Democracy and ecological transition:

Towards a holistic and citizens approach

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Executive summary
The report looks at the crucial intersection between ecological transition, energy transition and democracy, highlighting the essential role of democracy for a successful ecological transition. It highlights how climate change is exacerbating global crises, affecting sectors such as agriculture, fisheries, health and water supply, as well as exacerbating social conflict and population displacement.
The report then explores different approaches to managing these challenges, including Solow and Lomborg's environmental optimism, Duflo and Banerjee's economic growth as a means of fighting poverty, and alternative perspectives such as green growth and green degrowth. He stresses the importance of balancing growth and degrowth, and the vital role of democracy in achieving this.
Examining the role of international institutions in climate governance, the report highlights the need for greater involvement of citizens and civil society, and for greater accountability and transparency. It also analyses the specific context of climate change in Europe and France, highlighting specific initiatives such as the European Green Deal and local French initiatives.

Finally, the report explores the notion of democratic ecological transition, focusing on deliberative and participatory democracy, the role of digital technologies, the importance of ecological education and sobriety as a democratic principle. It concludes by addressing the challenges of democracy in the ecological transition, including short-term political cycles, insufficient representativeness and the role of lobbying.

Key words
#democracy, #ecological transition, #economic transition, #energy transition, #sustainable development, #SDG, #citizens, #ESG, #participatory democracy, #climate, #resilience, #growth

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As an expert in sustainable development, she has been involved in drawing up various reports, notably with the Organization International de la Francophonie, as well as reports produced by civil society initiatives at international level. She is the author of the first "White Paper on the Circular Economy and Sustainable Development in the Balkans". She has also set up training programs in the field of ecological transition in partnership with European universities. She is currently involved in setting up strategies, policies and tools for measuring ESG factors in the private sector.

List of abbreviations

GHG - Greenhouse Gases
CO2 - Carbon Dioxide
CH4 - Methane
N2O - Nitrous Oxide
GHG - Greenhouse Gas Protocol
CDB - Convention on Biological Diversity
SDO - Sustainable Development Goals
ESG - Ecology, Social, Governance
WHO - World Health Organisation
WMO - World Meteorological Organisation
UNFCCC - United Nations Framework Convention on Climate Change
IPCC - Intergovernmental Panel on Climate Change
UNEP - United Nations Environment Programme
FVC - Green Climate Fund
COP21 - The 21st Conference of the Parties
CDB - Convention on Biological Diversity
AOSIS - Alliance of Small Island States
ILO - International Labour Organization
CDM - Clean Development Mechanism
RBU - Universal Basic Income
EU - European Union
GDE - The European Green Deal
MTJ - The Just Transition Mechanism
SRADDET - Regional Plan for Spatial Planning, Sustainable Development and Equality
TEPCV - Positive Energy Territories for Green Growth
CTE - Ecological Transition Contracts
CCC - Citizens' Climate Convention
LEC - European Climate Law

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1. INTRODUCTION

We are in a period of increasing environmental challenges and crises. **Climate change, in the form of** rising global temperatures, more intense weather patterns, rising sea levels and changing weather patterns, poses a major threat to natural and human systems around the world.

At the same time, the loss of **biodiversity**, deforestation, soil degradation, air and water pollution and the over-exploitation of natural resources highlight the many facets of these challenges. While the consequences are far-reaching and affect all aspects of life, they also have a disproportionate impact on the most vulnerable communities and nations.

These crises stem from anthropogenic activities, and in particular from the unsustainable nature of our current economic and societal models. In light of this, there is a growing consensus on the need for a major societal change: **the ecological transition**.

This transformation means rethinking and reshaping our societies and economies, moving away from the current path of over-exploitation towards a more sustainable and equitable future.

At the same time, **democracy, with its** emphasis on citizen participation, government accountability and transparency, has emerged as an essential factor in shaping policy and driving societal change. Democracy can be seen as a tool to facilitate this ecological transition, given its fundamental commitment to ***collective decision-making and public participation.***

At a time when climate change is accelerating and the need for large-scale action is becoming ever more apparent. How democracies respond to this challenge will have a profound impact on the future of the planet. As the world becomes increasingly interconnected, the decisions taken by democratic societies have repercussions far beyond their own borders. Moreover, the success or failure of democracies in managing the ecological transition could significantly influence the perception and implementation of democratic governance on a global scale.

The main aim of this report is to explore the complex relationship between the ecological transition and democracy, focusing on the main challenges facing democracies in relation to climate change.
We will explore **the link between democratic systems and the ecological transition**, arguing that democracy can be ***a key asset in this major change.*** This involves exploring the potential benefits that democracy can offer, such as inclusive decision-making, accountability and political innovation.

At the same time, we will take a critical look at the potential obstacles within democratic systems that may hinder ecological transitions.

In order to make it easier to understand the complex relationship between democracy, climate change and ecological transition, we have designed the sections of the report to progress from a global perspective to more specific European and

French perspectives, thus offering a comprehensive and multidimensional analysis of the subject matter.

We will be looking at the following topics:

A global perspective: in this section we will examine the role of democracy in the ecological transition from a global perspective. We will explain how democratic principles and mechanisms have shaped global environmental policies and agreements, the challenges and opportunities they present, and concrete examples of democracies promoting ecological transitions around the world.

A European perspective: in this section we will focus on Europe and examine how democratic processes within the European Union and its Member States have influenced their approach to the ecological transition. We will look at the successes and challenges of European democracies in tackling climate change.

A French perspective: in this part of the report, we will focus on the national level, using France as a case study to analyse the role of democracy and citizen involvement in the ecological transition.

A critical reflection: next we will offer a critical analysis of the role of democracy in ecological transition, drawing on the discussions and examples provided in the previous sections. We explore the complexities, tensions and dilemmas that arise when attempting to make ecological transitions within democratic systems.

A conclusion: the report will conclude with a series of recommendations on how democratic systems can better facilitate ecological transitions, based on the analysis made throughout the report.

2. CONCEPTUAL FRAMEWORK: ECOLOGICAL AND ENERGY TRANSITION AND DEMOCRACY

Because the concepts of **ecological transition and energy transition** are often cited together, we have decided to delimit them precisely. This is mainly because these terms, although closely related in many respects, refer to different but overlapping themes in the broader discourse of environmental sustainability and energy production**.**

It is also essential to clarify our understanding of **democracy**. This term, often used but sometimes misunderstood, covers diverse realities and practices depending on the context. Democracy is at the heart of many current debates and shapes our ability to respond to global challenges. A clear and thorough understanding of the concept is therefore essential.

2. 1 The ecological transition

In common usage, the term **"transition" refers to the "passage from one state to another",** emphasising the intermediate phase between two situations. It is typically associated with major changes, such as demographic, democratic, energy and ecological transitions. Use of the term has grown, as today's societies are considered to be in the "age of transitions", undergoing many gradual but profound changes.

There is no normative definition of ecological transition, but there is general agreement that it is driven by the unsustainability of the economic system in the face of environmental challenges. This transition is based on the entry into the Anthropocene era (the major impact of man on the earth system), the dissemination of scientific findings and awareness of the finiteness of resources. It implies the transition to a more sustainable model of society, whether chosen or imposed, in order to remedy the negative effects on the environment, society and health.

Although historically linked to the concept of **sustainable development**, the notion of ecological transition has gained in importance and relevance in recent years, particularly in Europe. It has made it possible to refocus public action on environmental issues, emphasising the need for coordinated and comprehensive action by all players in society - from governments to businesses, not forgetting citizens. However, for **the ecological transition to be truly sustainable and fair, it must be socially equitable**. It must not exacerbate existing inequalities or create new ones.

Initially focused on economic and socio-technical approaches, the ecological transition is now taking into account quality of life, production and consumption patterns and collective deliberation structures.

It involves various stakeholders and generally refers to the transformation of production and consumption patterns, the preservation of the environment and biodiversity, the involvement of citizens and the fight against social inequalities or environmental injustices**.** This transformation takes different forms in different

countries, depending on their policies and strategies, as illustrated by a comparison of the French and German approaches[1] .

The ecological transition is used by institutions as a strategy for implementing sustainable development, aiming for "green growth" and adapting certain economic sectors to a changing capitalism.

However, the long-term change implied by the ecological transition raises many questions, such as the management of timetables and scales of action, social and political acceptability, and the differential effects on territories and social groups.

Campaigners are advocating a different approach to the ecological transition, seeing sustainable development as a necessary objective, but with limits. These include the hijacking of the term by competing interests (e.g. greenwashing) and the dominance of global discourses over local action. The ecological transition is then presented as a remedy for these limitations, with the emphasis on local action and the reappropriation of common goods.

The diversity of experiences and the ability to adapt to local contexts are seen as assets, and the emphasis is on civic involvement. The movement is plural and more or less organised, reflecting the multiplicity of citizen experiences.

Civil society and local players therefore play an essential role in this process, as described in Figure 1 below. Through various local and community initiatives, they are experimenting with and implementing practical alternatives, often adapted to their specific context.

One recognised example is the Cities in Transition movement[2] , which seeks to reduce the dependence of local communities on fossil fuels and strengthen their **resilience** in the face of environmental shocks. The movement promotes local and community-based solutions to global challenges, ranging from local renewable energy production to urban agriculture and the **circular economy**.

[1] See Annex 1 and Annex 2

2**The Transition movement was** born in the UK in 2006, in the small town of Totnes, by permaculture teacher **Rob Hopkins, who** had created the Transition model in the town of Kinsale in Ireland a year earlier. There are now more than 2,000 Transition initiatives around the world, in 50 countries, united within the international Transition network.

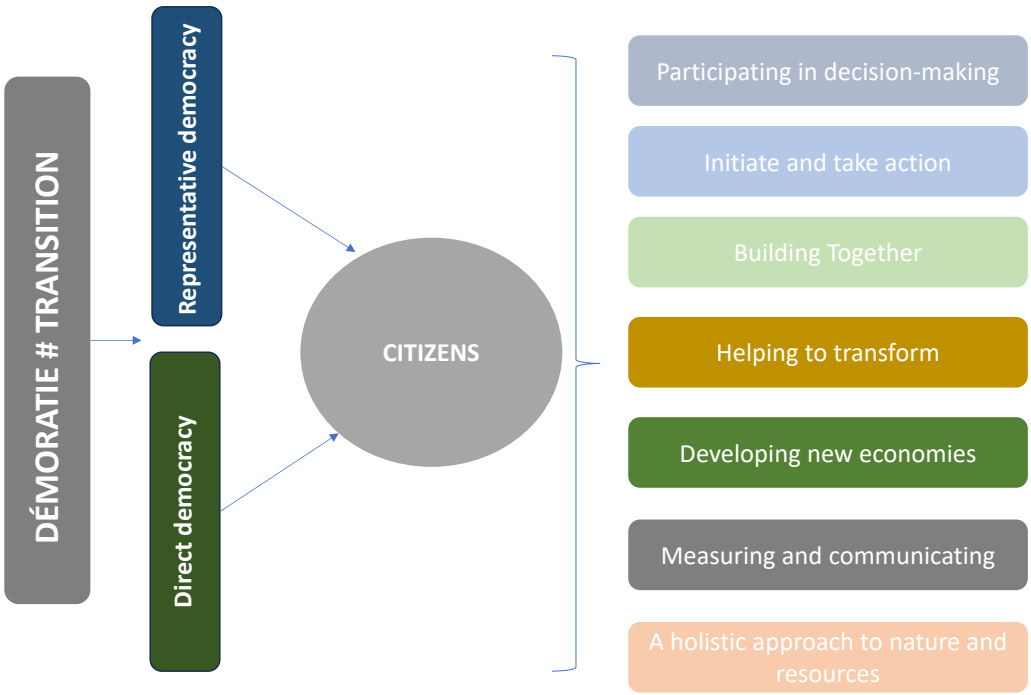

Figure 1: The role of citizens in the transition process

Unlike sustainable development, transition places greater emphasis on concrete actions, local and citizen initiatives and a **systemic** transformation of our society.

2. 2. The energy transition

According to Smil (2010), the energy transition is a gradual change in energy supply that has taken place in three main stages over the last two centuries. The transition went from animal power and biomass to coal in the mid-19th century, and then to hydrocarbons. Innovations in electricity production enabled energy to be used more widely.

This concept is closely linked to the Anthropocene, an era marked by man's impact on the climate, which is thought to have begun with the first industrial revolution. However, the term "energy transition" should be used with caution, as there has never been a complete substitution of one energy source for another, but rather an expansion of the range of primary energies used.

The energy transition includes a variety of scenarios that aim to meet two challenges: the end of abundant and cheap fossil fuels and the impact of greenhouse gas emissions on the climate. There are certain points of convergence, such as the promotion of sobriety, efficiency and renewable energies, but other measures, such as carbon capture and sequestration or nuclear power, are more controversial.

The debates on the energy transition show that its solutions and implementation

methods are not predefined. This suggests that a study of its concrete deployment processes is necessary.

Transition management has been criticised for its evolutionary and managerial approach to innovation, its standardisation of decision-making scales, and its lack of attention to power issues and the role of space. So, beyond the notion of 'transition', we need to look at multiple, localised and often ambiguous processes.

The energy transition is not just a question of energy policy. It also raises questions about our relationship with biodiversity, the landscape and spatial planning, and creates new tensions between development, justice and the environment.

Today, the energy transition encompasses new dimensions that call into question our relationship with the Earth. For example, certain technologies for harnessing subsoil energy are helping to form new layers of the Earth, and are becoming strategic infrastructures. On the other hand, the deployment of renewable energies can interfere with the cycles of life and matter on a large scale, creating additional challenges.

All the issues involved in the energy transition call on us to rethink our relationship with the Earth, no longer as a global entity, but as a set of entities with changing boundaries. In trying to solve the energy-climate problem, we are redefining our relationship with the Earth and the entities that make it up.

2.3 Comparison of the concepts of ecological and energy transition

The energy transition and the ecological transition are two concepts that are closely linked, but which have different scopes and implications.
The energy transition refers specifically to changes in the way we produce and consume energy. It aims to gradually replace non-renewable energy sources, such as oil, coal and natural gas, with renewable energy sources, such as solar, wind, hydroelectric and biomass. This transition is motivated by environmental concerns, in particular climate change caused by greenhouse gas emissions from the combustion of fossil fuels.

The energy transition involves a number of technical, economic and political challenges. On the technical side, technologies need to be developed and deployed to produce energy from renewable sources, to store this energy and to integrate it into the electricity grid. Economically, it is necessary to make these technologies competitive with fossil fuels, which may require support policies such as subsidies or preferential tariffs. Politically, it is necessary to negotiate international agreements to reduce greenhouse gas emissions and to introduce national regulations to promote renewable energies.

Ecological transition, on the other hand, is a much broader concept, encompassing not only changes to our energy system, but also profound transformations in our economy and society with the aim of achieving sustainable development. It encompasses a variety of environmental issues, such as the loss of biodiversity, air and water pollution, the depletion of natural resources and waste management.

The ecological transition implies an overhaul of our economic system to bring it into line with the limits of the biosphere. This means moving from an economy based on unlimited growth and the consumption of natural resources to one that respects ecological limits, promotes social equity and improves quality of life. This transition also requires a change in our behavior and values, moving from a culture of consumption to one of sustainability.

The ecological transition includes aspects such as the protection and restoration of ecosystems, sustainable agriculture, responsible consumption, recycling and waste reduction, eco-design, the circular economy, sustainable mobility and ecological urban planning, among others.

The ecological transition and the energy transition are therefore two complementary concepts. The energy transition is an essential component of the ecological transition, but it is not enough on its own to achieve sustainable development. Other environmental and socio-economic aspects need to be addressed to achieve a complete ecological transition.

Nevertheless, it is important to emphasise that these two transitions are deeply interconnected and mutually reinforcing. For example, switching to renewable energy sources can help protect ecosystems by reducing air and water pollution. Similarly, promoting sustainable agriculture can contribute to the energy transition by providing sources of bioenergy and improving energy efficiency.

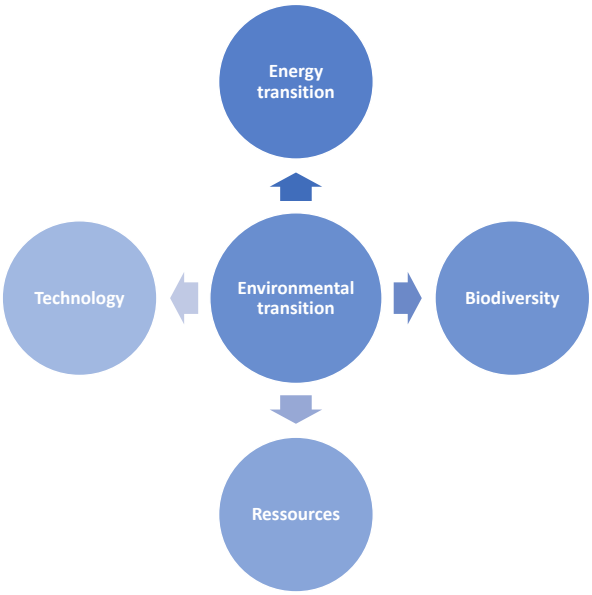

Figure 2: Link between ecological and energy transition

In short, while the energy transition is an important step towards a more sustainable future, it is only one part of the broader ecological transition that is needed to address the many environmental challenges facing our planet. Each of these transitions represents a profound change in the way we live and interact with the natural world, and both require concerted action by governments, businesses, non-governmental organisations and citizens. Figure 2 presents an overview of this complex but important approach to transition processes.

2.4. Democracy

As humanity embarks on the path of ecological and energy transition, it is equally imperative to revisit our understanding of democracy. On a global scale, we are facing unprecedented challenges that demand collective participation and informed, fair and sustainable decision-making. It is in this context that the concept of democracy, in all its richness and complexity, takes on new importance.

Democracy, in its most fundamental sense, is **a system of government by the people, for the people**. It is a system in which power is held by the people and exercised directly by them or by elected representatives. It is an idea deeply rooted in the values of equality, freedom and respect for human rights. However, democracy is not a monolithic concept; it manifests itself in many forms, each with its own structures, processes and nuances.

Representative democracy, for example, is a form of democracy in which citizens elect representatives to take decisions on their behalf. It is the most widespread form of democracy in the world today, from France to the United States, via India and Brazil. However, there are also other forms of democracy, such as ***participatory democracy***, which aims to involve citizens directly in the decision-making process, or deliberative democracy, which emphasises dialogue, debate and deliberation as the foundations of the democratic process.

These various forms of democracy emphasise the **importance of citizen participation, transparency, fairness and accountability**. In a democracy, citizens have the privilege of being involved in political processes such as elections, public discussion and decision-making.

It is crucial to emphasise that democracy can take many forms and can vary between nations and cultures. However, the essential principle of democracy is the involvement of citizens in governance and the safeguarding of individual rights and freedoms.

It is also important to recognise that democracy can be interpreted in different ways. Some see freedom as the absence of restrictions (negative freedom), while others see it as the acceptance of certain limits (positive freedom). These different understandings of freedom can influence how democracy is practised and perceived in different environments.

In short, democracy is a form of governance in which power is vested in the people, who exercise their authority either directly or through elected representatives. It is characterised by free and fair elections, the rule of law, the protection of civil liberties and the active participation of citizens in political life. Democracy gives citizens a

voice in the decision-making processes that shape their lives, making it intrinsically linked to the notions of justice, freedom and equality.

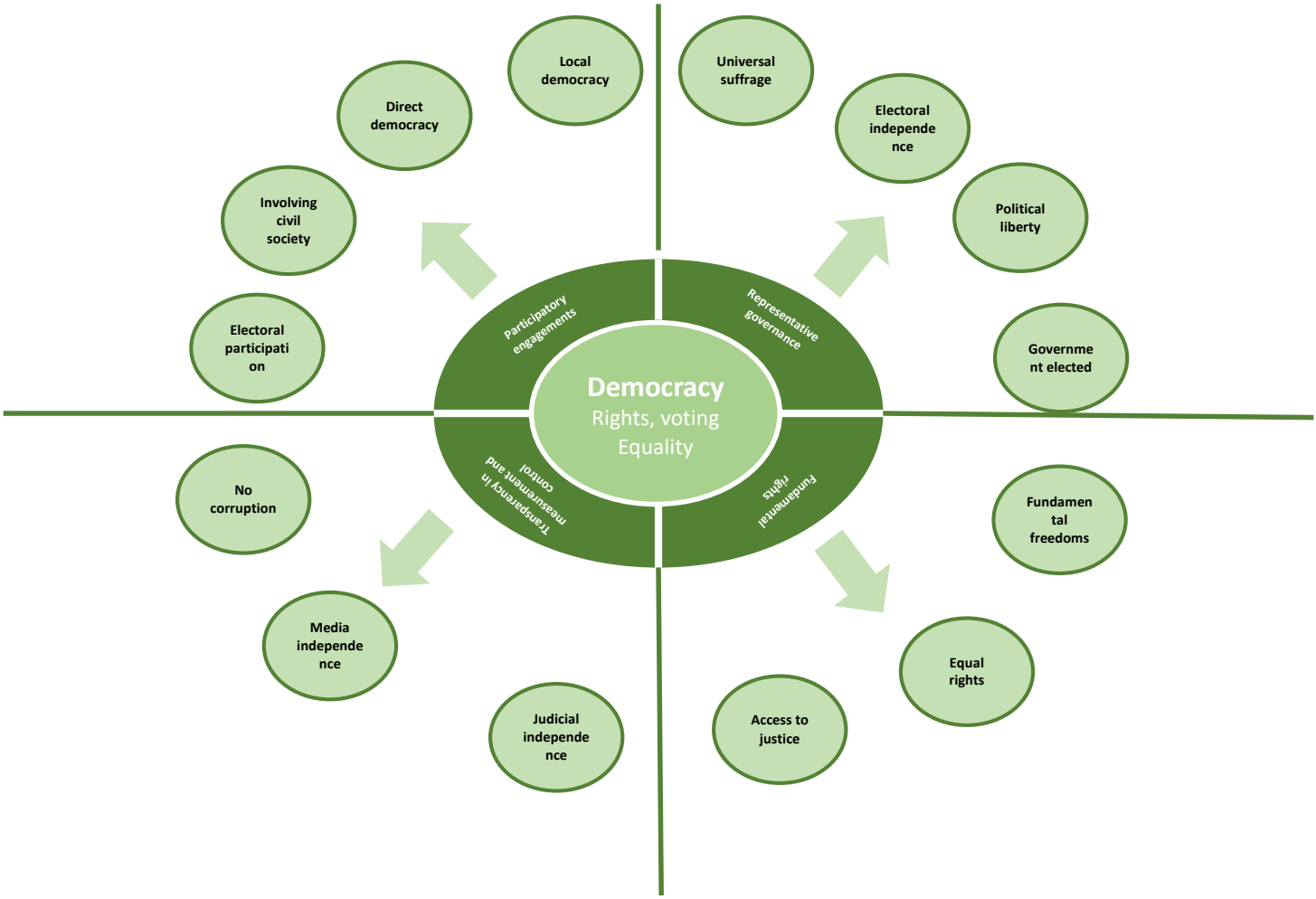

Figure 3: Mapping of relationships/actions in democratic processes

2.5. The relationship between the ecological and energy transition and democracy

The ecological transition, which encompasses a vast array of social, economic and technological changes aimed at minimising our impact on the environment, requires a radical overhaul of our lifestyles, production and consumption patterns. It involves everything from protecting biodiversity and combating pollution to managing natural resources responsibly and adapting to climate change.

