural development. Available at: https://agriculture.ec.europa.eu/sustainability/environmental-sustainability/cap-and-environment_en (Accessed: 15 December 2023).

their responsiveness to farmers, to use less inputs such as pesticides or fertilizers, and they aspire for a farm advisory system.

Progressive Alliance of Socialists and Democrats in the European Parliament

The S&D Group stands for an inclusive European society based on principles of freedom, equality, solidarity, diversity, and fairness. Their MEPs are committed to fighting for social justice, jobs and growth, consumer rights, sustainable development, financial market reform and human rights to create a stronger and more democratic Europe and a better future for everyone. S&D Group has outlined, through multiple seminars and reports, how 'safeguarding the right to water and sanitation is central to the European Social Model'. MEPs are engaged to ensure that access to water and sanitation is recognized as a basic, universal right and that the European Union will take the initiatives and the lead among the international community in this regard.⁴⁵

Renew Europe

For this political group, Europe is the future and is well worth fighting for. According to their beliefs, the European Union has the chance to renew itself and be able to deliver on the bigger issues, deliver on the expectations of its citizens and deliver tangible added value enabling them to understand how it positively affects their lives. They are committed to fulfilling their responsibilities to the next generation by protecting the environment, enhancing public health, and developing a sustainable economy, even though some will spread fear and others will question the need to act. MEPs of this group strongly support that the European Union should raise the level of protection of the quality of waters, in accordance with WHO Guidelines, too. In the fight against harmful chemicals such as pesticides, the Renew Europe group is seeking more rapid progress in eliminating all substances of very high concern and taking steps to prevent the compounding effects of chemical exposure. They demand an EU plan to replace pesticides with more sustainable alternatives.⁴⁶

The Verts/Greens - European Free Alliance

The Greens/ European Free Alliance has 72 members (35 women and 37 men) from a variety of backgrounds, 17 countries, 4 regions, and 25 political parties achieving consistency in its voting behavior and gender balance between its members. The Greens/EFA has been represented in the European Parliament since 1984 and aims to establish Europe as the

⁴⁵ *European Parliament set to improve water quality standards, thanks to S&DS* (no date) *Socialists & Democrats*. Available at: <https://www.socialistsanddemocrats.eu/newsroom/european-parliament-set-improve-water-quality-standards-thanks-sds> (Accessed: 15 December 2023).

⁴⁶ *Renew Europe CoR (2023) Water management: Thirsty for innovation, Renew Europe CoR*. Available at: <https://reneweurope-cor.eu/water-management/> (Accessed: 16 December 2023).

world leader in the fields of environmental protection, social justice and peace, fair globalization, and human rights advocacy. One of the party's main goals is to preserve the environment and climate. About water scarcity and pollution, the party advocates that European water management must be at the center of the fight against the climate crisis. The European legislation does not address the quantity of water in the rivers and lakes, which could fuel political tensions among EU countries and citizens. European water laws are ignoring the management of water quantity and allocation when it flows between several countries. This needs to change immediately to face the new climate reality. No technological solution can address the issue; in fact, some could make it worse. A true paradigm shifts in how we view natural resources is required.⁴⁷

European Conservatives and Reformists Group

Based on the tenets of the Prague Declaration, the European Conservatives and Reformists Group is a center-right political organization in the European Parliament that was founded in 2009. The party's vision includes a reform for the whole EU. According to its members, the question of whether a decision is beneficial to the diligent taxpayers throughout the union should be at the center of every EU decision. ECR MEPs continue to concentrate their efforts on decentralization, bridging the gap between individuals and businesses, advocating fair and unrestricted trade, and cultivating a safe and secure Europe. According to the party's views, water scarcity is a demanding issue that needs to be addressed firstly on the national level and then discussed on the upper levels of cooperation.⁴⁸

The Left in the European Parliament/Nordic Green Left

In the European Parliament, the left defends labor, the environment, feminism, peace, and human rights. The idea of a sustainable, socially open Europe on global solidarity, is the party's vision. Too often, EU policy is based on a radically market-oriented logic of competition, both within the EU and towards the rest of the world. The European Union cannot continue to be an elite project. With members from all over Europe, the group is confederal, with each component party maintaining its own identity and policies while combining forces to pursue shared political goals. About water pollution and scarcity, the

⁴⁷ Pierini, jean-bernard (2022). Droughts in Europe - A threat to peace in the EU? [online] Greens/EFA. Available at: <https://www.greens-efa.eu/opinions/droughts-in-europe-threaten-peace/> [Accessed 17 December 2024].

⁴⁸ *ECR Group in the European Parliament* (no date) *ECR Group*. Available at: <https://www.ecrgroup.eu/> (Accessed: 17 December 2023).

party advocates that sustainability is the goal that needs to be achieved, through policies that include every social group and offer back to the community.⁴⁹

12. Conclusion

In fact, managing water pollution and shortage is one of the most important issues facing European nations today, endangering their supply of clean water resources. The complexity of numerous elements, such as population increase, industrial activity, farming and agriculture methods, and climate change, exacerbates these issues. To increase the amount and quality of its water resources, the EU must act right away. Engagement between policymakers, industries, and communities is crucial for implementing integrated and flexible initiatives that guarantee everyone has access to clean water. The European Union can provide a suitable framework for a more resilient and sustainable future in the face of escalating water-related difficulties by giving priority to the preservation and restoration of water resources.

13. Questions Raised

1. How can the EU handle upcoming droughts that pose a threat to some member states' availability to potable water? What measures can be taken to prevent possible water scarcity in rural areas?
2. What are some long-term strategies that can be used to enhance farming and agricultural methods to minimize the quantity of water that is wasted?
3. How does climate change contribute to water scarcity, and what measures should be taken to mitigate its impact?
4. How can future planning consider circumstances such as population increase?
5. How the principles of blue economy and Investblue can be broadcasted to member states and business?
6. What initiatives the EU must adopt to protect the energy sector from a possible future water scarcity? How the exploitation of renewable energy and the transition to a net zero era can be achieved smoothly?

⁴⁹ *Home-The Left* (2023) *GUE/NGL*. Available at: <https://left.eu/> (Accessed: 18 December 2023).

7. What measures could be adopted to prevent speculative risks on the European markets in the shade of the problem?
8. Are there enough motives from European Union, concerning the adoption of water-saving technologies?
9. Is there a need for infrastructure investments to both improve water management and reduce water pollution?
10. In what ways should EU elaborate to address the rising problem of water scarcity and management and what mechanisms are in effect that enable Member States to exchange lessons learned and best practices?

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