A key element of the ecological transition is the energy transition. This involves shifting our energy consumption from fossil fuel sources, which are not only limited but also extremely harmful to our environment, to renewable and clean energy sources. The aim is to create an energy system that is not only sustainable, but also more equitable and resilient. This involves a series of major strategic decisions and long-term planning, requiring effective governance and broad citizen participation.

This is where the concept of democracy becomes crucial. Democracy, with its

commitment to the rule of law, civil liberties, active citizen participation and free and fair elections, is an ideal framework for driving these transitions. Achieving the ecological and energy transitions in a fair and effective way requires broad citizen participation and consensus, which can be achieved through robust democratic processes.

Moreover, the ecological and energy transition process can itself serve to strengthen democracy. By encouraging the active participation of citizens and involving them directly in the decisions that will shape their future, these transitions can strengthen civic engagement and the health of democracy. What's more, the transition to a greener economy can lead to the creation of new jobs, help reduce inequalities and promote social justice, all of which are essential objectives for a thriving democracy.

In short, ecological and energy transitions and democracy are intimately linked and mutually reinforcing. The success of these transitions is intrinsically linked to the health of democracy, while efforts to achieve these transitions can in turn strengthen the democratic process. It is therefore vital that we continue to explore these interactions and seek ways to maximise the mutual benefits that these transitions and democracy can bring.

3. CLIMATE CHANGE AND THE ECOLOGICAL CRISIS: A GLOBAL OVERVIEW

3.1. Current perspective on the global environmental crisis

Our planet is facing unprecedented environmental challenges with vast and complex implications. In this chapter, we look first at the crucial issue of climate change and the global ecological crisis, and then develop a detailed perspective on the issues and their implications.

The current era, often referred to as the Anthropocene, is marked by a profound and complex global ecological crisis, mainly due to human activities. At the heart of this crisis is climate change, a **multidimensional** threat[3] that interacts with and exacerbates other environmental problems.

To begin with, we will explore greenhouse gas emissions, one of the key factors in the current climate crisis. This involves an in-depth analysis of the human activities that are the main sources of these emissions, ranging from the burning of fossil fuels to deforestation.

We will then look at the impacts that these emissions are having on global temperatures and weather patterns. The rise in global temperatures is undeniable and its consequences are increasingly evident in our daily lives, from extreme weather events to changes in the seasons.

Another key aspect of the climate crisis is melting ice and rising sea levels, phenomena that pose an imminent risk to coastal communities and small island states. We will detail the causes and implications of this alarming process.

Turning to the impact of climate change on the oceans, we will explore how ocean acidification and warming sea temperatures are threatening marine life and destabilising entire ecosystems.

The effects of climate change on terrestrial ecosystems and biodiversity will also be studied. The consequences are varied and complex, ranging from the disruption of biological calendars to the loss of habitats and species.

Our discussion of the implications of climate change for human societies will show that this crisis is not only environmental but also profoundly social and economic. Issues of food and water security, public health and inequalities will be addressed.

Finally, this chapter will conclude by exploring the interactions between climate change and other environmental problems. Climate change is far from an isolated phenomenon, and we will show you how it is closely linked to other environmental challenges.

This chapter will serve as a basis for understanding the environmental challenges we face today and their consequences for our society. By understanding these challenges, we can consider effective and sustainable solutions to overcome them.

[3] See Annex 3, which shows the many facets of climate change and the links between them.

3.1.1. Climate change

The Earth's climate is changing, largely as a result of human activity. This dynamic is mainly driven by the release into the atmosphere of large quantities of greenhouse gases (GHGs) generated by human activity. By capturing solar heat, these gases lead to an increase in the Earth's average temperature, a phenomenon more commonly known as global warming. Figure 4 shows national emissions by sector of activity, and shows that the energy sector is the biggest emitter of greenhouse gases.

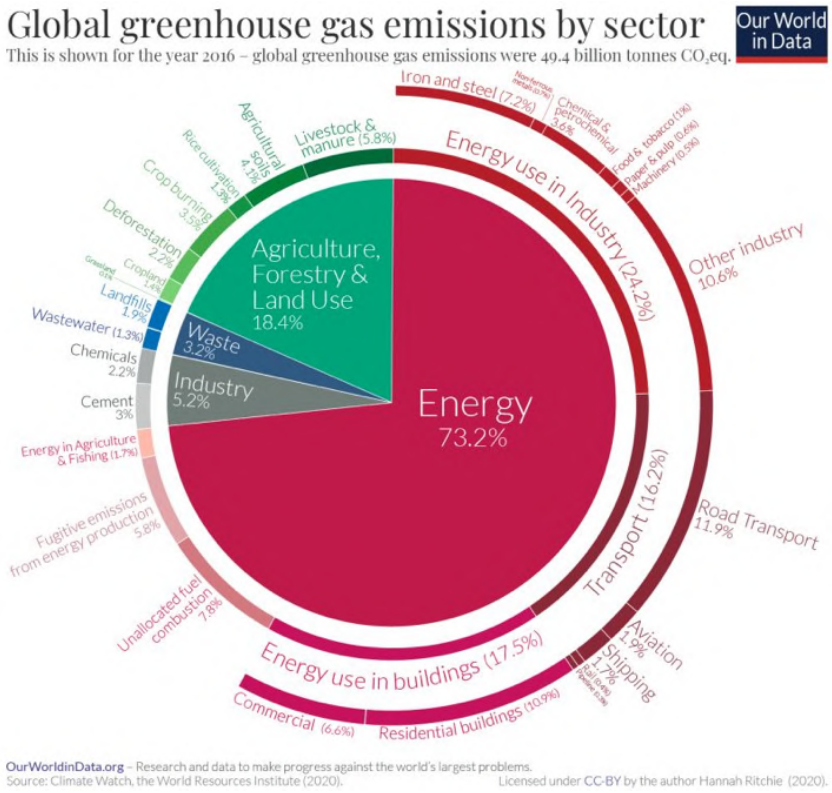

Figure 4: Greenhouse gas emissions by sector

3.1.2. Planetary limits: a holistic perspective of the ecological crisis

The concept of planetary limits plays a key role in our understanding of the current ecological crisis. This concept, developed by a group of researchers led by ecologist Johan Rockström in 2009, proposes that the human activities that are altering the planet can be grouped into nine distinct categories.

Thresholds have been calculated for most of them, beyond which the results could be dangerous for the planet and its inhabitants. In 2009, researchers concluded that humanity had crossed three of these nine "planetary limits" and that the other six would also be crossed unless corrective measures were taken.

The original paper, entitled "A safe operating space for humanity", has had considerable influence around the world. Cities around the world experimented with how to apply the findings, and researchers (including many members of the original 2009 team) continued to refine the planetary limits in response to feedback and new data.

However, the original concept had a shortcoming: it lacked environmental justice and equity. It needed to take into account the fact that everyone, especially the most vulnerable, has an absolute right to water, food, energy and health, as well as a clean environment.

In 2023, Johan Rockström, together with sustainability scientist Steven Lade and a team of researchers, modified their original concept to incorporate justice alongside biophysical limits. The results of this study show that seven of the eight thresholds have been crossed. These eight limits relate to climate, the natural ecosystem zone, the functional integrity of the ecosystem, surface water, groundwater, nitrogen, phosphorus and aerosols.

This update is an even more striking warning than the one issued in 2009. One of the most striking changes since 2009 is that the authors call for global warming to be limited to 1°C above pre-industrial levels, which is stricter than the 1.5°C target agreed at the Paris climate conference in 2015.

The integration of ideas of justice into research on planetary limits is supported by a body of recent work. Shortly after the publication of the 2009 paper, justice and equity were included in the discussions leading up to the United Nations Sustainable Development Goals (SDGs), announced in 2015.

Donut economics, an innovative idea that incorporates environmental justice, has also been influenced by the findings of the 2009 study. This year, in 2023, researchers have concluded that seven of the nine limits have been shifted, as shown in Figure 5. Coordinated action is more than necessary, as recent studies have integrated all the concepts into the approach, including the holistic approach (see Figure 5).

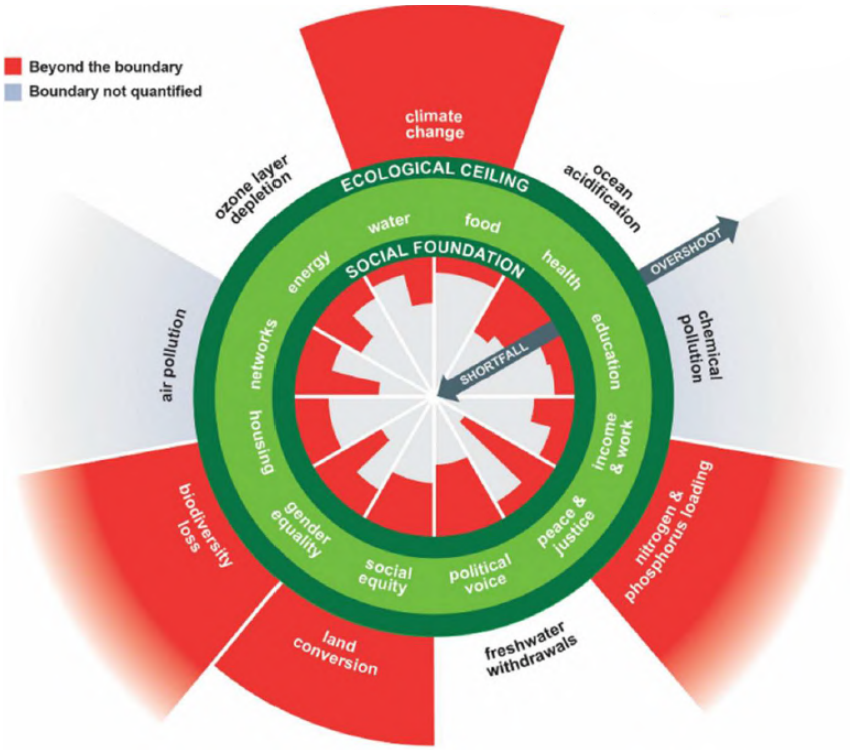

Figure 5: Planetary limits

However, the challenge remains daunting. If seven of the nine thresholds have been crossed, what does this mean for our still fragile efforts to move towards a more sustainable path? Researchers have very different views on how to answer this question. Some argue for working within the current economic system (so-called green growth), while others maintain that the current economic system has been a factor (if not the determining factor) that has led to the current situation and requires transformation (so-called post-growth or degrowth).

3.1.3. Greenhouse gas emissions

Our contemporary lifestyles are largely responsible for these emissions. Burning fossil fuels for energy and transport, industrial processes, deforestation and changes in land use are the main culprits. Carbon dioxide (CO2) is the most common GHG, but other gases, such as methane (CH4) and nitrous oxide (N2O), have a much higher warming potential. Take meat production, for example: livestock farming is responsible for almost 15% of global GHG emissions, mainly in the form of methane, a gas 25 times more potent than CO2 in terms of global warming.

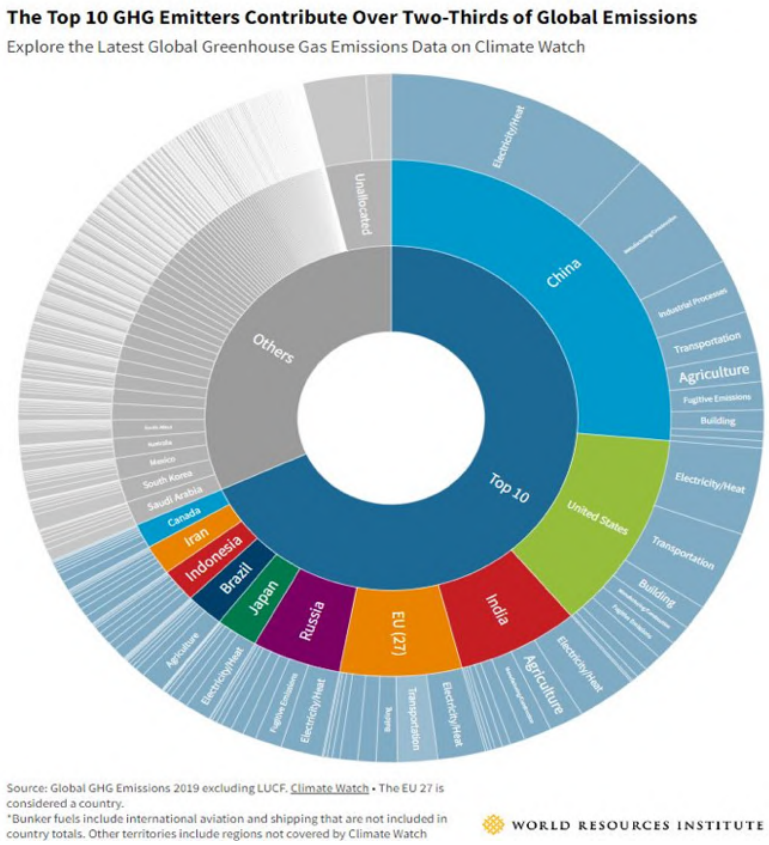

Figure 6: GHG emissions worldwide

The infographic presented in Figure 6, based on research and data from the Word Research Institute, shows that the 10 richest countries emit more GHG, which leads us to say that there is a strong link between the wealth that induces the production of consumption and produces effects that destroy the common good, i.e. the Planet.

3.1.4 Impacts on global temperatures and weather patterns

Increasing concentrations of greenhouse gases in the atmosphere have led to a rapid rise in global temperatures. The last decade has been the warmest on record. This warming is disrupting weather patterns, leading to more frequent and intense extreme weather events, such as heatwaves, droughts, intense rainfall and violent storms. Forest fires in Australia in 2019-2020 and heatwaves in Europe in 2003 and 2019 are concrete examples of these impacts.

3.1.5. Melting ice and rising sea levels Global

Warming not only affects our climate, it also has an impact on our oceans. Rising global temperatures are accelerating the melting of ice, particularly polar ice caps and mountain glaciers. This phenomenon is contributing to rising sea levels. Island nations such as Tuvalu in the South Pacific are threatened with submersion as a result of rising sea levels. Coastal cities such as Venice in Italy and Miami in the United States are also facing increasingly frequent flooding.

3.1.6 Impact on the oceans As

Well as rising sea levels, our oceans are also being affected by acidification. By absorbing much of the extra CO2, seawater is becoming more acidic, threatening marine life, particularly shellfish-producing
organisms such as oysters and mussels, as well as coral reefs. The Great Barrier Reef in Australia has already suffered massive bleaching episodes as a result of this acidification and warmer waters.

3.1.7 Effects on ecosystems and biodiversity

Climate change is causing profound changes to our ecosystems and impacting biodiversity (see Figure 7). Displacements of species, changes in the interactions between species, and local extinctions have already been observed. In the Alps, for example, mountain species are migrating to higher altitudes to escape the heat, threatening alpine biodiversity. Similarly, melting permafrost in the Arctic can release large quantities of previously trapped greenhouse gases, amplifying global warming.

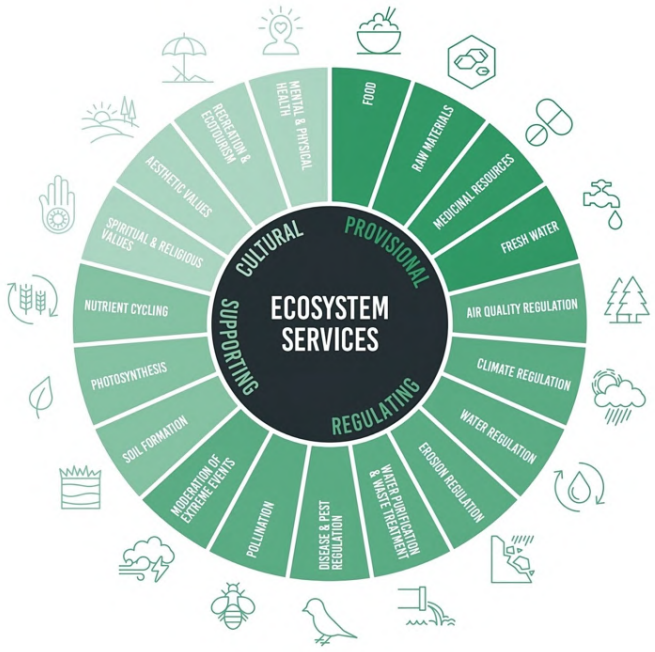

Figure 7: Nature's contribution to human society[4]

Biodiversity, which is the foundation of ecosystem services, provides enormous benefits to the economy, both directly and indirectly. For example, from a health perspective, various ecosystems are responsible for regulating disease, providing medicinal resources and promoting general mental and physical well-being. In environmental terms, ecosystems help to moderate extreme events, regulate the climate and maintain air and water quality.

3.1.8. Implications for human societies

The consequences of climate change for human societies are considerable. They can affect food and water security, increase the risk of heat-related and vector-borne diseases, cause population displacement due to rising sea levels and extreme weather events, and exacerbate social and economic inequalities. Droughts in East Africa, for example, have already led to major food crises, and Hurricane Katrina in the United States in 2005 demonstrated how natural disasters can exacerbate socio-economic inequalities.

3.1.9. Interactions with other environmental problems

Climate change is not an isolated phenomenon. It interacts with and often exacerbates other environmental problems. For example, climate change can intensify biodiversity loss by putting species and ecosystems under additional stress. In addition, air pollution can contribute to climate change while being exacerbated by it.

Climate change is a complex and urgent reality that requires collective and ambitious action at all levels of society. It is a challenge that invites us to rethink our lifestyles and socio-economic systems, and highlights the interconnection between environmental, social and economic issues. These issues are increasingly being

[4] Source: "Tackling the Global Biodiversity Crisis" report by Systemiq Ltd.

used by organisations as part of their business model and new holistic approaches. Figure 8 shows this holistic approach, which uses a double entry point, namely the United Nations' SDGs and ESG factors for environment, social and governance.

Figure 8: The pillars of sustainable development – ESG

3.2. Loss of biodiversity: nature's silent cry

The devastating impact of climate change on our planet's biodiversity is a subject that deserves particular attention. Our actions have resulted in an alarming loss of biodiversity, a phenomenon often overshadowed by the focus on climate change. However, the health of our biodiversity is also crucial to the well-being of the Earth and its inhabitants, as Figure 9 shows.

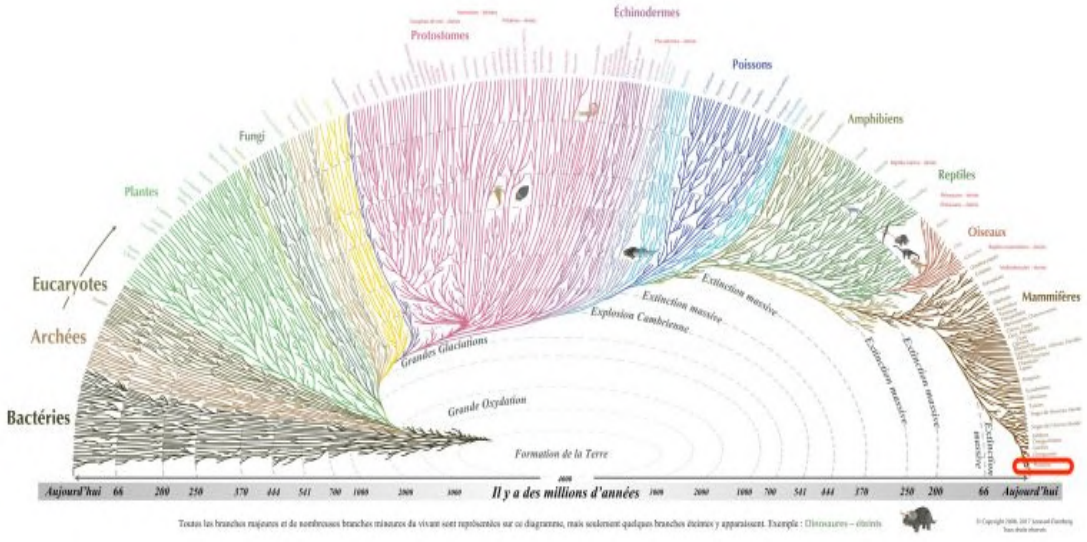

Figure 9: Loss of biodiversity

3.2.1. The reduction of living organisms

Every day, we witness a worrying reduction in living organisms.
Global biodiversity is declining at a rate unprecedented in human history. Tropical forests, for example, which are home to more than half of all terrestrial species, are being destroyed at a frantic pace for agriculture, livestock farming and timber exploitation. This has led to the extinction of many species, with an estimated disappearance of several dozen species per day.

3.2.2. Causes of biodiversity loss

Biodiversity loss is mainly due to the destruction and fragmentation of natural habitats, over-exploitation of species, pollution, invasive species and climate change. For example, the Bornean orang-utan has seen its habitat significantly reduced due to deforestation for palm oil production. In addition,
ocean warming is causing major disruption to marine life, as species are unable to adapt quickly enough to the new conditions.

3.2.3. Species extinction rate

Species extinction is accelerating at a rate unprecedented in human history. It is estimated that dozens of species are disappearing every day, an extinction rate estimated to be thousands of times higher than the natural rate. Emblematic species such as the Sumatran tiger, the Javan rhinoceros and the vaquita (a species of porpoise) are on the brink of extinction, victims of hunting, poaching and the destruction of their habitat. (see Figure 10)

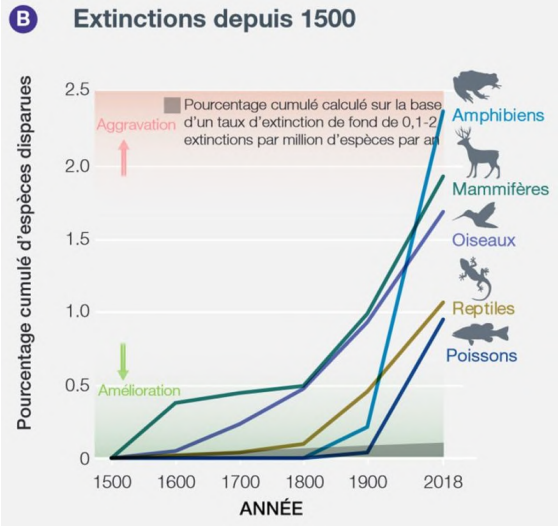

Figure 10: Species extinction since 1500

3.2.4. Drivers of biodiversity loss

Biodiversity is mainly threatened by the destruction and fragmentation of natural habitats, overexploitation of species, pollution, invasive species and climate change. Deforestation, for example, for agriculture, livestock farming and timber exploitation, has caused a significant loss of habitat for many species. In addition, overfishing has decimated fish populations, and the spread of invasive species has disrupted many ecosystems.

3.2.5. Impacts on ecosystem services

The loss of biodiversity also has serious consequences for ecosystem services - the services that ecosystems provide to humanity, such as purifying air and water, pollinating plants, regulating the climate and supplying food and medicines. For example, the disappearance of bees and other pollinators could have considerable repercussions on agriculture and global food security.

3.2.6. Biodiversity and protected areas

The disparity of biodiversity around the world is such that certain regions, known as "biodiversity hotspots", are home to a large proportion of the world's biodiversity. These areas, often threatened by human activities, are of crucial importance for conservation. Unfortunately, despite efforts to increase the number of protected areas, a significant proportion of these hotspots remain unprotected or insufficiently protected.

3.2.7 Implications for social and economic systems

Biodiversity loss not only has ecological consequences, but also profound implications for social and economic systems. It threatens food security, increases vulnerability to natural disasters, and can exacerbate social and economic inequalities. For example, indigenous communities that depend directly on ecosystems for their livelihoods are particularly affected by biodiversity loss.

3.2.8. International responses to biodiversity loss

Faced with this crisis, the international community has taken several initiatives to halt the loss of biodiversity. These include the Convention on Biological Diversity (CBD) and the United Nations Sustainable Development Goals (SDGs). However, despite these efforts, progress towards most of the biodiversity targets has been insufficient. It is therefore necessary to step up global efforts to protect our planet's biodiversity.

3.3. Pollution: its many facets and consequences for our world

The importance of pollution as a key environmental issue cannot be overstated. Generally speaking, pollution refers to the introduction of harmful substances or conditions into the environment, which disrupt the natural balance and damage the health of living beings and the quality of life. But before diving into the analysis of its impacts, it is crucial to understand the different types of pollution.

Pollution comes in many forms, each with specific
sources, vectors and impacts. The main types include air, water, soil, light, noise and plastic pollution.

Air pollution is mainly caused by the emission of harmful gases and particles into the atmosphere. Anthropogenic activities such as industry, transport and the combustion of fossil fuels are major contributors. The consequences for human health are serious, causing respiratory and cardiovascular diseases. For example, according to the World Health Organisation (WHO), around 7 million people die every year as a result of exposure to outdoor and indoor air pollution.

Water pollution involves the contamination of rivers, water tables and oceans by

various pollutants. These contaminants can include industrial chemicals, agricultural pesticides and untreated wastewater. An example of the impact of this type of pollution is the phenomenon of oceanic 'dead zones' where excess nutrients, mainly from agriculture, cause a proliferation of algae which, as they decompose, consume the available oxygen, killing off marine life.

Soil pollution often results from the excessive use of chemicals in agriculture, uncontrolled landfill sites and industrial chemical spills. Not only can this make land unproductive, it can also contaminate groundwater reserves and threaten food security.

Light pollution refers to excessive or misdirected lighting in urban areas that disrupts nocturnal ecosystems and the visibility of stars. Impacts include disruption to the life cycles of nocturnal animals and effects on human health, by disrupting sleep, for example.

Noise pollution, often overlooked, is also a serious problem, particularly in densely populated urban areas and around airports. It can cause stress, high blood pressure and other health problems.

Plastic pollution has become a major issue of our time. Plastics, because of their durability and resistance to degradation, have invaded our oceans, our land and even our food in the form of microplastics. A striking example of this is the Great Pacific Garbage Patch, a floating mass of plastic waste in the Pacific Ocean covering more than 1.6 million square kilometers.

Pollution issues are deeply interconnected with climate change and other environmental crises, so it is crucial to highlight the devastating effects of this pollution on our environment, our economy and our society as a whole.

The impacts on human health are probably the most immediate and obvious. Millions of people around the world die every year from pollution-related illnesses. For example, long-term exposure to air pollution, whether indoor or outdoor, can cause a variety of illnesses, from asthma to cardiovascular disease and lung cancer.

The effects on ecosystems are also profound and potentially irreversible. Freshwater, terrestrial and marine ecosystems are all affected. Plastic pollution in the oceans is of particular concern, as it harms a wide variety of marine species, from fish and seabirds to turtles and marine mammals. In addition, degraded plastics can end up in the food chain, posing potential risks to human health.

The economic consequences of pollution are also considerable. The costs of environmental degradation, health care and lost productivity can be astronomical. For example, the World Health Organisation estimates that air pollution costs the global economy around $5.7 trillion in total health costs each year.

Finally, it is worth mentioning that pollution, like many other environmental problems, has **implications for equity and social justice**. The poorest and most vulnerable populations are often those most affected by pollution, as they have fewer means of

avoiding exposure to pollutants and less access to healthcare.

As understanding of pollution problems has developed, a series of **international responses** have emerged to mitigate them. However, these responses have faced a number of challenges.

Multilateral agreements, such as the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, have set standards for waste management. Other treaties, such as the Stockholm Convention on Persistent Organic Pollutants, aim to eliminate or reduce the use of certain polluting substances. Yet despite these efforts, implementation of these treaties has been uneven, and many countries continue to struggle to meet their targets. The ability of countries to meet these standards is often limited by a lack of financial and technical resources.

In addition, although many agreements focus on specific types of pollution, they often fail to address the issue as a whole. For example, plastic pollution of the oceans has received considerable attention in recent years. Until recently, there was no global treaty specifically dedicated to this problem.

However, significant progress was made at a meeting in Paris in June 2023, where 175 countries agreed to draw up a "first version" of an international treaty against plastic pollution, scheduled for November 2023. This treaty is still under negotiation, and its final version is expected by the end of 2024. In addition, a coalition of countries called the "High Ambition Coalition" aims to end plastic pollution by 2040 by focusing on reducing global plastic production. Moreover, these initiatives are meeting with resistance, particularly from the major oil and plastic producing countries. Despite these challenges, these initiatives mark an important step towards solving the problem of plastic pollution on a global scale.

To tackle pollution problems effectively, **a more integrated approach** is needed, which recognises the links between different types of pollution and other environmental challenges such as climate change and biodiversity loss. This holistic approach to transition issues and the assessment of policies to date at global level are described in Annex 4.

In conclusion, pollution is a major threat to our environment, our health and our economy. It is deeply linked to other environmental crises, including climate change and biodiversity loss. As we continue to explore the various aspects of the environmental crisis in this report, let us bear in mind the crucial importance of tackling pollution in all its forms.

We examined the environmental crisis on a global scale, emphasising the interconnection between climate change and pollution. We emphasised the need to understand the various forms of pollution, such as air, water, soil, light, noise and plastic.

We also discussed the international measures adopted to minimise pollution, such as multilateral conventions and agreements aimed at eliminating or reducing the use of polluting substances. We have also highlighted the obstacles encountered by these measures, such as the uneven application of agreements and the financial and technical limitations of nations. A global approach is highlighted as essential to effectively manage climate issues and their links with pollution, taking into account the interdependencies between various types of pollution and other environmental issues such as climate change and biodiversity loss.

In conclusion, this chapter highlights the crucial role of pollution management in all its forms in safeguarding the environment, health and the economy. It highlights the urgent need for coordinated action to alleviate current environmental problems and avoid harmful impacts on our planet.

4. DEMOCRACY UNDER PRESSURE: THE IMPLICATIONS OF CLIMATE CHANGE

4.1. Climate change as a factor exacerbating global crises

Climate change, as a scientifically proven reality, is increasingly recognised as a major source of amplification of crises around the world, particularly in regions already beset by conflict. Many experts, including Elisabeth Gilmore, Halvar Buhaug and Havard Hegre, agree that global warming intensifies the risk of conflict by weakening people's livelihoods, encouraging mass migration, contributing to food insecurity and destabilising existing economic structures.

We can take the case of Syria, where climate change has largely contributed to intensifying an economic and agricultural crisis. This has resulted in prolonged drought and extreme temperatures, which have led to poorly managed land reforms, forcing thousands of families to move. This migration, the largest in recent Middle Eastern history, combined with soaring fuel prices and growing food insecurity, has fuelled the escalation of the Syrian civil war since 2011. This conflict has led to an unprecedented refugee crisis, with dramatic repercussions for neighbouring countries and beyond.

In another context, in Nigeria, climate change combined with rapid population growth and a significant drop in rainfall, coupled with rising temperatures, has exacerbated food insecurity, forcing millions of people to migrate towards Lake Chad, whose surface area has shrunk dramatically over the last forty years.

4.2. The many threats posed by climate change to human societies

Climate change is a tangential threat to human societies and has the potential to cause economic and social imbalances, which in turn can destabilise political systems at national and regional level.

4.2.1. Social conflicts

Social conflicts are intrinsically linked to climate change. To illustrate this point, let's take the example of Somalia. The persistent drought in this region has led to soil degradation and a drastic drop in agricultural production, driving many farmers out of business. This situation has led to a massive influx of economic migrants to the cities, aggravating social tensions and amplifying the ongoing conflict in the country.

In another context, in Central America, extreme weather events such as hurricanes and prolonged droughts have also contributed to northward migration, fuelling political tensions and border conflicts.

Another example is Afghanistan, where repeated droughts have led to water shortages, exacerbating tensions between farming communities. These tensions, coupled with poverty and political instability, have created fertile ground for recruitment by militant groups. The impact on democracy is clear: the deterioration in the country's security and stability has hampered efforts to build and consolidate democratic institutions.

Climate change can therefore represent a major risk to democracy by increasing social tensions, which in turn can fuel political instability and compromise democratic consolidation.

4.2.2. Agriculture

Climate change is likely to significantly disrupt agriculture, particularly in arid and semi-arid regions such as sub-Saharan Africa, the Middle East and North Africa. These regions could face increasingly prolonged and devastating droughts.

The situation in Bangladesh illustrates how climate change can affect agriculture. With much of the country less than 5 meters above sea level, flooding and rising sea levels linked to climate change are threatening agriculture, the main source of livelihood for the majority of the population.

Disruptions to agriculture can not only threaten food security, but also destabilise a country's socio-economic situation. As far as democracy is concerned, food security is often linked to political stability. Food crises can trigger social tensions and conflicts, undermining the stability of democratic institutions and exacerbating social divisions. Conversely, initiatives linked to the development of ecological agriculture demonstrate a potential for development and a link with social justice, as shown in Figure 11.

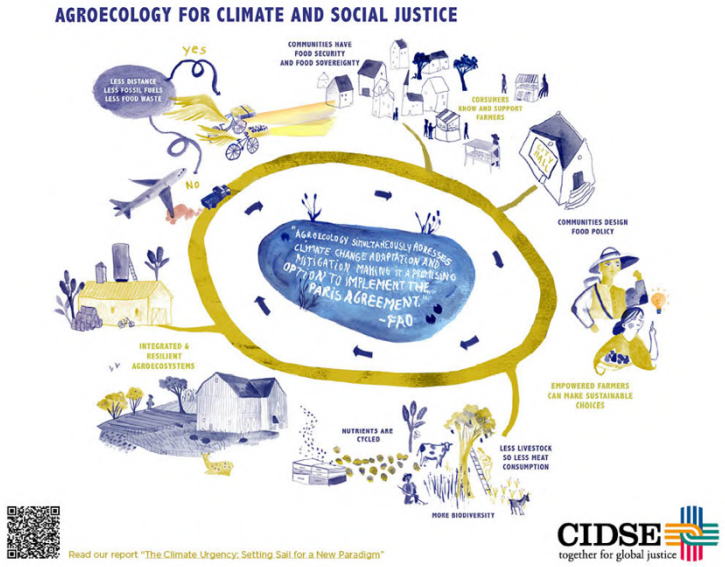

Figure 11: Ecological agriculture and its role in social justice

4.2.3. Fisheries and aquaculture

The warming of the oceans and the acidification of the waters due to the increase in CO2 in the atmosphere are threatening marine ecosystems and, as a result, the livelihoods of people who depend on fishing and aquaculture.

The Philippines, an archipelago rich in marine resources, illustrates how climate change can affect fishing and aquaculture. Coral reefs, which support much of the

local fishing industry, are threatened by coral bleaching due to rising water temperatures. This situation is affecting the food security and livelihoods of fishing communities. This is exacerbating social and economic tensions, fueling political instability.

As another example, small Pacific island states such as Solomon Islands, Marshall Islands, Kiribati, Tuvalu and Micronesia rely heavily on fishing for their local economies, food security and livelihoods. As a result, pressure on fisheries resources could lead to resource conflicts, exacerbating social and political tensions.

4.2.4. Population displacement

Climate change could force entire populations to move, creating enormous pressure on available resources and increasing socio-political tensions.

The Marshall Islands, a small island state in the Pacific, are a striking example. With an average elevation of just two meters above sea level, rising sea levels and more intense storms linked to climate change pose an existential threat to the nation. It is estimated that by the end of the century, much of the Marshall Islands could be submerged, forcing the entire population to relocate.

The Maldives, an archipelago in the Indian Ocean, is another example of the impact of climate change on population movements. With an average rise of just over one meter above sea level, the archipelago is at risk of being completely submerged due to rising sea levels caused by climate change. Faced with the possibility of mass displacement, Maldivians face an existential threat to their nation and culture.

Mass population displacement can lead to political and social tensions in host countries, which in turn can undermine democratic stability. Moreover, population displacement can also threaten the very existence of certain states, such as the Maldives, calling into question the democratic principle of national sovereignty[5] .

[5] https://www.internal-displacement.org/global-report/grid2023/

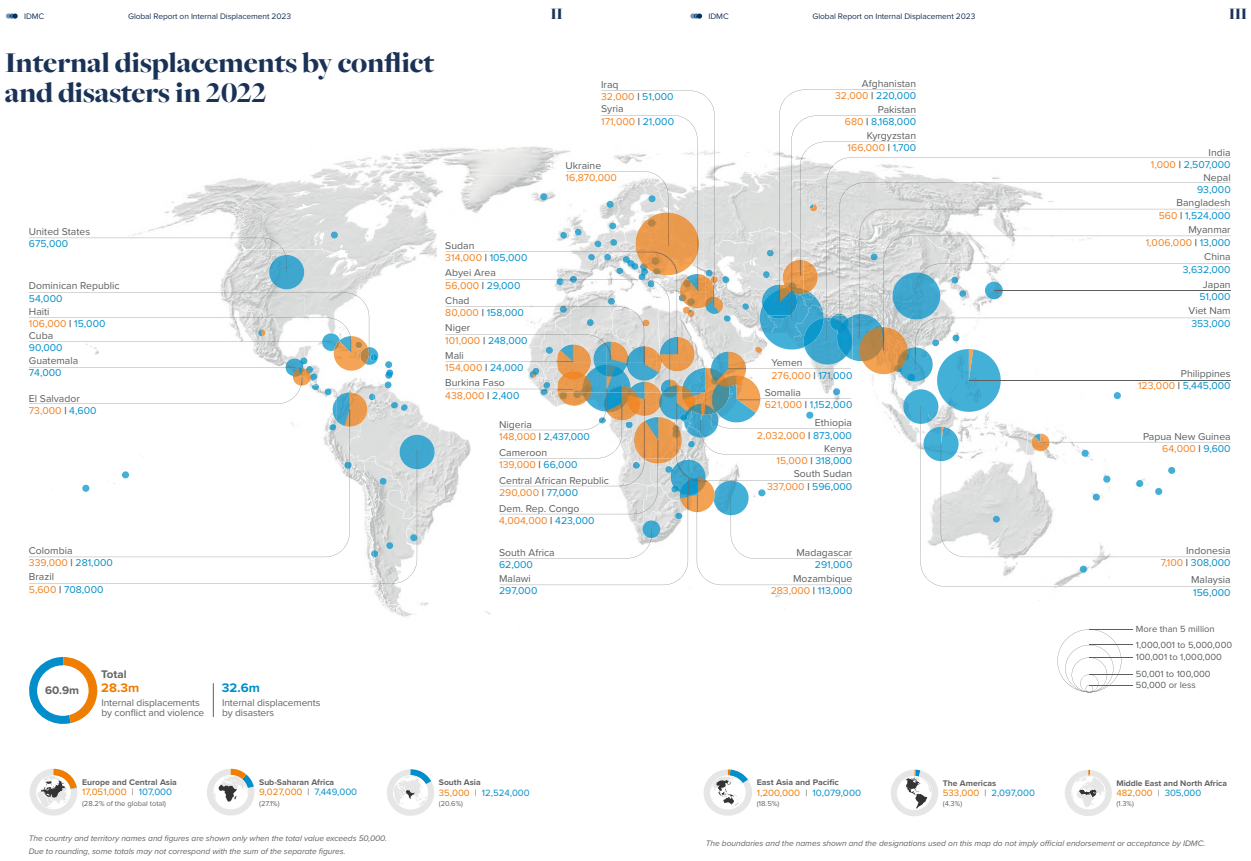

Figure 12: Map of population movements by crisis and conflict, 2022

4.2.5. Health

The example of the 2003 European heatwave shows how climate change can affect health. Extreme heat waves, which are becoming more frequent and intense as a result of climate change, caused an estimated 70,000 excess deaths in Europe that year. This highlights how climate change can cause public health crises.

Managing health crises is a major test of governance and public confidence in institutions. Failure to manage them can lead to a loss of confidence in democratic institutions, fueling public discontent and political instability. Higher temperatures can encourage the spread of diseases such as dengue fever and malaria, putting public health at risk.

Kenya has seen an increase in malaria cases in the highlands, traditionally spared from the disease, due to rising temperatures. The extension of the vector mosquito's habitat now exposes a larger proportion of the population to the disease.
Brazil: The country has seen an upsurge in dengue fever following episodes of extreme heat and intense rainfall, which are conducive to the breeding of mosquitoes carrying the disease. The number of cases has risen significantly, placing a severe strain on the health services.

4.2.6. Water supply

Between two and three billion people in the world have to contend with a crying lack of water. If international cooperation efforts are not stepped up, this situation is likely to worsen in the years to come, particularly in urban areas. This is the alarming message sent out by UNESCO and UN-Water in the 2023 version of the United Nations World Water Assessment Report.

Rising temperatures and changing precipitation patterns can affect the availability of freshwater, leading to a shortage of drinking water in some regions.

The state of California in the United States is a case in point. Over the last few years, California has experienced several periods of extreme drought, which have considerably reduced water reserves. The consequences have been dramatic for residents, with water restrictions imposed, rising water costs and, in some cases, entire towns at risk of running out of water. The situation highlighted the fragility of water supplies in an increasingly hot and dry world.

In another example, Cape Town in South Africa experienced a major water crisis in 2018, known as "Day Zero", when the city came close to running out of water altogether. In a paradoxical move, the city set about protecting its reservoirs in an atypical way, felling tens of thousands of trees in the surrounding mountains. This event underlined the potential impact of climate change on water supplies and highlighted the vulnerability of cities to these crises.

Australia has also faced water problems linked to climate change. In 2019, the city of Sydney imposed water restrictions in response to water levels in dams dropping to their lowest in more than a decade due to drought

France is not spared by the phenomenon: **more than 30% of the country is affected by water restrictions every year** (an average over the period 2017-2020). During the summer of 2022, a year of exceptional drought, almost all départements were subject to water and irrigation restrictions.

In March 2023, France presented an action plan for "resilient and concerted water management"[6] . Water management, particularly in a context of scarcity, poses major governance challenges. Difficult decisions have to be taken on the allocation of water resources, which can lead to social and political tensions. Moreover, water crises can also act as a catalyst for public protests, putting further pressure on democratic institutions to respond effectively to these challenges.

4.3. The impact of global warming on cities

Cities are particularly vulnerable to the effects of global warming for a number of reasons. The trend towards rapid urbanisation, with around 70% of the world's population expected to live in urban areas by 2050, has led to a concentration of resources and people in densely populated areas. This increases the risk of natural disasters and problems with drinking water supplies.

[6] Cf. Annex 5- Water map of France

The other factors are detailed below:

4.3.1. Demographic growth

The rapid growth of the urban population, particularly in developing countries, is exposing more and more people to the risks associated with climate change. According to United Nations projections, almost 70% of the world's population will live in urban areas by 2050. This means that hundreds of millions of people will be potentially vulnerable to the effects of climate change, whether through exposure to extreme weather events, rising sea levels or increased air pollution.

Take Dhaka in Bangladesh, for example. This megalopolis is one of the fastest growing cities in the world, with thousands of people moving there every year to escape rural poverty. However, the city's infrastructure is struggling to keep up with this frenetic pace. Inadequate drainage systems increase the risk of flooding during the monsoons, while the supply of drinking water and sanitation services is insufficient to meet the needs of an ever-growing population. These challenges are exacerbated by climate change, which makes monsoons more intense and sea levels higher.

In Lagos, Nigeria, the situation is similar. As one of the most densely populated cities in Africa, Lagos is facing rapid population growth, with urbanisation that is often unplanned and disorganised. This population growth, coupled with rising sea levels due to climate change, is exposing increasing numbers of people to flooding. Residents of coastal shanty towns are particularly vulnerable, often forced to live in precarious conditions with limited access to essential services such as drinking water and sanitation.

These examples illustrate how the rapid expansion of urban populations, coupled with the effects of climate change, pose major challenges to existing infrastructures. If these challenges are not met, the ability of cities to guarantee the safety and well-being of their inhabitants will be compromised, with potentially serious implications for social and political stability.

4.3.2. Air pollution

Cities are often areas of high pollution. Climate change may exacerbate these air quality problems, with possible consequences for public health.

A 2018 study from the University of California at Irvine has found that air pollution in Indian cities such as New Delhi could worsen with climate change. Global warming is likely to cause an increase in air pollution by exacerbating atmospheric conditions that trap pollutants, such as fine particles and ozone, close to the earth's surface.

The 2022 annual report of the World Meteorological Organisation (WMO) highlights the close link between air quality and climate change. It points out that forest fires, exacerbated by heat and drought, have led to a significant increase in fine particles that are harmful to health.

WMO Secretary-General Petteri Taalas has warned that global warming, even under a low-emissions scenario, could increase the frequency of forest fires and hence air pollution. This situation has implications not only for human health, but also for ecosystems. Mr Taalas also highlighted the "climate backlash": an effect of climate change that amplifies the production of ozone at ground level, adversely affecting the

quality of the air we breathe. He warned that this phenomenon could affect the health of several hundred million people, mainly in Asia.

4.3.3. Extreme weather events

Cities around the world face major challenges when it comes to managing extreme weather events, a reality exacerbated by climate change. Floods, violent storms and heatwaves, in particular, pose unique challenges.

- **Flooding:** in 2019, the city of Venice in Italy experienced historic flooding, attributed in part to climate change. The Acqua Alta, as it is known, reached 1.87 meters, a level only exceeded once in recorded history.

Another example is the city of Houston in the United States, which suffered catastrophic flooding in 2017 as a result of Hurricane Harvey. This event, considered to be one of the costliest natural disasters in US history, was exacerbated by climate change. Researchers found that global warming made Hurricane Harvey about three times more likely than it otherwise would have been. For climatologist Michael E. Mann, "climate change has exacerbated the consequences of the hurricane."

- **Violent storms:** in 2020, typhoon Goni hit the Philippines, causing massive destruction and displacing almost 400,000 people. It was one of the most powerful typhoons ever recorded, and its intensity was attributed in part to rising ocean temperatures linked to climate change.
- **Heatwaves:** in 30 years' time, the impacts of climate change will be so pronounced that they will alter the climatic conditions of over 77% of the world's major cities. The climate in Paris, for example, will be comparable to that currently experienced in southern **Australia.**

In fact, the summer of 2019 saw record temperatures in many European cities. Paris in particular recorded a temperature of 42.6°C, the highest ever recorded in the French capital.

Increasingly frequent and intense heatwaves are one of the clearest signs of climate change and present a major risk to public health, particularly in urban areas where the heat island effect can further intensify temperatures.

- **Rising sea levels**: many coastal cities could be affected by rising sea levels, putting millions of people living in these regions at risk. Coastal infrastructures could be particularly vulnerable to flooding and erosion.

Jakarta, the capital of Indonesia, has acquired the worrying reputation of being the world's fastest-sinking city. The city's altitude is falling by 5 to 10 centimeters a year. According to projections by the World Economic Forum, a considerable majority of its urban streets - 95% - will already be flooded by 2050. This alarming estimate also applies to several other metropolises around the world, including Dhaka in Bangladesh, Lagos in Nigeria, Bangkok in Thailand and Alexandria in Egypt. Even before 2100, these cities could see a large part of their territory submerged and therefore uninhabitable.

Many American cities also feature on this list, including Houston, New Orleans and Miami, all of which are already frequent victims of natural disasters. Of the 50 American cities most at risk, 36 are in Florida. However, the city most at risk is New York, with almost half a million people potentially affected.

These few examples show that rising sea levels are much more than just a long-term risk: they are a pressing reality that requires immediate action to protect towns and their inhabitants.

4.4. Climate refugees

The issue of climate refugees is a major challenge that is becoming increasingly complex as climate change intensifies. In 2016, the UN recorded a record number of 65 million refugees worldwide. However, according to the latest data available, this figure has risen to an unprecedented 110 million refugees and displaced persons worldwide by 2022. Never before have so many people been forced to flee their homes.

This high figure includes 35.3 million refugees, 62.5 million internally displaced people, 5.4 million asylum seekers and 5.2 million other people in need of international protection. The factors contributing to this displacement are many and include conflict, persecution, discrimination, violence and, increasingly, the impact of climate change.

The effects of climate change on population displacement are increasingly marked. For example, the most severe drought in recent history in Somalia, Kenya and Ethiopia, due to the failure of four consecutive rainy seasons, has had devastating consequences. In Somalia, the combination of drought and armed conflict has internally displaced more than 1.7 million people since January, while thousands more have crossed the border to seek help in the Dadaab refugee camps in Kenya and Ethiopia. In Ethiopia itself, hundreds of thousands of people have been internally displaced by drought and insecurity in the Somali, SNNP and Oromia regions.

The UN predicts that at least 36.4 million people will be affected in the Horn of Africa, with livelihood losses due to crop failure and livestock deaths.

In the United States, more than 3 million Americans have lost their homes due to climate-related disasters, as mentioned above. Contributing factors include a series of monumental weather disasters, such as devastating hurricanes, forest fires in California, and an unprecedented drought. The majority of these displaced people will probably never be able to return to their original homes. The private insurance industry and the private housing market are also pushing people out of their homes, particularly in California where the major insurance companies have stopped offering fire insurance to people living in the riskiest areas, or have increased the costs to unaffordable levels.

The study of climate migration is a field that has attracted increasing attention over the last decade, as the impacts of climate change have become more obvious and devastating. Researchers have begun to develop theories and models to understand the complex links between climate and population movements.

Population movements are always influenced by a combination of factors, of which climate is only one. Economic, political and social factors all play a role in migration decisions. In addition, vulnerability to the impact of climate change is often

exacerbated by these same socio-economic factors. So while climate change can be a trigger, it is rarely the only factor at play.

It should be noted that the term **"climate migration"** is itself open to debate. Some researchers prefer the term '**environmental mobilisation' to** emphasise the diversity of factors that influence people's decisions to move, including political, economic and social factors, in addition to environmental ones. Others emphasise that climate change is often a multiplier of threats, exacerbating existing vulnerabilities rather than being the sole determinant of displacement.

The work of Professor Robert McLeman of Wilfrid Laurier University in Canada is representative of this approach. McLeman argues that to understand climate migration, we need to examine how climate change fits into the wider context of existing socio-economic and political conditions. He has used case studies to show how droughts, floods and other climate change impacts can interact with factors such as poverty, political instability and conflict to cause migration[7] .

Political scientist and researcher François Gemenne argues that climate- and environment-related migration should not be seen as a crisis or catastrophe, but rather as a legitimate and often rational adaptation to climate change and environmental degradation. He argues that such migration is not only a symptom of a failure to adapt to changing environmental conditions, but can also be an adaptation strategy in itself.

[7] McLeman, R. (2013). Climate and Human Migration: Past Experiences, Future Challenges.

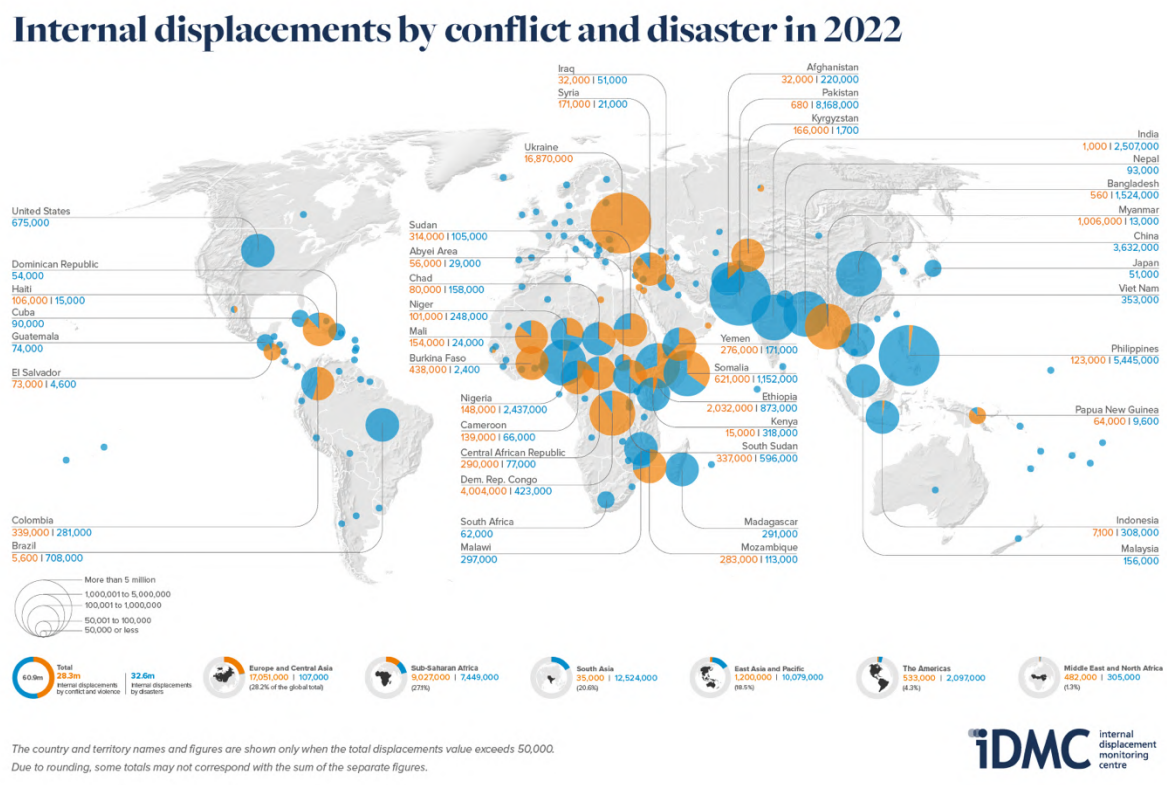

Figure 13: Map of population displacements, conflict and disaster, 2022

The dimension of democracy plays a key role in this analysis. The researchers noted that **democratic political systems are generally better equipped to manage climate migration**. Democracies tend to have stronger institutions and a greater capacity to deliver social services, which can help mitigate the impacts of climate change and manage migration. In addition, democracies often have greater transparency and accountability, which can lead to better recognition and management of climate-related issues.

However, democracies are not without their challenges. Climate migration can put democratic institutions to the test, particularly when it is large-scale or sudden. It can cause social and political tensions and test the ability of democracies to maintain stability while respecting the rights of migrants.

An example of this tension can be found in the work of Jane McAdam, a professor at the University of New South Wales in Australia. McAdam has examined how small Pacific island nations, many of which are democracies, are coping with the prospect of large-scale migration due to rising sea levels. She found that although these countries are democratic, they are struggling to balance the rights of displaced people with the socio-economic and political challenges posed by mass displacement. These challenges include issues of nationality, human rights, land, culture and identity.

The democratic dimension of climate migration is a growing concern. Democracy, as a system of governance, has the potential to play a key role in managing climate migration. Democratic principles such as citizen participation, equality and social justice can help to ensure that climate migration management policies are fair, inclusive and respectful of human rights. For example, affected communities should have the opportunity to participate in the development of policies that affect them.

The researchers also stressed the need for appropriate policy and legal responses to climate migration. This includes the establishment of legal frameworks to protect the rights of climate-displaced people, as well as the development of climate change adaptation policies that take migration into account. However, as the research noted, there are still significant challenges to be faced in developing and implementing these policies.

François Gemenne emphasises the need for inclusive policies that respect human rights to manage migration. He argues that current policies are often insufficient and that new legal and institutional frameworks need to be developed to meet this challenge.

The interdependence of these factors is particularly evident when considering the dimension of democracy. In many cases, a society's ability to manage the impacts of climate change and support those who are displaced depends to a large extent on the quality of its democratic institutions. Democratic societies that respect the rule of law, guarantee human rights and maintain a vibrant civil society are generally better placed to manage the complex challenges posed by climate change and migration.

However, climate displacement can also put pressure on democratic institutions. For example, the arrival of large numbers of migrants can create social and political tensions, especially if resources are already limited. In addition, governments may be tempted to restrict human rights and civil liberties in response to these pressures. It is therefore essential that researchers and policy-makers consider the implications for democracy when seeking to understand and manage climate migration.

Many researchers are also working to develop policy and legal frameworks to protect the rights of climate migrants. For example, the concept of the "climate refugee" has been proposed as a way of recognising the special status of those displaced by climate change. However, this concept has been criticised for a number of reasons, including that it may minimise the responsibility of states to protect human rights and that it may be difficult to apply in practice. Nevertheless, the debate on the status of climate refugees illustrates how research on climate migration intersects with broader issues of international law, justice and human rights.

Climate refugees can also pose legal challenges, as refugee status under the 1951 Geneva Convention does not explicitly recognise those forced to flee due to

environmental disasters. International legal reform may therefore be needed to protect these vulnerable individuals.

In this chapter, we have highlighted the fact that climate change has been identified as a factor in aggravating crises on a global scale, particularly in areas already affected by conflict.

Experts such as Elisabeth Gilmore, Halvar Buhaug and Håvard Hegre argue that global warming exacerbates the risk of conflict by compromising communities' livelihood resources, encouraging large-scale population displacement, contributing to food insecurity and undermining existing economic structures.

We then looked at water management in times of scarcity. We pointed out that water management raises major governance issues, particularly with regard to the allocation of water resources. These choices can generate social and political tensions, and water crises can also provoke public protests, putting additional pressure on democratic institutions to respond effectively to these issues.

Our approach shows how climate change has exacerbated the economic and agricultural crisis in Syria, leading to problems such as drought, extreme temperatures and poorly managed land reforms. These conditions have led to mass migration, worsened food insecurity and intensified the civil war since 2011, creating an unprecedented refugee crisis affecting not only Syria, but neighbouring countries and more widely.

5. BEYOND DEGROWTH: DIVERSE APPROACHES TO AN ECOLOGICAL AND DEMOCRATIC TRANSITION

5.1. Solow's theory of economic growth: an optimistic vision

5.1.1. The foundations of Solow's theory

Robert Solow's theory of economic growth, also known as the Solow-Swan model, is one of the foundations of our modern understanding of economic growth. Solow, a Nobel Prize-winning American economist, developed this model in the 1950s.

At the heart of his theory is the idea that economic growth comes from two main sources: capital accumulation (i.e. investment in machinery, infrastructure, etc.) and technological progress. Capital accumulation enables an economy to produce more goods and services, while technological progress improves the efficiency of this production.

According to Solow, economic growth is a natural tendency of capitalist societies, and this growth is a stable process in the long term, thanks to the adjustment of savings and investment. Solow's model is dynamic and unfolds over time, seeking to explain how capital, labour and technology interact to generate growth.

5.1.2. Why Solow believes in economic growth despite environmental challenges

For Solow, technological progress is a key factor in reconciling economic growth and environmental sustainability. He believes that technological innovation can enable an economy to produce more goods and services with fewer resources, thereby reducing the ecological footprint of economic growth.

He has also suggested that improvements in labour productivity (thanks to technology) could offset reductions in the use of natural resources. In this way, the environmental impact of growth could be minimised.

5.1.3. Criticisms of Solow's vision

Although Solow's theory has profoundly influenced our understanding of economic growth, it has also been widely criticised. Some critics argue that the model fails to take into account the physical limits to growth: there is no room for the finiteness of natural resources in Solow's model.

Furthermore, Solow's emphasis on technological progress as a solution to environmental problems is often contested. Critics argue that technology cannot always compensate for the depletion of natural resources or solve environmental problems such as climate change. Moreover, technological innovation can sometimes create new environmental problems.

Finally, some believe that Solow's theory places too much emphasis on economic growth as an indicator of social well-being. They argue that the model neglects other important aspects of human well-being, such as equality, health and the environment.

5.1.4. The importance of equality and well-being in economic growth

Criticism of Solow's model is not limited to the issue of environmental sustainability.

Another major point of contention is that economic growth, as defined and measured by Solow and most mainstream economists, does not necessarily equate to improved human well-being.

For many researchers and thinkers, focusing attention primarily on GDP growth can distract attention from issues of wealth distribution and equality of opportunity, which are central to human well-being[8] . From this perspective, pursuing economic growth without taking into account the distribution of wealth can lead to highly unequal societies, where a small elite accumulates much of the wealth while the majority of the population remains poor.

5.1.5. The role of democracy in economic growth

Democracy, as a system that allows fair and inclusive participation in decision-making, also plays an important role in how we should view economic growth. Critics of Solow's model often point out that his vision of economic growth can overlook the importance of democratic participation.

Indeed, in Solow's model, economic growth is largely determined by technological and economic factors, with little room for political decisions or democratic preferences. This view of economic growth can give the impression that growth is an impersonal and inevitable force, rather than a process that can be influenced by political and democratic decisions.

There are other visions of economic growth, notably that of Amartya Sen, which emphasises equality, well-being and democracy.

5.2. Bjørn Lomborg and environmental optimism

Bjørn Lomborg, Danish statistician and author of the book "The Sceptical Ecologist", is best known for his optimistic arguments about technology and economic growth. In his view, economic growth is not only compatible with environmental sustainability, it is also necessary to achieve it.

Lomborg argues that technology, stimulated by economic growth, is capable of solving the environmental challenges we face. For example, he argues that technological innovation can enable the development of more efficient and cheaper renewable energy sources, which would reduce our dependence on fossil fuels without compromising our standard of living. He also advocates adapting to climate change through cutting-edge technologies and resilient infrastructures.

Lomborg sees technology and innovation as essential drivers of human progress. For him, it is through technological innovation that we have solved many of our previous problems, and that is how we will solve our future problems. For example, Lomborg points to innovation in renewable energy, such as improving the efficiency of solar panels, as a demonstration of how technology can help us overcome environmental challenges.

[8] Cf. Appendix 5 - The welfare economy - the European vision

It also argues that economic growth is essential to finance this innovation. Indeed, the funds needed for research and development in areas such as renewable energy and carbon capture generally come from the economic surplus generated by growth.

Lomborg is strongly opposed to the idea of degrowth. For him, economic growth has been a key factor in improving the quality of human life, reducing poverty and increasing life expectancy. He considers that degrowth would be a step backwards, reducing the quality of life and exacerbating poverty, particularly in developing countries. For him, degrowth is a luxury that only rich countries can afford, while developing countries need economic growth to improve the living conditions of their populations.

He gives the example of the United Nations' Sustainable Development Goals (SDGs), which aim to eradicate poverty and improve health and education, among other things. In his view, achieving these goals requires economic growth, as this provides the resources needed to invest in these areas[9] .
He also argues that economic growth is necessary to finance environmental conservation efforts. Without economic growth, he argues, we would not have the resources to invest in environmentally friendly technologies and to protect ecosystems.

Lomborg's ideas have provoked considerable debate. Some see him as a pragmatist needed to counterbalance what they see as a sometimes overly alarmist environmentalism. Others see him as a climate change denier, although Lomborg recognises climate change as a serious problem.

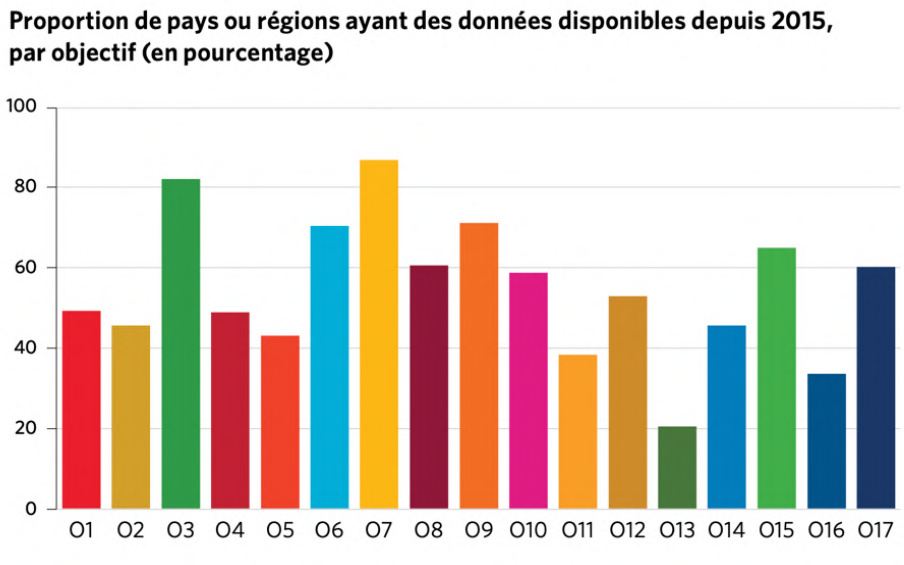

Figure 14: Achieving sustainable development objectives - source: UN 2022 report

[9] See Annex 4

Lomborg's critics often claim that his faith in the power of technology and innovation ignores the fact that many environmental problems are the result of dysfunctional economic and social systems, and cannot be solved simply by inventing new technologies. For these critics, Lomborg's discourse on technology and innovation serves to distract attention from the need for deeper systemic change.

5.3. Duflo and Banerjee: Economic Growth and the Fight against Poverty

Esther Duflo and Abhijit Banerjee, two economists who won the Nobel Prize in Economics in 2019 for their work on reducing global poverty, are well known for their views on the crucial role of economic growth in eradicating poverty. They have also expressed concern about the consequences that a policy of degrowth could have on the poorest populations.

Duflo and Banerjee's argument on growth to eradicate poverty
Duflo and Banerjee argue that economic growth is essential to lift people out of poverty. Their work has highlighted the crucial role of small-scale, targeted interventions in helping people living in poverty to improve their lives. However, they also point out that these interventions alone cannot solve the problem of large-scale poverty. For that, economic growth is necessary.

They give the example of China and India, where rapid economic growth has lifted hundreds of millions of people out of poverty in just a few decades. On the other hand, they warn against the risk of economic stagnation, which could prevent or even reverse progress in the fight against poverty.

Duflo and Banerjee have expressed concerns about the idea of degrowth, mainly because of its potential impact on the poorest populations. They argue that while rich economies can afford to reduce production and consumption without too much impact on the well-being of their citizens, this is not the case for poor countries.

In fact, they argue that degrowth could have disastrous consequences for the poor, as it could hamper progress in the fight against poverty. If rich economies decided to reduce their consumption, this could have a negative impact on developing economies that depend on exports to these countries.

Duflo and Banerjee's approach to the ecological transition
This does not mean that Duflo and Banerjee are ignoring environmental challenges. On the contrary, they are aware of the need for a transition to a more sustainable economy. However, they believe that this transition must be made in a way that does not penalise the most vulnerable populations.

Duflo and Banerjee propose to address these challenges by using a combination of technological innovation, policy measures and development assistance to help poor countries follow a more sustainable development path. For example, they argue that rich countries should invest more in the research and development of green technologies, and help developing countries gain access to these technologies.

In summary, Duflo and Banerjee's approach emphasises equity and justice in the transition to a more sustainable economy. They argue that all countries, rich and

poor, have a role to play in this transition, but that rich countries should shoulder a greater share of the responsibility, given their ability to invest in cleaner technologies and their historically greater contribution to greenhouse gas emissions.

5.4. Balancing growth and decline: alternative perspectives

5.4.1. The concepts of green growth and inclusive growth

Green growth and inclusive growth are two alternative approaches that seek to reconcile economic development with respect for the environment and social justice.

Green growth is an economic strategy that aims to promote economic growth that is respectful of the environment. It focuses on promoting clean technologies, energy efficiency and sustainable management of natural resources. For example, the European Union has adopted the Green Deal, which aims to make Europe the first carbon-neutral continent by 2050 by investing massively in green technologies and transforming energy and transport systems.

Inclusive growth, on the other hand, aims to ensure that the benefits of economic growth are shared more equitably across the population. It focuses on eliminating poverty, reducing inequality and promoting decent employment for all. For example, the government of Costa Rica has implemented inclusive growth policies that have successfully reduced poverty and improved access to education and healthcare, while protecting the environment.

Amartya Sen, winner of the Nobel Prize in Economics (1998), is known for having introduced a new dimension to the debate on economic growth. His vision of economic growth goes beyond simply increasing income or economic output. According to Sen, economic growth is a means of achieving a broader objective, namely improving human well-being and the quality of life for all.

This is the central idea behind his concept of "development as freedom", in which development is seen as a process aimed at expanding the substantive freedoms enjoyed by individuals. For Sen, these freedoms include not only civil and political rights, but also a range of social and economic dimensions, such as the possibility of obtaining paid work, having access to education and healthcare, and living in a clean and healthy environment.

With regard to the ecological transition, Sen stresses the need to guarantee equality and equity. He stresses that the ecological transition should not be pursued at the expense of the poor and marginalised, who are often the most vulnerable to the impacts of climate change and environmental degradation.
Instead, it proposes linking the ecological transition to the broader objective of eradicating poverty and improving the quality of life for all. This means putting in place policies and interventions that guarantee not only environmental sustainability, but also social equity.

5.4.2. Selective degrowth or "green degrowth"

Green degrowth is an approach that supports a transition to a more sustainable economy by promoting selective degrowth of certain sectors of the economy. This means that certain sectors that are particularly harmful to the environment, such as

the extractive and fossil fuel industries, should be reduced, while other sectors that contribute to sustainability, such as renewable energies and organic farming, should be encouraged to grow.

In Germany, for example, the government has adopted a policy of phasing out coal by 2038, while supporting the development of wind and solar power. This is an example of green degrowth, where the fossil fuel sector is in decline, while the renewable energy sector is growing.

5.4.3. Models of prosperity without growth

Models of prosperity without growth, such as that proposed by the British economist Tim Jackson in his book "Prosperity Without Growth", challenge the idea that economic growth is the only path to progress and well-being.

According to Jackson, it is possible to achieve a high level of human well-being while maintaining a sustainable ecological footprint. He proposes an economic model in which the well-being of citizens is measured not by material consumption, but by other indicators such as health, education, the quality of social relations and the feeling of satisfaction in life.

In this model, the aim is to create a 'service economy' where the consumption of material goods is replaced by the use of services that meet human needs while minimising the impact on the environment. For example, instead of buying a car, a person could use a car-sharing service, which reduces the need to produce and buy new cars.

Jackson also emphasises the importance of reducing inequalities and promoting simpler, more sustainable lifestyles. He argues that to tackle the ecological crisis, we need to change the way we live and our cultural values, emphasising cooperation, solidarity and care for nature.

Other authors such as Herman Daly, Kate Raworth Peter Victor and Juliet Schor have also contributed to the discourse on prosperity without growth. They do not necessarily advocate a complete halt to economic growth, but rather a change in the way we measure and understand "prosperity". They argue for an economy that prioritises human well-being and environmental sustainability over GDP growth at all costs.

In summary, these models of prosperity without growth show that it is possible to envisage an alternative to continuous economic growth, which takes account of both ecological challenges and social needs. However, their implementation requires profound changes in our economic and social systems, as well as in our lifestyles and cultural values.

5.5. Democracy and ecological transition: the way forward

The crucial role of democracy in the growth versus degrowth debate

Democracy plays an essential role in the transition to a post-growth society. The ecological transition requires a radical change in production and consumption patterns. This change can only be effectively achieved through a democratic process.

Democracy provides a platform for open and inclusive debate on fundamental questions such as: What is prosperity? What are our real needs as individuals and as a society? How can we distribute our planet's limited resources fairly?

Recent history offers several examples of how democracy can facilitate an ecological transition. One example is the Transition Towns movement initiated by Rob Hopkins in the UK in 2006. This movement encourages local communities to take action to reduce their dependence on fossil fuels, through grassroots democratic initiatives.

The potential of participatory democracy in the ecological transition
The importance of participatory democracy in the ecological transition cannot be underestimated. Participatory democracy enables citizens
to be directly involved in the decisions that affect their daily lives, including those relating to the environment.

For Sen, democracy is not simply a matter of political rights and civil liberties, although he regards these elements as essential. It is also, and perhaps above all, a means of improving the material and social well-being of the people. He sees democracy as "government by discussion" - a vision that goes beyond simple majority voting and includes public engagement, debate and dialogue as essential components of a healthy democratic system.

He argues that famine and extreme poverty do not occur in democratic countries, not because democratic governments are always benevolent, but because the existence of democratic structures and a free press means that governments cannot ignore the suffering of their citizens without suffering political consequences.

In the context of ecological transition, Sen's approach underlines the importance of ensuring that the process is guided by the principles of social justice and participatory democracy. Citizens should not only be informed and consulted on transition policies, but they should also have the opportunity to shape these policies according to their own priorities and needs.
In addition, Sen also emphasises the importance of intergenerational justice - the duty we owe to future generations to leave them a world in which they can live and prosper. This notion is at the heart of discussions on environmental sustainability and the need to rebalance our economy and society to put an end to the excessive exploitation of natural resources.

In conclusion, finding a path towards a fair and sustainable transition
The ecological transition requires a profound change in the way we organise our societies. Whether through selective degrowth, green growth or prosperity without growth, it is clear that we can no longer afford to continue with the current model of endless growth.

The challenge lies in how we can bring about this change in a fair and equitable way. This requires a strong and participatory democracy, where citizens have a say in the kind of society they want to see emerge. There is no single solution to all the problems we face. However, through open and democratic debate, we can all contribute to building a sustainable future for generations to come.

This chapter questions the current obsession with economic growth and consumerism, highlighting their incompatibility with the ecological limits of our planet. It proposes a path towards degrowth, involving radical social changes such as the relocation of production and shorter working hours, to improve our well-being and reduce our environmental impact. Some authors suggest that opposition to degrowth may result from a misinterpretation of the concept and certain psychological biases. Changing our current perceptions could therefore make degrowth more attractive and achievable.

Urban planning is presented as a key tool in this transition, with the idea that a dense, well-planned city can ensure a high standard of living while minimising its ecological footprint. At the same time, democracy, seen as a way of life involving active citizen participation, decentralisation of power and cooperation, is seen as essential for a socially accepted transition to degrowth. By reformulating our perceptions, adopting sustainable urban planning and strengthening democracy, the idea of degrowth could become more acceptable and feasible.

6. BEYOND GROWTH: ACCEPTABILITY, SOCIAL JUSTICE AND DEMOCRATIC PARTICIPATION

6.1. Acceptability of degrowth: key concepts and challenges

The emergence of the concept of degrowth was mainly prompted by current and future environmental challenges. The central idea of degrowth is to challenge society's dominant preoccupation with economic growth, recognising that our planet's resources are finite. However, this raises some crucial questions: are Western societies ready to accept a significant reduction in their standard of living? And if not, how can we envisage a transition to degrowth that is both fair and democratic?

To fully grasp the notion of degrowth, it is also crucial to explore the way in which our society currently values work and production. In this context, David Graeber's theory of bullshit jobs provides an interesting perspective.

David Graeber has argued that many jobs in modern economies are superfluous and make no significant contribution to society. According to Graeber, these jobs are not only a waste of human time and talent, but also contribute to the alienation of the workers who hold them. These individuals are aware of the uselessness of their work, a situation that generates stress, dissatisfaction and a lack of meaning.

This prompts us to re-evaluate the very notion of production in our societies. At present, economic growth is generally associated with an increase in production and consumption. However, if a significant proportion of this production is useless, or even harmful, then growth becomes less desirable. Graeber's argument suggests that we could all work less, while retaining useful jobs and eliminating bullshit jobs. This could lead to a better quality of life for individuals and a significant reduction in our ecological footprint.

It is therefore important to recognise that degrowth does not necessarily imply a reduction in our well-being. On the contrary, by rethinking what we value and freeing ourselves from the constraints of bullshit jobs, we could build a more satisfying and sustainable society. So, by rethinking work and value in the context of degrowth, we might be able to shift our focus from quantity to quality, from profits to social and environmental value, from endless growth to long-term sustainability.

Degrowth is not simply a matter of reducing the consumption of material goods. It proposes a redefinition of what it means to live well, moving away from a focus on the accumulation of goods towards a focus on quality of life. The latter encompasses several dimensions, including health, education, personal fulfilment, environmental sustainability and social well-being.

For Western societies to accept degrowth, it is essential that they understand that a reduction in material consumption can coexist with improvements in other aspects of living standards. Economic decline accompanied by a reduction in pollution and an improvement in public health could be an acceptable compromise.

Considering a transition to degrowth in a fair and democratic way requires a fair distribution of costs and benefits. This could include redistribution initiatives, the establishment of a universal basic income, or the promotion of the circular economy to mitigate economic and social inequalities.

Furthermore, democracy must be at the heart of this transition. This requires the involvement of all players in society - from citizens to businesses to civil society organisations - in the decision-making process. Public consultations, referendums and the use of digital technologies to facilitate citizen participation are all mechanisms that can help to make this transition democratic. Figure 15 shows the role of democracy in the ecological transition process and the link with the SDGs

Figure 15: The role of democracy in the transition and the SDGs

6. 2. Understanding resistance: psychological and societal aspects

The prospect of degrowth poses a major challenge to Western societies, which are deeply rooted in the idea of constant economic growth. A starting point for understanding this complex acceptability is the Easterlin paradox.

The Easterlin paradox

Richard Easterlin (American economist) demonstrated in the 1970s that beyond a certain threshold, an increase in income does not lead to a corresponding increase in happiness.

In his subsequent work over the following decades, Easterlin again observed the same astonishing phenomenon: from 1946 to 2014, despite a threefold increase in GDP per capita, the level of life satisfaction remained stable in the United States.

Easterlin asks why an increase in income does not systematically lead to an improvement in happiness. He puts forward two arguments to clarify this paradox:

Firstly, he considers that the improvement in well-being brought about by an increase in income is only short-lived. Beyond the initial excitement of a sudden increase in income, people eventually adapt to their new financial situation, a reality described as 'hedonic adaptation' by American psychologists Philip Brickman and Donald Campbell. They argue that when there is an increase in income, expectations and desires increase in parallel, meaning that there is no lasting gain in happiness.

Secondly, Easterlin proposes that people's level of satisfaction increases more when their income grows faster than that of others. When everyone becomes richer, general well-being does not increase, because no one feels richer than the average. When you have enough to live comfortably, relative wealth becomes more important than absolute wealth: people are more satisfied when they have more than others rather than when their income grows at the same rate as others.

These two arguments, based on habit and social comparison, suggest that once basic subsistence needs are covered (food, adequate housing, etc.), the level of wealth becomes less important, and sometimes even no longer adds to well-being. Happiness would then depend more on non-monetary factors, whether individual (health, professional and personal fulfilment, etc.) or collective (quality of the environment, public services, institutions, etc.).

A number of studies have sought to identify the income above which happiness no longer increases. The notable study by Daniel Kahneman and Angus Deaton, both winners of the Nobel Prize in Economics, suggested in 2010 that the income above which well-being stops growing was around $75,000 a year.

In 2018, four researchers - Andrew Jebb, Louis Tay, Ed Diener and Shigehiro Oishi - proposed a slightly higher threshold of around $95,000 a year (or $100,000 in Europe). They also reported that the impact of income on daily emotional well-being (such as joy, sadness or anger) fades from 60,000 and 75,000 dollars a year (or 50,000 in Europe).

This paradox highlights the discrepancy between our desire for economic growth and the actual improvement in our well-being, offering an implicit critique of consumerism and the accumulation of material goods.

The work of Tim Jackson, ecological economist and author of "Prosperity without Growth", complements Easterlin's perspective. Jackson highlights the impasse of society's obsession with economic growth: the current economic system requires constant growth to avoid economic instability, but this perpetual growth is incompatible with the limits of our planet.

In addition, social psychologist Tim Kasser has studied the relationship between materialistic values and well-being. His research indicates that those who place a

high value on wealth, status and image tend to have lower levels of well-being, suffer more mental health problems and be less respectful of the environment.

The concept of "implicit denial" can also explain resistance to degrowth. Proposed by psychologist Kari Marie Norgaard, it describes how, despite widespread awareness of climate change, many people choose to ignore the crisis because facing up to it is too difficult or disruptive to their lifestyle.

The challenges of changing behaviour are widely recognised in the literature on the psychology of conservation. Robert Gifford's work, known as the "Dragons of Inaction", refers to the psychological obstacles that prevent people from acting in an ecologically responsible way, despite their awareness of environmental issues. Gifford identified a total of 37 "dragons" which are grouped into seven general categories:

Constraints limited to the individual: These obstacles are linked to personality, values and the feeling of being able to carry out actions. For example, a person may not believe in their ability to make a difference.
Ideologies: These are beliefs that justify inaction, such as the rejection of environmental science or the belief that technology will solve all problems.
Comparisons with others: Individuals may compare themselves with others to justify their own inaction. For example, a person may think: "Why should I make an effort if others don't?"
Perceptions of risk and cost: Individuals may perceive environmental actions as risky or costly.
Social disapproval: Individuals may fear being marginalised or ostracised if they act in an environmentally-friendly way.
Habitual conditions: Habits can make it difficult to change behaviour. For example, someone who usually drives to work may find it difficult to switch to public transport.
The limiting context: Finally, constraints in the external context, such as lack of time or money, can hamper environmental action.

We can also take into account the work of Albert Moukheiber, doctor in cognitive neuroscience and clinical psychologist. His research sheds light on the underlying psychological mechanisms that influence our perceptions and attitudes towards the ideas of growth and degrowth. He emphasises the role of cognitive biases in the way we perceive the world. These biases can distort our perception of reality, leading us to accept or reject certain ideas not on the basis of their intrinsic validity, but according to how they conform to our pre-existing beliefs and expectations.

In the context of degrowth, these biases can manifest themselves in various ways. For example, confirmation bias can lead us to favour information that supports our current view of economic growth as synonymous with progress, while minimising or ignoring evidence to the contrary. Similarly, **status quo bias**[10] can make us reluctant

10Status quo bias is a term formalised by economists William Samuelson and Richard Zeckhauser in 1988 and used in behavioural economics and cognitive psychology to describe the tendency of individuals to prefer things to remain as they are, i.e. to resist change. This bias can manifest itself in different ways and in different contexts, but the common characteristic is a preference for the current situation or a resistance to change.

In the context of decision-making, for example, status quo bias can lead people to choose the option that maintains the current situation, even though another option might be more beneficial. This can happen for a variety of reasons, including loss aversion (people generally value the loss of something they already own more than the gain of something they don't), uncertainty or lack of information about other options, and the perceived effort required to change.

to contemplate radical changes in our lifestyle or economy, even though such changes could be beneficial in the long term.

He also highlights the role played by our 'cogito' in our understanding of the world. In his view, our thoughts and perceptions shape our reality, and are themselves shaped by a complex set of cultural, social and psychological influences. This means that our perception of growth and decline is not simply a matter of objective facts, but is deeply rooted in the way we think about the world.

In short, to understand and tackle resistance to degrowth, it is essential to take these psychological mechanisms into account. By shedding light on cognitive biases and challenging our usual perceptions, we can hope to make the idea of degrowth more acceptable and feasible.

To understand societal resistance to degrowth, we need to consider the work of researchers such as Serge Latouche, a French economist and one of the main theorists of degrowth. Through his **concept of increasing,** Latouche proposes a profound reinterpretation of our relationship with the economy and growth.

According to the author, increasing calls into question the primacy and centrality of economic growth in our societies. It promotes a vision of the world in which the economy is no longer geared to constant growth, but to the satisfaction of human needs, while respecting the Earth's ecological limits.

This concept is a response to critics who associate 'degrowth' with recession or economic contraction. On the contrary, increasing suggests a profound reorientation of society's priorities, putting people and the environment at the heart of its concerns rather than the endless pursuit of economic growth.

Serge Latouche imagines a transition to acro-growth through a series of radical transformations in society: relocating production, reducing working hours, promoting the circular economy, and abandoning consumption as an indicator of success and happiness. Far from representing a return to a way of life of the past, these transformations are envisaged as a leap towards a more sustainable and equitable future.

It is therefore crucial to understand that resistance to degrowth may be due to a misunderstanding of the concept itself. Increasing illustrates that degrowth is not synonymous with recession, but represents a profound paradigm shift in our conception of the economy and progress. So, to make degrowth acceptable, it is essential to engage in a dialogue about these new perspectives and to work on changing the collective imagination.

Resistance to degrowth is partly due to a combination of psychological and societal aspects. We have already looked at the Easterlin paradox, which suggests that an increase in income is not synonymous with an increase in happiness beyond a certain point. However, our society values material wealth, often to the detriment of mental health, social relationships and the environment.

In the context of degrowth, status quo bias can contribute to resistance to the changes that would be needed to move to a degrowth economy. For example, people may be reluctant to change their consumption habits or to accept policies that would reduce economic growth, even though these changes could be beneficial for the environment in the long term.

The work of Tim Jackson, ecological economist and author of "Prosperity without Growth", complements Easterlin's perspective. Jackson highlights the impasse of society's obsession with economic growth: the current economic system requires constant growth to avoid economic instability, but this perpetual growth is incompatible with the limits of our planet.

In addition, social psychologist Tim Kasser has studied the relationship between materialistic values and well-being. His research indicates that those who place a high value on wealth, status and image tend to have lower levels of well-being, suffer more mental health problems and be less respectful of the environment.

The concept of "implicit denial" can also explain resistance to degrowth. Proposed by psychologist Kari Marie Norgaard, it describes how, despite widespread awareness of climate change, many people choose to ignore the crisis because facing up to it is too difficult or disruptive to their lifestyle.

These psychological and societal aspects show that the challenge of degrowth goes far beyond the economic framework. It is a challenge that requires a profound transformation of our values and behaviour, which are currently geared towards consumption and growth. For degrowth to be accepted, we need to challenge these dominant ideologies and promote a culture that values sustainability, collective well-being and quality of life. This redefinition of societal values is a slow process, requiring education, awareness-raising and dialogue.

6.3. The crucial role of urban planning

Our imagination of the ecological city is often populated by green spaces, detached houses, wind turbines and solar panels. An experiment carried out with students revealed that 72% of them designed towns made up of detached houses, 86% included green spaces and 77% favoured sprawling urbanisation. Yet only 12% envisage waste recycling and 33% include renewable energy sources in their vision. Furthermore, more than half envisage the use of bicycles or public transport, making the car an enemy in their imagination.

This vision of the ecological city, however, does not necessarily correspond to an ecological reality. Forbes magazine, for example, crowned Vermont as the greenest region in the United States, famous for its bucolic beauty, eco-friendly residents and beautiful detached houses. Yet despite this green image, Vermont has a catastrophic environmental record, largely due to urban sprawl, which encourages inefficient energy use and car travel.

Against all odds, the greenest city in the United States is New York. Despite its lack of green spaces and detached houses, the city is surprisingly greener than many other American cities. New Yorkers use less energy and have a better carbon footprint, with CO2 emissions 30% lower than the national average. This performance is mainly due to the city's high population density, which encourages energy efficiency and the use of public transport.

This finding underlines the importance of thoughtful urban planning in the transition to a low-growth society. The idealised perception and benevolent attitude towards ecology can sometimes lead to choices that run counter to the principles of sustainable development. Raising awareness of these contradictions is therefore a major challenge in the transition to a degrowth society.

In the context of degrowth, the acceptability of a reduction in our standard of living also implies a revision of our imaginations. To avoid the trap of 'good intentions' that can lead to ecologically disastrous results, it is crucial to question and transform our representations of urban and rural life, consumption and well-being.

Urban planning, as a tool for transition, can play a crucial role in guiding this change of imagination. Compact, well-designed cities can offer a high quality of life while minimising their ecological impact. Thus, urban planning needs to be thought through in terms of sustainability and social justice, offering equitable access to public services, minimising inequalities and promoting a greener way of life.

Ultimately, the challenge is to combine degrowth with positive, realistic visions of the future that are both ecologically viable and socially just.

6.4. Fair and democratic transition to degrowth

According to Serge Latouche, a successful transition to a less resource-intensive way of life must be conducted in a fair and democratic manner if it is to be accepted by the majority of the population. His vision for degrowth is far removed from the image of austerity and deprivation often associated with the term. Instead, he envisages a society that prioritises quality of life over the accumulation of material goods, a system where happiness and well-being replace GDP as the key indicators of success.

Social justice is a key pillar of this vision. Latouche and other degrowth thinkers recognise that the effects of such radical change will not be felt equally across all sectors of society. It is therefore essential to put in place protective measures for the most vulnerable to ensure a fair transition. The idea of redistributing wealth is a fundamental element of this protection strategy.

In this context, the concept of a universal basic income (UBI), popularised by economists such as Philippe Van Parijs, is frequently cited. A universal basic income could help to minimise social inequalities by providing a financial safety net for everyone, regardless of their employment status. This could help to balance the income disparities exacerbated by the process of decline and help to create a fairer and more equitable society.

Van Parijs argues that the RBU is an effective way of tackling poverty and inequality, while respecting individual freedom. He argues that, unlike traditional social security systems which can discourage work by reducing benefits when an individual finds a job, the RBU allows people to work without losing their benefits. This would allow people to take risks, pursue interests and passions, or engage in entrepreneurship without fear of losing their safety net.

Furthermore, Van Parijs argues that the RBU is particularly relevant in the context of degrowth. With the transition to an economy less dependent on natural resources and fossil fuels, it is likely that some sectors of the economy will become less profitable and jobs will be lost. A UPR could help mitigate the economic impact of this transition for individuals and families, and ensure that no one is left behind.

However, it should be noted that the implementation of the UPR raises important practical issues, particularly with regard to its financing and its impact on work incentives. Although Van Parijs and other advocates of the UPR have proposed solutions to these challenges, such as the progressive taxation of income and wealth, the question of the practical implementation of the UPR remains a matter of debate among economists and policymakers.[11]

Of course, democracy is a central pillar in the transition to a degrowth society. As David Graeber emphasises in his work, it is through an open, participatory and inclusive democratic process that significant change can take place. Graeber emphasises the importance of popular assemblies and direct democracy, where every citizen has not only the right but also the duty to participate actively in making decisions that influence their daily lives and their community.

In this context, such a form of democracy could help to shape and facilitate a transition to a degrowth society. It would ensure that the process is guided by the collective will rather than by top-down economic or political forces. This could, for example, take the form of public forums, citizens' councils or other forms of community deliberation to discuss and decide on degrowth measures.

Graeber also stresses the need to democratise the workplace, by promoting alternative forms of work organisation, such as cooperatives, which encourage a more equitable distribution of power and resources. This idea is echoed in the work of economists such as Elinor Ostrom, who has shown how communities can effectively manage their common resources (or 'commons') through forms of collective governance.

It is therefore necessary to reconceptualise democracy not simply as a periodic electoral process, but as a way of life and a constant practice. By encouraging greater citizen participation, decentralising power and promoting cooperation and the sharing of resources, the transition to a degrowth society could be democratically guided and socially accepted.

However, it is essential to recognise that the transition to degrowth is not just a question of economic and political change. It also requires a profound cultural change. This is where the work of other degrowth thinkers, such as Giorgos Kallis and Federico Demaria, comes in. In their view, degrowth should be understood not just as an economic strategy, but also as a cultural project.

Kallis and Demaria argue that degrowth implies a break with consumer culture and the relentless pursuit of economic growth. Instead, they advocate a movement towards simpler, more sustainable forms of living that focus on satisfying basic needs and improving quality of life. This could mean a return to more local forms of production and more conscious and responsible consumption.

In short, the transition to degrowth is a complex process involving changes at several levels of society. If this transition is to be accepted by the majority of the population, it must be carried out in a fair and democratic way, ensuring that the most vulnerable

11 It should be noted that in January 2020, the Citizens' Climate Convention (CCC), made up of 150 citizens chosen by lot, proposed the introduction of an ecological basic income, to be financed by taxing polluting activities.

are protected and that citizens are actively involved. It also requires a cultural paradigm shift, away from excessive consumption and towards more sustainable and equitable lifestyles.

In conclusion, degrowth offers an alternative vision of a future where quality of life is valued over and above the mere accumulation of material goods. However, as authors such as Tim Jackson point out in his book "Prosperity without Growth", realising this vision requires a major transformation at every level of our society, from individual changes to systemic reforms.

This revision of our imaginations is not just an intellectual exercise; it is essential if we are to direct our actions towards a more equitable and sustainable world. By adopting a different vision of what a 'prosperous' society can be, we open ourselves up to the possibility of creating communities that value human relationships, equity and respect for the planet. It is in this context that degrowth can become an acceptable and desirable reality for everyone.

This revision of our imaginations will not happen spontaneously. It requires collective awareness and educational efforts to change our perceptions and values. It is a long-term process that must be supported by public policies and community initiatives that encourage a more sustainable and equitable way of life.

The text explores various strategies for achieving an ecological and democratic transition, going beyond the simple notion of degrowth. It looks at a number of influential theories and approaches in this field.

It examines, for example, Solow's theory of economic growth, which postulates that economic growth could be generated by factors other than capital and labour, such as technology. The text also analyses the ideas of Bjørn Lomborg, who suggests that technology and economic growth could provide effective solutions to today's environmental challenges.

The text also includes significant contributions from Esther Duflo and Abhijit Banerjee, two economists renowned for their work on reducing global poverty. Their research has highlighted the links between poverty, the economy and ecology, underlining that effective policies in these areas could lead to an ecological and democratic transition.

The text also discusses the views of other authors such as Herman Daly, Kate Raworth, Peter Victor and Juliet Schor. These researchers have each presented innovative perspectives on the notion of prosperity without growth, challenging the traditional dogma of continuous economic growth as a precondition for prosperity. Instead, they suggest that prosperity could be achieved through other means, including changes in the way we conceive and measure wealth and well-being.

7. THE ROLE OF INTERNATIONAL INSTITUTIONS IN CLIMATE GOVERNANCE

7.1. Overview of the main international institutions active in the climate field

In the context of the global ecological crisis and climate change, a number of international institutions are playing a key role in defining policies and strategies for collective action. These institutions include the United Nations Framework Convention on Climate Change (UNFCCC), the Intergovernmental Panel on Climate Change (IPCC), the United Nations Environment Programme (UNEP) and the Green Climate Fund (GCF). Together, these institutions form a global network that facilitates cooperation between nations and helps steer global efforts towards a sustainable, climate-resilient future.

7.2. Role and missions of these institutions in relation to climate change

The role of these institutions is to facilitate the negotiation, implementation and monitoring of international climate agreements. These agreements, drawn up and adopted by the member countries, define common objectives and mechanisms for reducing greenhouse gas emissions and adapting to the impacts of climate change.

7.2.1. Implementation of major international climate agreements

The first significant attempt to tackle climate change at international level was the Kyoto Protocol, which created a legally binding framework for reducing greenhouse gas emissions.

A) The Kyoto Protocol: Adopted in 1997 under the aegis of the UNFCCC, the Kyoto Protocol was the first legally binding international climate agreement. It established greenhouse gas emission reduction targets for industrialised countries. However, the Kyoto Protocol has faced a number of challenges, including the refusal of the United States to ratify it and the absence of binding commitments for developing countries.

In response to the limitations of the Kyoto Protocol, the international community sought to broaden the scope of global efforts to combat climate change. This led to the adoption of the 2030 Agenda for Sustainable Development by the United Nations.

B) The 2030 Agenda for Sustainable Development: Adopted in 2015, this agenda sets out 17 Sustainable Development Goals (SDGs) that address different aspects of sustainable development, including climate change. SDG 13, in particular, calls for urgent action to combat climate change and its impacts. The SDGs have been adopted by all UN member states and represent a shared vision for a sustainable future.

Then, in the same year, a historic agreement was reached at the 21st Conference of the Parties (COP21) of the UNFCCC in Paris. In Figure 16, we have presented a chromography of the international events giving rise to the 2030 Agenda[12] .

[12] IED Report, From impact measurement to the creation of a European sustainability label, 2022

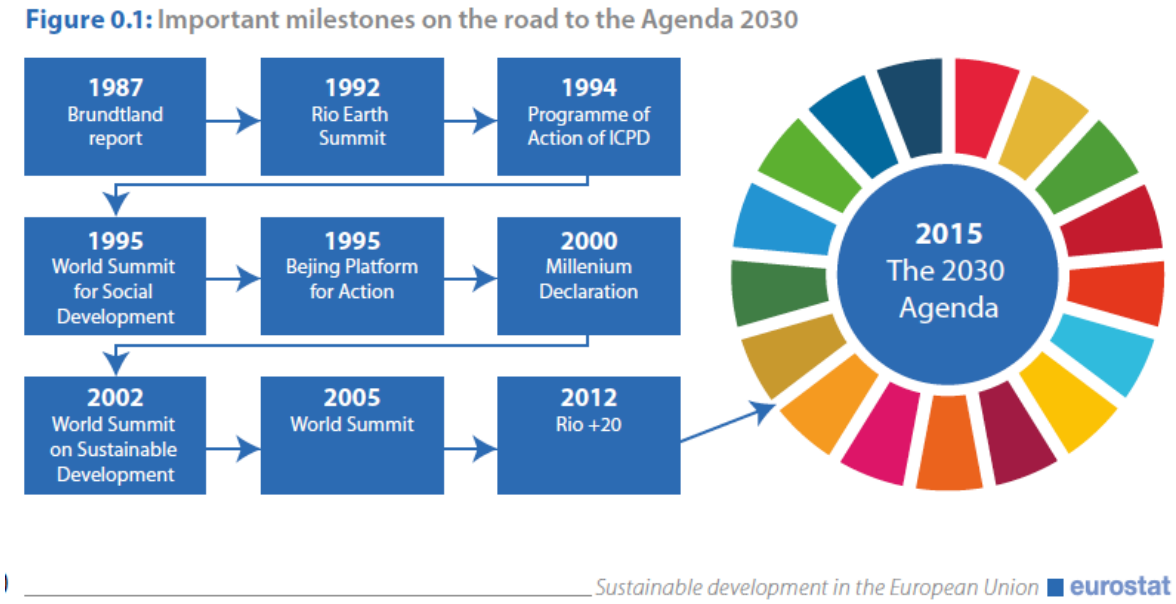

Figure 16: Key international events giving birth to Agenda 2023

C) The Paris Agreement: Signed in 2015, the Paris Agreement marked a turning point in global climate governance. For the first time, all countries agreed to limit global warming to well below 2 degrees Celsius and to strive to limit temperature rises to 1.5 degrees Celsius. The Paris Agreement also introduced a mechanism for progressively increasing the ambition of national commitments [5].

These three agreements are the main milestones in international action against climate change. However, other international conventions and agreements have also played an important role in global climate governance.

7.2.2. Other international conventions and agreements affecting the climate

Several other international conventions, while not focusing exclusively on climate change, make a significant contribution to environmental protection and have direct implications for the climate.

A. The Convention on Biological Diversity (CBD): Signed in 1992 at the Earth Summit in Rio de Janeiro, the CBD aims for the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources. By preserving biological diversity, the CBD contributes to the resilience of ecosystems to climate change.

B. The Montreal Protocol on Substances that Deplete the Ozone Layer: Adopted in 1987, this protocol aims to protect the ozone layer by progressively eliminating the production and consumption of substances that deplete it. Although its main objective is to protect the ozone layer, the Montreal Protocol has also had a significant impact on the climate, as many of these substances are powerful greenhouse gases.

7.2.3. International climate conferences and summits

In addition to these formal agreements, climate conferences and summits play a crucial role in implementing and updating international climate commitments.

A. UNFCCC Conferences of the Parties (COP): These annual conferences are an opportunity for countries to negotiate and revise their climate commitments. For example, at COP21 in 2015, the Paris Agreement was adopted. More recently, COP26 in 2021 saw new commitments on emission reductions, climate financing and nature protection.

B. Specific climate summits: These summits, often organised by the United Nations, allow countries to discuss climate issues and make new pledges. For example, the UN Climate Action Summit in 2019 was an opportunity for several countries to announce their plans to achieve carbon neutrality.

In short, global climate governance is a complex system involving a variety of international institutions, agreements and events. These different elements reinforce each other to guide international action to combat climate change and build a sustainable future.

7.3. Link between international institutions, climate governance and democracy

International institutions are essential for coordinating global action against climate change, as shown in Figure 17 below. However, the way in which these institutions are structured and operate also raises important questions in terms of democracy and equity.

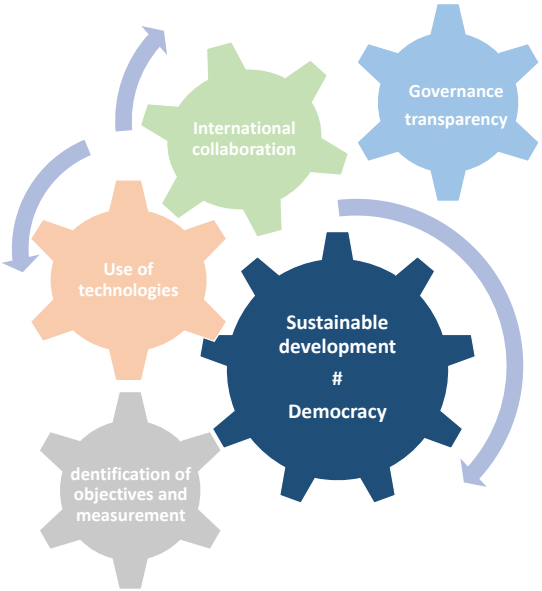

Figure 17: Governance and democracy

7.3.1. The challenge of democratic representation in international institutions

A) Disparities in representation and decision-making power: For example, although sub-Saharan Africa is one of the region's most vulnerable to the impacts of climate change, it carries little weight in international climate

negotiations. Similarly, small island states, despite their great vulnerability to rising sea levels, often find it difficult to make their voices heard in these forums.

B) Involvement of non-state stakeholders: For example, at COP21 in Paris, over 800 commitments were made by non-state actors, including cities, regions, businesses and civil society organisations. However, these commitments are often voluntary and non-binding, which limits their impact and effectiveness.

7.3.2. Transparency and accountability in the implementation of international climate agreements

A) Monitoring and evaluation of national commitments: For example, the Paris Agreement's "enhanced transparency framework" aims to improve the transparency of climate action and support. However, its implementation has been a challenge, due to the limited capacity of some countries to monitor and report on their climate actions.

B) Access to information and public participation: For example, the Platform of Local Communities and Indigenous Peoples, established by the UNFCCC, aims to strengthen the participation and voice of indigenous peoples in climate decision-making processes. However, there are still obstacles to full and effective participation.

7.4. Climate justice: a central concept for more democratic climate governance

7.4.1. Definition and importance of climate justice

Climate justice is a concept that links the issues of climate change to those of social justice and human rights. The central idea is that those who are least responsible for climate change are often those who suffer its most serious consequences and have the least means to adapt. At the same time, these groups often have the least say in climate-related political decisions[13] .

For example, small island developing states, which contribute very little to global greenhouse gas emissions, are particularly vulnerable to rising sea levels and extreme weather events such as cyclones and floods. Similarly, poor and marginalised populations in both developed and developing countries are often most affected by the impacts of climate change, such as drought, heat waves and floods, and have fewer resources to adapt[14] .

Climate justice therefore underlines the need for an equitable response to climate change that takes into account the rights and needs of vulnerable groups. It is an important principle for more democratic global climate governance, as it requires equitable participation and representation in climate-related decisions.

7.4.2. Implications of climate justice for international climate governance

Climate justice has several key implications for international climate governance. Firstly, it highlights the need to give a voice in decision-making processes to the

[13] Mary Robinson Foundation - Climate Justice, 2021
[14] UNDP, 2020

groups most vulnerable to the impacts of climate change. This means not only giving developing countries a more prominent place in international climate negotiations, but also promoting the participation of local communities, indigenous peoples and other marginalised groups.

For example, the Alliance of Small Island States (AOSIS) has played a leading role in climate change negotiations, drawing attention to the existential risks that rising sea levels pose to its members[15] . Similarly, the Local Communities and Indigenous Peoples Platform, established by the Paris Agreement, aims to strengthen the role of these groups in climate change responses (UNFCCC, 2018).

Secondly, climate justice calls for a fairer distribution of the costs and benefits of climate action. This means recognising the historical and current responsibilities of developed countries for climate change, and providing adequate financial and technological support to developing countries for adaptation and mitigation[16] .

For example, the Green Climate Fund, created by the United Nations Framework Convention on Climate Change (UNFCCC), aims to channel funds from developed to developing countries to help them meet the challenge of climate change (Green Climate Fund, 2021).

7.4.3 Examples of climate justice initiatives

A number of initiatives have been put in place worldwide to advance climate justice. One of the most striking examples is undoubtedly the Adaptation Fund, created in 2001 under the Kyoto Protocol. This fund was designed to finance adaptation projects and programmes in the developing countries most vulnerable to the adverse effects of climate change[17] .

In addition, NGOs such as Greenpeace and Amnesty International have joined forces to launch the concept of "climate rights", aimed at ensuring respect for human rights in the context of climate change. This initiative has led to concrete actions, such as the Urgenda case in the Netherlands, where the courts ordered the state to reduce its greenhouse gas emissions[18] .

In the energy field, the concept of "just transition" has also been put forward to ensure that the transition to a low-carbon economy is equitable and inclusive. For example, the International Labour Organization's Global Just Transition Partnership aims to support countries in implementing just transitions for workers and communities, so that they are not left behind in the transition to a green economy[19] .

These examples show how climate justice can be integrated into global climate governance, with a focus on equity, participation and human rights.

7.5. Prospects for better integration of democracy in international climate governance

[15] Betzold, 2016
[16] Roberts and Parks, 2007
[17] Adaptation Fund, 2021
[18] Amnesty International, 2019
[19] ILO, 2018

Even if the challenges are numerous, several avenues can be explored to strengthen democracy in international climate governance. One solution may lie in the new paradigm of climate urgency presented in the figure below.

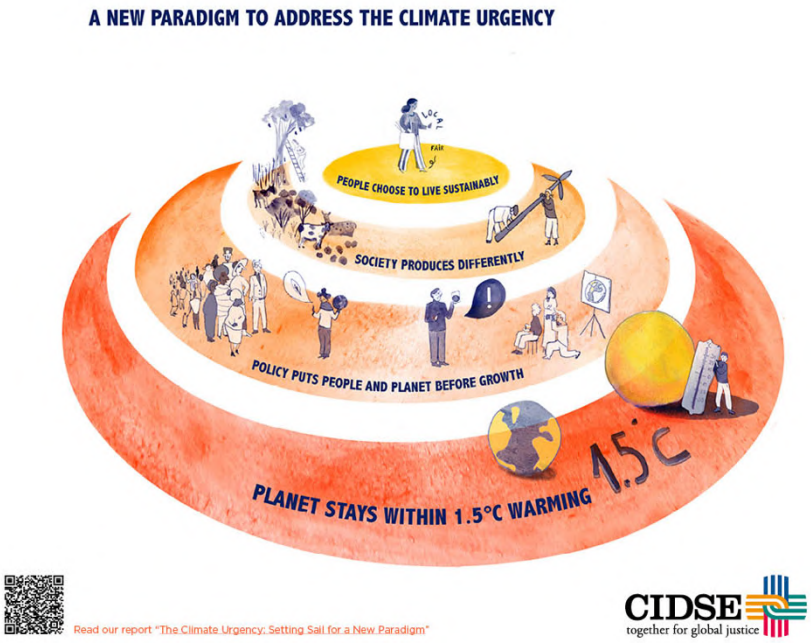

Figure 18: The climate emergency paradigm and democracy

7.5.1. Strengthen equitable representation in international institutions

A) Improving the representation of developing countries and small island states: There is a need to explore mechanisms to improve the representation of these countries in climate negotiations. The concept of "climate justice" is increasingly recognised and could guide these efforts.

For example, the Alliance of Small Island States (AOSIS) is an important interlocutor in climate negotiations, representing the interests of small island developing states. This group played a key role in the inclusion of the 1.5°C target in the Paris Agreement.

B) Encouraging more active and meaningful participation by non-state actors: It is crucial to develop mechanisms that allow non-state actors to have a real influence on decisions taken within international institutions, ensuring fair and transparent participation. For example, the Kyoto Protocol's Clean Development Mechanism (CDM) provides a platform for private sector participation in reducing greenhouse gas emissions.

7.5.2. Improving transparency and accountability in climate actions

A) Strengthening monitoring and evaluation mechanisms: Greater transparency is needed in the monitoring and evaluation of national commitments. This could involve the development of stricter international standards, as well as technical assistance for countries that find it difficult to monitor and report on their climate actions. For example, the Climate Policy Transparency Initiative

is working to improve the transparency, accountability and effectiveness of climate policies at the international level.

B) Promoting access to information and public participation: International institutions could play a more active role in promoting access to information on climate policies and actions, and in facilitating public participation in decision-making processes. For example, the UN Aarhus Convention establishes the right of access to information, public participation in decision-making processes and access to justice in environmental matters.

In summary, although international climate governance faces significant challenges in terms of democracy, there are also opportunities to improve representation, transparency and accountability. Achieving these improvements is not only essential for justice, but also for the effectiveness of the global fight against climate change.

7.6. Desirable developments for more democratic global climate governance

7.6.1. Towards greater involvement of citizens and civil society

It is essential to ensure broader and more meaningful participation by citizens and civil society in climate-related decision-making processes. This involvement can take place at various levels.

At national level, participatory democracy mechanisms such as public consultations, referendums and citizens' assemblies on climate can be used to involve citizens in the development of climate policies. In France, for example, the Citizens' Climate Convention brought together 150 citizens chosen by lot to draw up a set of measures to reduce the country's greenhouse gas emissions.

Other initiatives have also sought to involve citizens in climate decisions. For example, the Talanoa Dialogue, initiated at COP23 in 2017, used an inclusive and participatory process to gather ideas and experiences from people around the world to help boost the ambition of climate action.

7.6.2. The need for greater accountability and control over decisions

Another important aspect of more democratic climate governance is the accountability of the players involved. It is crucial to put in place solid mechanisms for monitoring, verifying and controlling the commitments made by countries. For example, the Climate Action Tracker is an independent tool that evaluates and monitors countries' climate actions and commitments.

To ensure greater accountability, some countries have introduced climate legislation. For example, the UK has a Climate Change Act which requires the government to set five-year 'carbon budgets' and report to Parliament on its progress.

Similarly, Sweden has adopted a climate law which stipulates that the government must present a climate action plan every four years and a progress report every year .

7.7. Illustrations by example

7.7.1. Analysis of situations where democracy has played a key role in climate governance

A) The 1987 Montreal Protocol: This protocol, aimed at protecting the ozone layer by progressively eliminating substances that deplete it, is another example where democracy played a key role. Every country in the world - 197 parties in all - became a party to the Protocol, making it one of the few universally ratified environmental agreements [28]. Decisions under the Protocol are taken by consensus or, if this is not possible, by a two-thirds vote. This means that each country has one vote, and the decisions taken are the result of a democratic process.

In addition, the Montreal Protocol has demonstrated flexibility and adaptability by evolving over time in response to new scientific knowledge and changes in technology and the economy. This has been made possible by a governance structure that encourages the participation and commitment of all countries, including developing countries. As a result, the Protocol has succeeded in reducing global production and consumption of ozone-depleting substances by more than 98%.

B) The 2015 Paris Agreement: This agreement is a success story in which the democratic principles of participation and consensus were essential. It was adopted by consensus by the 196 parties to the United Nations Framework Convention on Climate Change, which means that it was necessary to obtain the support of all countries, developed and developing.

C) The European Citizens' Climate Initiative: This citizens' initiative was launched by EU citizens demanding more ambitious climate policies. It illustrates the role that citizens can play in driving climate action.

7.7.2. Analysis of situations where the lack of democracy has hampered climate action

A. In many climate agreements, the lack of binding mechanisms has often been an obstacle to effective climate action. Unlike the Montreal Protocol, the Kyoto Protocol (1997) has faced many challenges that have hindered its full implementation. One of the main problems has been its failure to include all the major emitters. The United States, one of the largest emitters of greenhouse gases, never ratified the Protocol. In addition, developing countries, some of which have become major emitters since the agreement was signed, were not obliged to reduce their emissions.

The Kyoto Protocol also failed to establish an effective accountability mechanism for countries that did not meet their commitments. Although it provided for a compliance mechanism, it did not provide for effective sanctions for countries that failed to meet their emission reduction targets.

These shortcomings were partly due to the lack of genuine democracy in the negotiations and decisions relating to the Protocol. Developing countries often felt that they had no say in the negotiations, and the lack of an effective accountability mechanism undermined the democratic principle of accountability.

B. Suppression of climate information: In some countries, climate information has been suppressed or censored, hampering climate action. For example, under Donald Trump's administration in the US,

climate change information has been largely removed from government websites, hindering public access to this crucial information.

Climate action in China: While China is the world's largest emitter of greenhouse gases, the country's lack of democracy has often been cited as an obstacle to more effective climate action. For example, repression of freedom of expression can limit public debate on climate policy and prevent the emergence of innovative solutions.

These examples offer a view of the different ways in which democracy can influence climate governance. They show that greater democratisation can help stimulate climate action, but also that the absence of democracy can hamper efforts to tackle climate change.

They stress the importance of applying democratic principles consistently and ensuring that all players are accountable for their actions.

Climate change is one of the most important and urgent challenges of our time. Its global nature requires coordinated action and strong governance at international level. However, our exploration of global climate governance has revealed significant shortcomings, particularly where democracy is concerned.

The history of international climate agreements, from the Stockholm Conference in 1972 to the Paris Agreement in 2015, has shown progress, but also persistent obstacles and challenges. Unequal representation of countries and weak accountability are recurring problems that hamper the effectiveness of international efforts to combat climate change.

The concept of climate justice offers a new framework for tackling these challenges. It argues for a fairer approach to climate governance, taking into account the needs and rights of the most vulnerable and recognising historical and current inequalities. Examples such as the Urgenda case in the Netherlands and the Citizens' Climate Convention in France show the potential for greater citizen participation and legal accountability in climate action.

However, examples such as the US withdrawal from the Paris Agreement, increasing deforestation in the Amazon in Brazil, and opaque decision-making in China show that the challenges are considerable. It is essential to integrate stronger democratic principles into global climate governance, in particular by strengthening citizen participation, transparency and accountability.

In conclusion, it is clear that democracy plays a crucial role in global climate governance. However, a profound transformation is needed to ensure that international institutions and climate agreements fully reflect democratic principles. This transformation will involve greater participation by citizens and civil society, fairer representation and greater accountability and transparency. As we continue to fight climate change, it is essential that democracy is not just an ideal, but a reality in global climate governance.

In this chapter we have examined the crucial role of international institutions and democracy in climate governance. We have highlighted the challenges and progress made through global climate agreements, focusing on equity, particularly for developing countries and small island states.

The notion of climate justice is analysed, highlighting its importance in ensuring a fair distribution of responsibilities. Recommendations are put forward for strengthening citizen participation and accountability in climate decision-making.

Finally, various examples and case studies, such as the Montreal Protocol and the Kyoto Protocol, illustrate the complexity and challenges of democratic climate governance at international level.

8. GENERAL CONTEXT OF CLIMATE CHANGE IN EUROPE AND FRANCE

8.1. General framework

8.1.1. General context of climate change in Europe and France

Climate change is a major challenge for Europe and France, as well as for the world as a whole. European countries face different challenges depending on their specific geographical and socio-economic conditions. For example, northern countries such as Sweden and Finland are facing dramatic changes in their Arctic ecosystems[20] , while Mediterranean countries such as Spain and Italy are experiencing an increase in droughts and forest fires[21] . Similarly, Eastern Europe, including Poland and Hungary, must manage the impacts of climate change while transitioning from heavily coal-dependent economies to cleaner energy sources[22] .

France, with its diverse climate and geographical position, also faces a variety of impacts from climate change. For example, coastal regions are threatened by rising sea levels[23] , while agricultural regions are affected by changes in rainfall patterns, droughts and more frequent heat waves[24] .

Despite these challenges, Europe and France have been key players in global efforts to combat climate change. The European Union has adopted ambitious targets to reduce greenhouse gas emissions[25] , while France hosted the Paris Climate Agreement in 2015, which established a global climate agenda[26] . In addition, France has been at the forefront of innovation in climate democracy with the Citizens' Climate Convention initiative[27] .

8.1.2. Rationale for the ecological transition and democracy in Europe and France

In response to these challenges, Europe and France have made the ecological transition a strategic priority. The aim is to move to a low-carbon, climate-resilient economy, while guaranteeing a fair and equitable transition for all citizens.

The European Union has launched the "European Green Deal", an ambitious initiative aimed at making Europe the first carbon-neutral continent by 2050[28] . In France, the government has also taken steps to accelerate the ecological transition, with plans to close all coal-fired power stations by 2022 and increase the share of renewable energy[29] .

Europe and France have recognised that the challenge of climate change cannot be met without the active participation of citizens. The ecological transition must be

[20] Arctic Monitoring and Assessment Programme, 2017
[21] European Environment Agency, 2020
[22] World Bank, 2019
[23] National Observatory on the Effects of Global Warming, 2019)
[24] Ministry for the Ecological Transition, 2020
[25] European Commission, 2020
[26] UNFCCC, 2015
[27] Morel et al, 2021
[28] European Commission, 2019
[29] Ministry of Ecological Transition, 2020

democratic, involving citizens in decision-making and ensuring that the benefits and costs of the transition are shared fairly.

8.2. European initiatives on ecological transition

8.2.1. The European Union's path towards ecological transition

The European Union (EU) has always been involved in environmental issues, and its growing awareness of the global implications of environmental degradation has enabled it to develop its competences in this field. The Single European Act of 1986 established for the first time a specific EU responsibility for the environment, which was subsequently integrated into the co-decision process with the Maastricht Treaty of 1992. The 1997 Treaty of Amsterdam recognised the principle of sustainable development, while the 2007 Treaty of Lisbon introduced the objective of promoting environmental measures at international level.

EU environmental policy is guided by the eighth 'Environment Action Programme' for the period 2021-2030, which includes six main objectives such as reducing greenhouse gas emissions, adapting to climate change, protecting biodiversity and reducing pressure on the environment. As part of the Green Deal, the EU aims to achieve carbon neutrality by 2050, a target enshrined in law by the "Climate Law" of July 2021.

Numerous initiatives have been taken to achieve these goals, including the 'Fit for 55' package, which includes a series of legislative proposals to reduce greenhouse gas emissions by 55% by 2030. Other actions include the creation of a 'rights to pollute' market and the funding of environmental projects through the LIFE programme. The EU is also active in protecting air quality, promoting sustainable agriculture and restoring nature.

Environmental policy is a shared competence between the EU and the Member States. Decisions are generally taken through the ordinary legislative procedure, with the participation of various stakeholders such as NGOs, citizens' associations and scientific experts. EU environmental policy is guided by a number of fundamental principles, including the precautionary principle, the principle of prevention, the principle of correction at source and the "polluter pays" principle.

These principles are also pillars of the European Green Deal, an ambitious initiative to transform the EU into a sustainable, carbon-neutral economy. The following section will take a closer look at the European Green Deal, its objectives, the associated challenges and the importance of democratic participation in its implementation."

8.2.2. Europe's green and democratic transition: The European Green Deal

The European Green Deal (EGD), an ambitious initiative of the European Union (EU) launched in December 2019, aims to make its economy sustainable and neutral in terms of net greenhouse gas emissions by 2050. To achieve this colossal goal, the EDG proposes an interconnected range of policies covering various sectors, such as energy decarbonisation, energy efficiency, the circular economy, biodiversity restoration and more sustainable agriculture. (See Figure 19 which presents GDE)

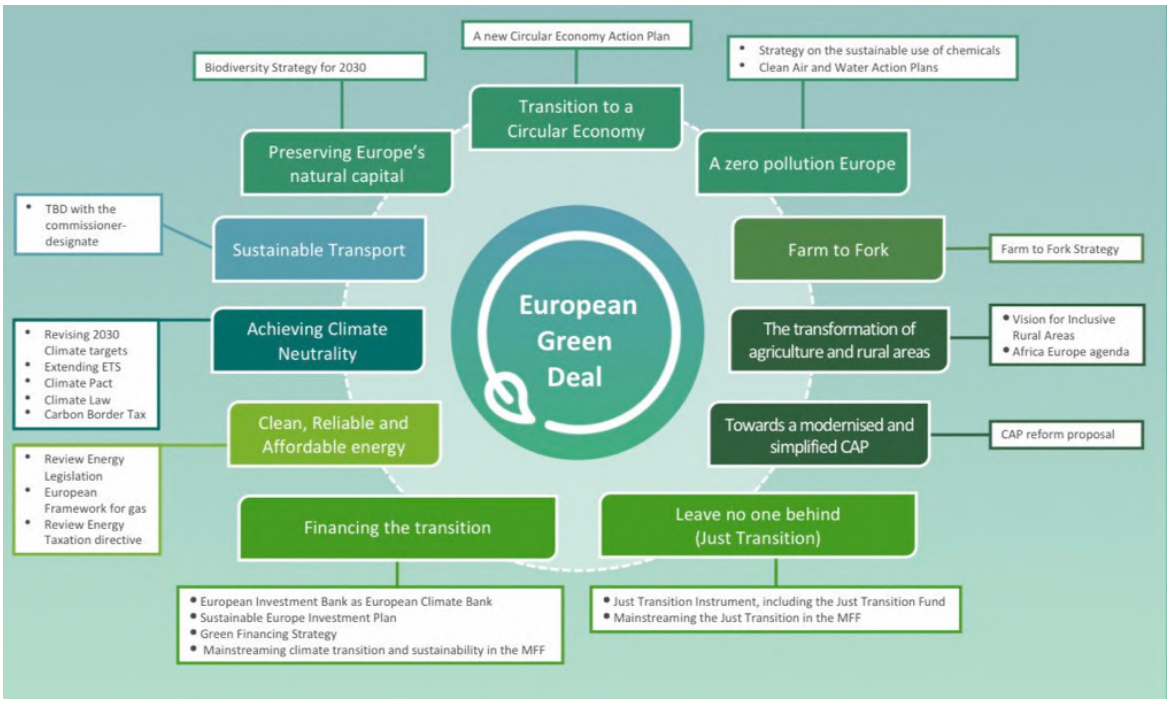

Figure 19: European Green Deal

The decarbonisation of energy is at the heart of the WDM, which requires a major transition to renewable energies. The circular economy, which aims to minimise waste and maximise the re-use of resources, is also a key pillar of the WDM.

The updating of the EU's "Green Taxonomy" in December 2021 is a significant step for the EDG. This taxonomy establishes specific criteria for the integration of certain energy technologies, including gas and nuclear, which has given rise to intense debate.

Despite the ambition and universal scope of the EDG, it has attracted criticism as to the feasibility of its objectives, the adequacy of its funding mechanisms, and the potential socio-economic implications. It is essential to stress that these challenges require major structural changes and active democratic participation.

Democratic participation has played a key role in the development and implementation of the EDG. Public consultations, parliamentary debates and negotiations between Member States have been at the heart of the process. However, inequalities in democratic participation have been noted, with disparities in influence and capacity between different Member States, regions, and societal groups. In addition, the technical complexity of many environmental issues raises concerns about the quality of public participation and its ability to reflect informed and diverse consent.

Moreover, although democratic participation has enriched the EDG, it has also led to compromise and delay. This highlights the inherent tension in democratic systems between consensus-building and decisive action. For the future, it is crucial to

strengthen democratic participation in the EDG, ensuring that all voices are heard, including those of marginalised communities and future generations.

The inclusion of a variety of non-state actors, such as businesses, NGOs and scientists, can enrich the decision-making process. However, it also raises questions of accountability and influence.

In conclusion, the EDG illustrates the potential and challenges of integrating democracy and ecological transition. A critical perspective stresses the need to strengthen democratic participation, to ensure the effectiveness and legitimacy of decision-making, and to achieve the ambitious objectives of the EDG.

8.2.3. Towards the ecological transition: the role of European climate legislation

The European Climate Act (ECA), adopted in June 2021, is another pillar of the EU's strategy to achieve carbon neutrality. The law consolidates the goal of carbon neutrality by 2050 and introduces an interim target of reducing greenhouse gas emissions by at least 55% by 2030 compared with 1990 levels ((replacing the previous EU target of a 40% reduction by 2030).

This legally binding legislation ensures that current and future European administrations remain committed to this goal. However, some feel that the 2050 target may not be ambitious enough, given the urgency of reducing greenhouse gas emissions.

The principle of democratic accountability is emphasised in the LEC, establishing procedures to monitor progress and hold Member States to account. Nevertheless, there are concerns about the unequal distribution of responsibility and effort between Member States, as the law does not set individual targets for each country. In addition, enforcement mechanisms and sanctions appear to be insufficient, which calls into question the effectiveness of the law.

Democratic accountability has influenced the LEC by promoting transparency and participation, and by introducing regular reviews and public reporting on progress towards carbon neutrality. However, decision-making can be slowed by the need for consensus between Member States, and compromises can reduce the impact of the law. In addition, the focus is often on compliance with processes rather than on achieving real results, such as reducing emissions.

Finally, there are both challenges and opportunities to strengthen democratic accountability under the ECL and EU climate governance. It is crucial to improve implementation mechanisms and ensure fair and effective action by all Member States. Furthermore, democratic accountability should encompass not only formal processes, but also include a variety of actors, including business, NGOs, citizens and future generations. The increase in litigation over climate liability raises questions about the role of courts in democratic climate governance. Despite the importance of democratic accountability in the ecological transition, there are limitations and a constant need to improve accountability mechanisms to ensure effective action against climate change.

8.3. European democratic mechanisms for the ecological transition

Presentation of the main EU mechanisms and structures for promoting and managing the ecological transition
The Just Transition Facility (JTF) is a major initiative of the European Union to ensure a fair and inclusive ecological transition. The mechanism is particularly focused on supporting those regions and communities that are most likely to be affected by the transition to a green economy, with the aim of ensuring that no one is left behind in this major transformation.

What makes the MTJ so special is its participatory and inclusive nature. This mechanism is designed to allow the participation of various stakeholders - national and local governments, businesses, civil society organisations, trade unions and citizens - in the decision-making process. This participatory model is intended to ensure that transition plans are tailored to the specific needs and challenges of local communities, while promoting public support for the ecological transition.

For example, the Silesia mining region in Poland, one of the most polluting regions in Europe, is benefiting from MTJ funding for the transition to a greener economy. The transition plans for this region were drawn up in close consultation with local stakeholders to identify green economic opportunities, skills needs and the necessary support measures.

Another example, in the Greek regions most affected by climate and energy change, the programme will promote a reduction in the carbon footprint. This will be the case in particular in Western Macedonia, Megalopolis and neighbouring municipalities, with the gradual phasing out of fossil fuel power stations, in the islands of the northern and southern Aegean and in Crete. The Just Transition Fund will be a driving force for economic diversification and modernisation, including job creation. It will also support skills upgrading and professional retraining for individuals affected by the transition.

8.3.1. Democratising the fight against climate change in Europe
"Fit for 55:
"Fit for 55", launched by the European Commission in July 2021, is an ambitious initiative comprising a series of legislative proposals, aligned with the EU's objective of reducing its greenhouse gas emissions by 55% by 2030 compared to 1990 levels. The initiative cuts across a multitude of areas, including energy, transport, taxation and emissions trading.

Democratic participation and public accountability are key pillars of Fit for 55. It is conceived not simply as a fight against climate change, but also as a democratising approach that encourages the active participation of citizens and different stakeholders in the process. It recognises that the commitment of society as a whole is needed to achieve the objective of reducing greenhouse gas emissions, and not just that of governments or big business.

A concrete example of this democratisation is the "Dialogue with Citizens on Climate", an initiative of the European Commission within the framework of "Fit for 55". The aim of this dialogue is to involve European citizens in discussions on climate

policies, to gather their ideas and concerns, and to inform them about the EU's climate actions.

In the same vein, the decision-making process around the 'Fit for 55' proposals requires in-depth consultation with a variety of stakeholders, ranging from national governments and local authorities to businesses, NGOs and citizens. It is an initiative that aims not only to achieve environmental goals, but also to strengthen the democratic process by promoting wider and more inclusive participation in climate decision-making.

However, this democratic aspiration is not without its challenges. Climate policies can have diverse socio-economic impacts in different EU countries and regions. It is therefore crucial that the voices of all stakeholders are heard and taken into account. In addition, the establishment of accountability mechanisms to monitor the implementation of policies and ensure their alignment with the emissions reduction target is also fundamental. In short, "Fit for 55" is a clear demonstration of the intersection between the fight against climate change and democratic governance.

8.3.2. The Climate Pact

The Climate Pact is a key element of the Green Pact for Europe. It aims to involve citizens in the transition to a carbon-neutral economy. In concrete terms, it is an initiative that aims to involve all citizens and stakeholders in the fight against climate change and efforts to make the transition to a low-carbon economy.

The Climate Pact provides a platform for sharing information, ideas and best practice. It encourages citizens to take action at their own level (for example, reducing their energy consumption, choosing greener modes of transport, consuming more sustainably, etc.) and offers tools and resources to help achieve these goals.

It is also a space for dialogue and discussion on climate policies, enabling citizens to participate in shaping these policies. In this sense, it aims to strengthen climate democracy, by giving citizens the opportunity to make an active contribution to the fight against climate change.

8.3.3. The ecological transition at local level in Europe: Key examples

Introduction to local ecological transition initiatives in Europe

While the EU is rolling out high-level initiatives, the green transition is also happening at local level. Many cities and regions across Europe have put in place strategies to reduce their carbon footprint, improve energy efficiency and promote a circular economy.

- **The energy transition in Copenhagen, Denmark**

The various policies adopted by Denmark have given it an image as a "*champion in the fight against climate change*".

Copenhagen is often cited as an example of a city committed to the ecological transition. It aims to become the world's first carbon-neutral capital by 2025. This ambition is underpinned by a strategy that includes investment in wind power, district heating powered by renewable energy sources, and the promotion of cycling and public transport.

- **Recycling in Ljubljana, Slovenia**

Ljubljana, the capital of Slovenia, is another city that is excelling in the green transition, particularly in the area of recycling. The city has implemented a waste management system that saw 68% of its waste recycled in 2018, well above the EU average of 46%.

These local initiatives have had a significant impact. In Copenhagen, for example, energy consumption and carbon emissions have been reduced, while in Ljubljana the recycling rate has increased significantly. These examples show that it is possible to make an ecological transition on a local scale.
However, these initiatives have also encountered challenges. For example, the high cost of the energy transition in Copenhagen and the need for behavioural change in Ljubljana. Nevertheless, these cities have managed to overcome these challenges thanks to a combination of public support, political will and cooperation with the private sector.

8.4. French initiatives in the field of ecological transition

As a member of the European Union and a signatory to the Paris Agreement, France is committed to an ecological transition aimed at mitigating climate change and promoting sustainable development. This commitment is built around a multitude of initiatives which, at different levels, aim to reduce greenhouse gas emissions, promote renewable energies, protect biodiversity and steer the economy towards greater sustainability. These initiatives are interconnected, forming a network of collaborative and synergistic actions.

The Schéma Régional d'Aménagement, de Développement Durable et d'Égalité des Territoires (SRADDET) is one of the main tools for this transition. This regional planning document, drawn up by the regional councils, sets out the region's broad guidelines for sustainable development and territorial equality. It plays a central role, serving as a pillar for all environmental initiatives at regional level.

At national level, the Climate Plan and the Energy Transition Law for Green Growth outline France's environmental policy. These ambitious texts have a direct influence on the development of SRADDETs, setting national targets for the reduction of greenhouse gas emissions and the development of renewable energies.

The "GreenFin" label, for its part, aims to stimulate investment in environmentally-friendly projects. This label can help to achieve the objectives of the SRADDETs, by encouraging investors to finance projects that are in line with the guidelines set out in these plans.

Schemes such as Positive Energy Territories for Green Growth (TEPCV) and Ecological Transition Contracts (CTE) are concrete levers for action at local level. They help to implement the guidelines set out in the SRADDETs by supporting local ecological transition projects, whether aimed at improving energy efficiency, developing renewable energies or promoting the circular economy.

At the same time, the National Strategy for Biodiversity provides a framework for preserving biodiversity across the country. By being reflected in the SRADDETs, this

strategy encourages the regions to integrate the protection of biodiversity into their own development objectives.

The ecological transition is not just a technical or economic issue, but also a profoundly democratic process. Citizens play a crucial role in this process, and their active involvement is increasingly sought.
This is particularly evident in public consultations on the environment, which have become an indispensable tool in the development of environmental policies. These consultations enable citizens to express their opinions, share their ideas and play an active part in making decisions that will have a direct impact on their environment and quality of life. This process strengthens democracy by opening up public debate, promoting transparency and giving every citizen a voice in decisions that affect the environment.

Local Agenda 21s are also an excellent example of how local democracy can contribute to the ecological transition. They provide a framework for local authorities, in consultation with their citizens, to define and implement their own sustainable development programmes. These agendas are drawn up in a participatory way, enabling everyone to contribute to defining their community's objectives and actions. In this way, they encourage a "bottom-up" ecological transition, rooted in local realities and supported by citizens.

In short, citizen participation is an essential pillar of the ecological transition in France. It enriches the process by integrating a diversity of perspectives and promoting broader ownership of sustainability objectives. This democratic dimension, far from being a simple option, is a sine qua non for a successful and sustainable ecological transition.

8.4.1. A democratic approach to the ecological transition:

- **The Climate and Resilience Act**

In the French context, the dynamism of the ecological transition and its democratic nature are recurring themes that are materialising through various initiatives. These participatory and inclusive approaches, which place the citizen at the heart of the action, mark an important stage in the quest for a more sustainable society. However, the challenge of climate change requires us not only to reduce greenhouse gas emissions and preserve biodiversity, but also to strengthen our ability to resist and adapt to the impacts of climate change that are already underway. The Climate and Resilience Act is part of this approach.

The "Climate and Resilience Law" represents a significant development in France's environmental legislation. Launched by French President Emmanuel Macron in response to the 2019 "great national debate", the law is the result of recommendations from the Citizens' Climate Convention, a group of 150 citizens commissioned to develop strategies for reducing greenhouse gas emissions. The law, which will be ratified in August 2021, is a significant step towards the ecological transition, establishing regulations that affect major sectors of everyday life, such as consumption, production, transport, housing and food.

It is not only an illustration of France's commitment to the goals set out in the Paris

Agreement, but also a crucial step in the international effort to combat climate change. The significance of this law lies in its multidisciplinary scope, its pioneering nature and the introduction of penalties for environmental damage, underlining the urgency and priority of the ecological transition in the French legislative framework.

This law is also an important milestone in terms of democratic practice. Originally modelled on the proposals of the Citizens' Climate Convention (CCC), the law is the result of a unique deliberative process involving 150 randomly selected citizens. This method enabled a representative portion of the French population to have a direct influence on environmental legislation. This law therefore also embodies a new form of democratic and civic engagement, where the public can actively participate in shaping the political agenda.

It embodies an effort to involve citizens more closely in political decision-making and to integrate the public voice into the design of environmental legislation, thereby consolidating the inclusive and participatory nature of French democracy. The measures in the law, which will be gradually rolled out until 2034, express this commitment by citizens to a future that is more respectful of the environment.

- **The Citizens' Climate Convention**

In France, the involvement of citizens in climate-related decisions took a particularly innovative turn with the introduction of the Citizens' Climate Convention. This initiative, seen as a novel experiment, brought together 150 randomly selected citizens to suggest initiatives to combat global warming, thus highlighting the ability of citizens to take judicious and bold decisions on issues as complicated as climate change and the transition to ecology.

The CCC was introduced by French President Emmanuel Macron in response to the "Gilets Jaunes" movement. The aim was to give ordinary citizens a role in shaping France's climate policies. The 150 convention participants, chosen at random to represent the diversity of French society, were tasked with suggesting measures to reduce the country's greenhouse gas emissions by at least 40% by 2030, compared with 1990 levels, with a view to social justice.

Process and results:
The Convention process lasted nine months, during which members met to discuss and propose solutions to the problem of climate change. These discussions were informed by specialists in climatology, economics and other relevant fields. At the end of this process, the Convention issued a report containing 149 proposals on a variety of subjects, ranging from renovating buildings to improve energy efficiency, to encouraging more environmentally-friendly modes of transport, to improving sustainable agriculture.

Impact and continuity: The
impact of the Citizens' Climate Convention on French policy has been significant. Several of the Convention's proposals have been adopted by the French government and incorporated into the 2021 Climate and Resilience Act. Nevertheless, some of the Convention's boldest proposals were not adopted, leading to criticism from some Convention members and other climate campaigners.

However, the experience of the Convention has shown that deliberative democracy can play a crucial role in the fight against climate change. It has shown that when citizens are informed and supported, they are capable of making thoughtful and ambitious decisions on complex issues such as climate.

8.4.2. Ecological Transition at Local Level: Examples from France

In the search for solutions to the environmental challenges of our time, attention has increasingly turned to the local level. In France, a large number of towns, regions and local authorities have taken steps to combat climate change and promote sustainability. These initiatives are motivated by the growing understanding that the ecological transition requires not only national and international policies, but also local actions, adapted to the specificities of each territory.

It is in this context that the concept of territorial resilience takes on its full importance. To achieve a successful ecological transition, territories must not only reduce their impact on the environment, but also strengthen their capacity to resist and adapt to environmental, economic and social shocks and stresses. Territorial resilience therefore offers a valuable framework for understanding and guiding ecological transition efforts at the local level. In this section, we will explore how this concept is applied.

- **The concept of territorial resilience**

Territorial resilience is a concept that refers to the capacity of an area - be it a neighbourhood, a city, a region or even a country - to resist, adapt and recover from shocks and stresses, whether economic, environmental, social or other.

- Environmental resilience :

This includes an area's ability to withstand and adapt to environmental shocks such as natural disasters (floods, storms, droughts, etc.), as well as long-term environmental stresses such as climate change. This may involve actions such as protecting wetlands to absorb flooding, planting trees to mitigate urban heat islands, or implementing renewable energy technologies to reduce dependence on fossil fuels.

- Economic resilience :

This refers to an area's ability to withstand and recover from economic shocks such as recessions or financial crises. This can include measures such as diversifying the local economy, supporting small businesses and entrepreneurs, or providing safety nets to help residents cope with periods of unemployment or falling incomes.

- Social resilience :

This refers to the ability of a community to remain cohesive and to function despite social shocks and stresses, whether these be social tensions, conflicts, public health problems or others. This can include actions such as strengthening community links, supporting education and training, or providing health and wellbeing services.

Territorial resilience is increasingly recognised as an essential element of territorial planning and management. By anticipating and preparing for potential shocks and

stresses, territories can not only recover more quickly when they occur, but also use these challenges as opportunities to innovate, learn and grow stronger.

Local ecological transition initiatives in France

It is important to emphasise the abundance of initiatives emerging in France to develop sustainable towns and strengthen the resilience of territories. These projects, which range from small rural communities to major metropolises, demonstrate a strong desire to adapt to the environmental, economic and social challenges of the 21st century. However, the range and diversity of the experiments underway is such that it is impossible to list them all. Whether in the fields of energy, housing, mobility or agriculture, each region is deploying its own solutions, adapted to its specific characteristics and resources. This rich mosaic of initiatives bears witness to the creativity and determination with which France is committing itself to the ecological transition at local level. Nevertheless, by way of example, we will look at the city of Grenoble, which in 2022 was elected European Green Capital.

- The example of Grenoble :

The city is widely recognised as a pioneer in the ecological transition in France. Grenoble has distinguished itself primarily in the field of sustainable mobility. It has shown boldness by adopting a progressive urban transport plan, developing a vast tram network and introducing a self-service bicycle system. Measures have also been taken to moderate the use of private cars, notably through the introduction of restricted traffic zones.

At the same time, the issue of energy has been tackled proactively. Grenoble has opted for renewable energies, investing in hydroelectricity, wind power and solar energy. In addition, the energy efficiency of buildings has been improved through targeted programmes.

In addition to these environmental initiatives, Grenoble is also renowned for its commitment to participatory democracy. In particular, it has introduced participatory budgets, giving its citizens the opportunity to propose and choose the projects financed by the city.

It is important to stress, however, that although Grenoble is a model in the field of ecological transition, the city still faces challenges. It continues to innovate and adapt its policies to meet the ever-changing demands of environmental issues, technological advances and the expectations of its residents.

In conclusion, **the ecological transition is not only a major environmental challenge, it also marks a profound transformation in the way we envisage and organise society. Through this prism, it is essential to highlight the crucial role of democratic initiative in favour of the ecological transition,** as shown in Figure 19 below.

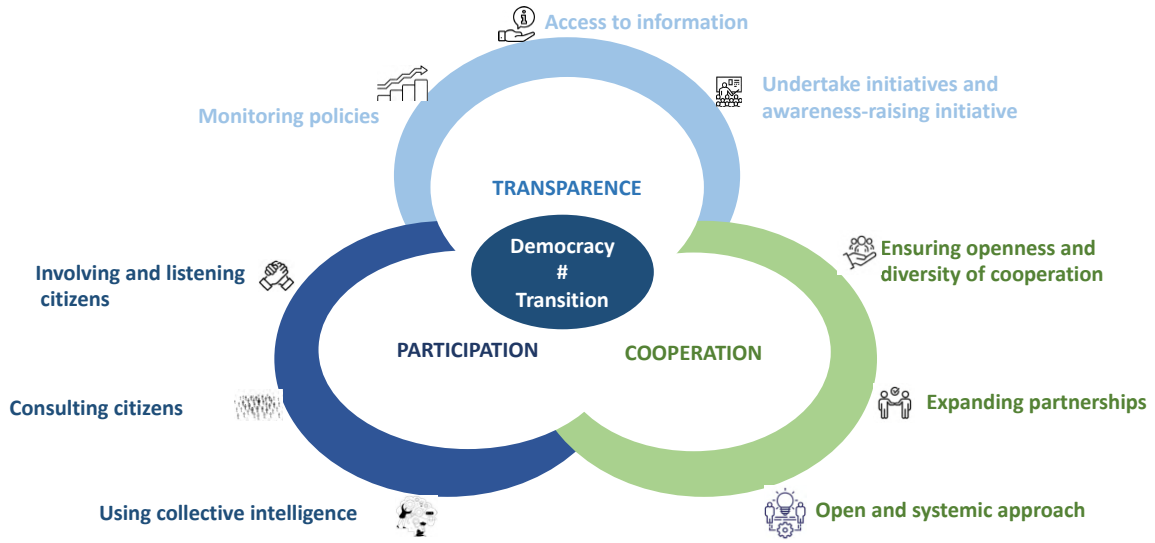

Figure 20: The fundamental prism of democracy and ecological transition

We are reminded of this perspective by the introduction of ambitious legislation and innovative mechanisms at national and supranational level. The European Union's Green Deal and Climate Pact are concrete examples of this approach on a continental scale, aimed at mobilising all available resources to meet the challenges of climate change. In France, initiatives such as the Resilience Act, the Citizens' Climate Convention and the SRADDET are further proof of the country's commitment to a democratic ecological transition.

These initiatives go beyond purely environmental measures. They also contribute to the transformation of our decision-making process by encouraging more active and informed citizen participation, and by ensuring the involvement of parties who are often excluded from these decisions.

The concept of territorial resilience lies at the heart of this transformation. It highlights the capacity and willingness of local communities to respond and adapt to challenges, drawing on their specific characteristics and resources. This implies an approach to the ecological transition that is deeply rooted in the local fabric, rather than the application of a standardised solution.

Ultimately, to make a success of the ecological transition, it is necessary to combine the environmental imperative with a robust participatory democracy, while strengthening and respecting the resilience of territories. This requires innovation, collaboration and mutual learning, in order to build a society that is not only sustainable, but also more equitable. While this is a considerable challenge, it is also a unique opportunity to rethink and shape our world for a better future.

This chapter highlights the challenges posed by climate change in Europe, with a particular focus on France, while outlining the initiatives deployed in response.

It highlights the key role played by the European Union through the European Green Deal initiative, in conjunction with France's efforts to catalyse the transition to a greener future. The chapter highlights the vital importance of citizen engagement and territorial resilience in this fight against climate change, with a call for a democratic and inclusive ecological transition. It also notes the importance of the "Citizens' Convention" in this process.

It also highlights joint Franco-European initiatives for the ecological transition, highlighting the essential role of international cooperation in meeting the global challenges of climate change.

9. TOWARDS A DEMOCRATIC ECOLOGICAL TRANSITION: DELIBERATION, PARTICIPATION AND INCLUSION

9.1. A more inclusive vision of democracy

Democracy is widely recognised as government of the people, for the people and by the people, seeking to strengthen the sovereignty of the people. However, this model can present difficulties when it comes to managing complex and technical issues, such as the ecological transition, where collective decision-making requires an in-depth understanding of the social, economic and scientific issues at stake.

Democracy needs to find ways of including all voices, especially when dealing with issues as complex as climate change and ecological transition. This underlines the importance of an inclusive decision-making process that incorporates a multitude of opinions and perspectives, while clearly communicating the reasons for and benefits of the policies in place.

Let's take the example of a fisherman in a small coastal community. This person could be deeply affected by regulations aimed at protecting endangered marine species or preserving the marine ecosystem. These rules could limit his access to certain fishing grounds or restrict the types of fish he is allowed to catch, which could have a direct impact on his income and his ability to provide for his family.

In addition, the local economy of the community could be dependent on the fishing industry and would therefore also be affected by these conservation policies.
From the fisherman's point of view, these regulations could appear to threaten his way of life and that of his community. He could feel excluded from the decision-making process that leads to the development of these policies, particularly if they are drawn up by legislators located in urban centers far removed from his day-to-day experience.

They may see conservation policies as an obstacle rather than a means of protecting the environment in the long term, and they may feel that their concerns and needs are not sufficiently taken into account in the decision-making process. This could make it difficult for them to see the long-term benefits of marine conservation, such as the preservation of the ecosystem and the sustainability of the fishing industry.

This example shows us that democratic decision-making can be perceived as excluding certain voices, particularly when it comes to complex environmental issues that require a balance between immediate economic needs and long-term environmental preservation.
Democracy is not simply a political system, but a constantly evolving process that requires the active involvement of civil society, not only during elections, but also through regular public debate and constructive challenge.

It can, for example, evolve to become more inclusive, deliberative and participatory, promoting greater citizen involvement in political decision-making. This brings us to the next part of our report, where we examine how deliberative and participatory

democracy can be used as a tool to facilitate a more balanced and inclusive ecological transition.

9.2. Deliberative and participatory democracy: tools for the ecological transition

The growth of participatory and deliberative democracy in Europe has led to an exponential increase in the number of participatory mechanisms. Thousands of experiments have been carried out, leading to the creation of neighbourhood councils, consensus conferences and other innovative schemes that have been institutionalised in many countries. These initiatives have led to the emergence of a new institutional reality: ***participative and deliberative governance.***

Although initially used in the international context and in development policies, participatory and deliberative governance is now applicable to many European systems. It aims to involve civil society in the decision-making process, through structured debates and deliberative processes.

9.2.1. Concept and importance of deliberative democracy

Alongside participatory processes such as public consultations and participatory budgets, there has been a noticeable trend towards deliberation in OECD countries over the past decade. This trend can be seen in the emergence of mini-publics or assemblies of citizens chosen by lot, initiated either by the authorities or by civil society.

Specifically, deliberative democracy is a form of democracy in which citizens, either directly or through their representatives, take part in in-depth discussions and debates before making a decision. It aims to encourage open, balanced and informed dialogue on public policy. Its aim is to produce legitimate and rational decisions that respect the diversity of perspectives and are taken collectively. Deliberative democracy plays a fundamental role because it involves wider public participation in decision-making, promotes dialogue and mutual understanding, and can lead to more legitimate and effective decisions.

9.2.2. Participatory democracy: definition, role and limits

Participatory democracy is a form of democracy that involves the active participation of citizens in the political process. It can take a variety of forms, such as public forums, citizens' committees, public consultations, participatory budgeting, etc.

Participatory democracy plays a crucial role in the democratisation of decision-making by enabling citizens to participate directly in the formulation of policies and laws. However, it also has limitations, such as the risk of domination by particular groups, the lack of resources for effective participation, and the difficulty of achieving sufficient representativeness.

9.2.3. Participatory and deliberative democracy: complementarities and differences

Participatory democracy, characterised by the active involvement of citizens in decision-making[30] , and deliberative democracy, which emphasises dialogue, argumentation and negotiation[31] , are two distinct but complementary approaches to ecological transition. These two forms of democracy promote inclusion, accountability and consensus, which are essential for tackling the complexity of the ecological transition[32] .

While they pursue the same goal, their method of selecting participants differs. Participatory initiatives are open to all on a voluntary basis, which can lead to limited diversity and make it difficult to synthesis individual opinions. Deliberative exercises, on the other hand, are based on a random selection of citizens to ensure genuine deliberation in preparation for decision-making.

9.2.4. Examples of deliberative and participatory democracy applied to the ecological transition

Apart from France, which we have already mentioned with the example of the Citizens' Climate Convention (CCC), Ireland provides another example of how deliberative democracy can be used to facilitate the ecological transition. The Citizens' Assembly, made up of 99 randomly selected citizens, was set up to debate and propose solutions to major public policy issues, including climate change.

From 2016 to 2018, the Assembly focused on developing measures to enable Ireland to become a key player in the fight against climate change. Over a number of deliberative sessions, members of the Assembly put forward various recommendations, ranging from the introduction of taxes on carbon emissions to the promotion of renewable energy and shared modes of transport.

The Irish government has given serious consideration to the Citizens' Assembly's proposals, incorporating them extensively into its climate policy. This demonstrates how deliberative democracy can effectively guide environmental action on a national scale.

Belgium is recognised as a pioneer in the adoption of deliberative mechanisms within its institutions. In 2019, the German-speaking community introduced a council and permanent citizens' assemblies. Since 2021, the Brussels-Capital region has adopted "deliberative commissions" made up of MPs who invite citizens selected at random. At federal level, a bill is currently being prepared to create mixed commissions comprising both citizens and members of the House of Representatives. In addition, the Belgian federal government has set up an online consultation platform entitled "A country for tomorrow" with the aim of strengthening citizens' confidence in politics and encouraging their direct participation in the decision-making process.

Outside Europe, Australia has been experimenting with the organisation of citizens' assemblies or panels at regional and local level since the early 2000s. In June 2021, the New Democracy Foundation submitted a report setting out various options for integrating citizens' deliberations into the work of parliamentary committees in response to a request from the Speaker of the New South Wales Legislative

[30] Pateman, 1970
[31] Habermas, 1984
[32] Dryzek, 2005

Assembly. The report proposes ways of involving citizens in the work of parliamentary committees and highlights the importance of integrating citizen deliberation into the decision-making process.

Other examples include the Participatory Budget process in Porto Alegre, Brazil, which enabled citizens to deliberate and decide on the allocation of part of the municipal budget, including for environmental projects.

These examples from around the world are numerous and show the potential of deliberative and participatory democracy for the ecological transition, while also highlighting the challenges for its effective implementation.

9.3. Challenges of participatory and deliberative governance

While participatory and deliberative democracy promotes greater involvement of citizens in decision-making processes, it is essential to ensure that this participation is fair. In this context, the question of fair representation is a crucial issue. The various players must have equal weight to ensure that the decisions taken truly reflect the democratic consensus.

However, the weight of certain entities in this form of governance can be disproportionate, creating an imbalance. The example of the European Chemicals Agency is very telling in this respect. Sociologist Sylvain Laurens has shown that companies, particularly those in the chemical sector, can have considerable influence over the decision-making process because of their substantial resources. The European Chemical Industry Council, for example, has a budget of €40 million and 160 employees, while Greenpeace, the largest non-governmental organisation in this context, has a much more modest budget of €3.8 million and 15 employees.

This shows that participatory and deliberative governance can often be biased in favour of companies rather than NGOs, consumer associations or trade unions. This underlines the importance of citizen counter-expertise, especially in a context where administrative agencies play an increasingly important role in public decision-making.

To achieve a true democratisation of governance, it is essential to include not only citizens and voluntary associations, but also diverse cross-sections of the population and the organised forces of civil society. Deliberative processes, such as consensus conferences and citizens' assemblies, are ways in which citizens can engage meaningfully with the political process. They enable not only wider and more diverse participation, but also more in-depth deliberation on public policies.

However, despite this progress, the question remains as to whether these developments are sufficient to establish citizens and their associations as central players in the decision-making process. Despite the expansion of participatory and deliberative governance mechanisms, there is still a danger that key decisions will be taken by markets, technocratic groups or large multinational companies.

9.3.1. The impact of digital technologies on citizen participation and deliberative democracy

The advent of digital technologies has revolutionised the way citizens interact with the democratic process. Social media platforms, online voting applications,

discussion forums and other digital tools have made it easier for citizens to engage in public debate, enabling them to engage more directly and frequently in political discussions[33] . Moreover, these technologies enable people to organise themselves, share information and make their voices heard effectively and on a large scale. Online deliberation platforms such as Decidim or DemocracyOS, for example, allow citizens to participate in political discussions and decisions from a distance.

However, digital technologies can also pose challenges, such as digital exclusion, filter bubbles and the risk of information manipulation.

9.3.2. Potential and risks of digital technologies for the ecological transition

In the context of the ecological transition, digital technologies can serve as powerful tools to facilitate deliberative democracy. They can help to disseminate information on environmental challenges, encourage public debate on adaptation strategies, and gather citizens' contributions to the formulation of environmental policies[34] .

For example, crowdsourcing platforms can be used to gather ideas from citizens on how to reduce greenhouse gas emissions or manage waste more sustainably.

However, the use of digital technologies in deliberative democracy also entails risks and challenges. The first is the digital divide, which can exclude certain groups from online participation due to their lack of internet access or limited digital skills[35] . Another challenge is online misinformation, which can hamper the quality of deliberation by spreading false information about environmental issues[36] . Finally, privacy protection and data security are major concerns in the use of digital technologies for citizen participation[37] .

Another factor to consider is the environmental impact of digital technologies. The impact of communications networks, terminals and usage on the environment is a growing concern. Digital technology now accounts for 3 to 4% of greenhouse gas emissions worldwide.

9.3.3. The importance of education for ecology and citizenship

Education for ecology and citizenship plays a crucial role in achieving a democratic ecological transition. Ecological education, also known as environmental education, aims to equip individuals with the knowledge, skills, attitudes and values needed to shape a sustainable future[38] . It fosters a deep understanding of environmental issues and inspires people to take action to solve these problems.

Citizenship education, on the other hand, aims to prepare individuals to participate actively in democratic life. It teaches respect for human rights, tolerance, inclusion and civic responsibility, skills that are essential for democratic deliberation and collective decision-making[39] .

[33] Gibson, Lusoli, & Ward, 2005
[34] Bria, 2018
[35] Norris, 2001
[36] Wardle & Derakhshan, 2017
[37] Bennett, 2012
[38] UNESCO, 2017
[39] Council of Europe, 2018

By combining these two forms of education, we can create ecologically aware citizens who are not only capable of understanding environmental challenges, but also of taking an active part in solving them.

9.3.4. Strategies for strengthening education for ecology and citizenship

To strengthen education for ecology and citizenship, several strategies can be used. Firstly, it is essential to integrate these themes into school curricula at all levels, from primary school to university. Teachers must be trained and supported to teach these subjects effectively[40] .

In addition, learning by doing is an effective strategy for reinforcing education in ecology and citizenship. Action learning projects, such as community gardening or recycling projects at school, can help students understand environmental issues in a practical and meaningful way[41] .

Finally, digital technologies can be used to support environmental and citizenship education. Online platforms, educational games and mobile applications can facilitate interactive learning and engage students in a fun way[42] .

9.4. Strategies and prospects for a democratic ecological transition

9.4.1. The importance of local action

Local action is a key element of the democratic ecological transition. Local initiatives have the potential to reduce greenhouse gas emissions, promote sustainable lifestyles and resilience, and strengthen citizens' commitment to the environment. In addition, local action often enables more precise and effective adaptation to local specificities (geographical, cultural, socio-economic, etc.).

Municipalities, in particular, have a key role to play. They can adopt climate action plans, promote energy efficiency, encourage the circular economy, develop green infrastructure and so on. Local initiatives can also take the form of energy cooperatives, community gardens and reforestation projects, among others.

Finally, local action can be an innovation laboratory for the ecological transition, enabling new solutions to be tested and disseminated.
For example, ecovillages (such as Findhorn, in the north of Scotland) that focus on self-sufficiency, permaculture, the use of renewable energy and reducing the ecological footprint.

9.4.2. The role of citizens' movements

Citizens' movements also play a crucial role in the democratic ecological transition. They can raise public awareness, put pressure on governments and companies, propose solutions and facilitate citizen participation in climate action.

These movements can take many forms, from grassroots groups to international NGOs. They can focus on a range of issues, such as climate justice, biodiversity conservation, renewable energy, sustainable agriculture and so on.

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[40] Tilbury, 2011
[41] Ballantyne & Packer, 2009
[42] Kamarainen et al, 2013

A famous example is the "Fridays for Future" movement initiated by Greta Thunberg, which has succeeded in mobilising millions of young people around the world to demand more ambitious action against climate change.
These movements mobilise citizens of all ages and backgrounds, demonstrating that the ecological transition is an issue that concerns all citizens.

9.4.3. Public policies to promote a democratic ecological transition

Public policies have a major role to play in facilitating and supporting a democratic ecological transition. This involves creating a favourable regulatory and fiscal framework, providing funding and incentives, promoting research and innovation, and guaranteeing access to information and citizen participation.

For example, governments can introduce carbon taxes, subsidise renewable energy and energy efficiency, regulate greenhouse gas emissions, and so on. They can also support citizen participation by organising public consultations, supporting local initiatives and citizens' movements, and educating the public about ecology and climate change.

These policies must be fair and balanced, so as not to exacerbate social inequalities and avoid a reaction of rejection on the part of the population.

9.5. Sobriety as a Democratic Principle

Although often considered from an individual perspective, sobriety can also be explored through the prism of democracy. We will analyse how sobriety can be seen not only as a personal choice, but also as a principle at the heart of democratic processes. We will explore how collective decisions can encourage more responsible and moderate consumption, thus illustrating the link between sobriety and democracy. This analysis will be supported by examples from different regions of the world, showing how various democratic societies are integrating the concept of sobriety into their policies and actions.

9.5.1. Sobriety as a democratic choice

In a democratic society, citizens have the freedom and power to make informed choices. Such a choice can be the adoption of a sober lifestyle, which emphasises the responsible and sustainable use of resources. For example, democratic policies that promote sobriety can include incentives to use public transport, to recycle and to consume local and seasonal produce.

In cities such as Amsterdam in the Netherlands, local democracy has led to the emergence of a solid infrastructure that favours cycling, reducing the use of cars and promoting more economical transport. Following in the footsteps of the Netherlands and its cycling culture, France recently (on 5 May 2023) unveiled a "Cycling and Walking Plan 2023-2027" worth over €2 billion.

On 6 October 2022, the French government also unveiled an ambitious energy efficiency plan aimed at reducing overall energy consumption by 10% by 2024. This concerns everyone, from the State to the general public. The plan includes 15 key

measures to combat energy waste in all sectors, with financial incentives to encourage households to adopt more sustainable behaviour.

These policies reflect a growing public awareness of the need to combat climate change and promote sustainable lifestyles. This is another aspect of how sobriety can be seen as a democratic choice: it is a choice that society as a whole makes to promote common well-being.

9.5.2. Sobriety as a democratic necessity

To preserve the environment and resources for future generations, it is essential to adopt an attitude of sobriety. A democratic society has the potential to help facilitate this transition. By involving citizens in decision-making, adopting laws and regulations that favour sustainability, and promoting education and public awareness of the environment, a democracy can effectively encourage sobriety.

One example of sobriety encouraged by democracy is Sweden's recycling policy. In Sweden, waste management and recycling are heavily regulated by the government. Swedish policy encourages waste minimisation and recycling by applying taxes on landfill, financially supporting recycling initiatives, and promoting a culture of reuse. This has enabled Sweden to recycle almost 100% of its household waste. This is an example of how democratic decisions can encourage more sober and environmentally-friendly consumption.

9.5.3. Sobriety, democracy and social justice

Adopting sobriety can also have positive implications for social justice. By minimising the excessive exploitation of resources by a minority, socio-economic inequalities can be reduced. Democracy, for its part, can ensure a fairer distribution of resources, thereby contributing to social equity.

In a context of water scarcity or environmental risks, water conservation can become a collective priority. As such, it can be considered a 'democratic necessity' in the sense that it is an objective that the majority of citizens, through their elected representatives or direct democratic processes, have decided to pursue for the good of all.

Raising awareness of water conservation is therefore an integral part of this democratic necessity. By educating citizens about the importance of water conservation and encouraging them to adopt water-saving behaviour, governments and societies can work together to achieve this common goal.

In other words, water sobriety becomes a 'democratic necessity' when it is recognised by the majority of citizens as being essential for the well-being of all and for the preservation of environmental resources.

In this respect, on 17 April 2023, France unveiled an action plan for resilient and concerted water management, which includes 53 concrete measures and addresses the major issues of sobriety, availability and quality, and response to drought crises.

In another area, that of mobility, the City of Paris' initiative to make public transport free for young people and the elderly is also an example of how sobriety can be linked to social justice in a democracy. By facilitating access to public transport, this policy promotes both sobriety (by reducing car use) and social justice (by helping those who might otherwise find it difficult to afford regular travel). It should be noted that some French cities, such as Paris, Lyon, Marseille, Lille, Strasbourg and Montpellier, have opted for free public transport.

9.5.4. Prospects for sobriety

Encouraging sober behaviour fits in perfectly with a democratic approach, as illustrated by the scenarios developed by ADEME (see Appendix 8). Educating citizens and motivating them to adopt more sober and responsible consumption are essential means of achieving this shared objective, thus reinforcing the intrinsic relationship between sobriety and democracy. Public policies that support sobriety illustrate how democracy can play a crucial role in promoting moderate, environmentally-friendly consumption. At the same time, the identification of sobriety as a democratic imperative underline the importance of collective decisions for the well-being of the community and the safeguarding of our environmental resources.

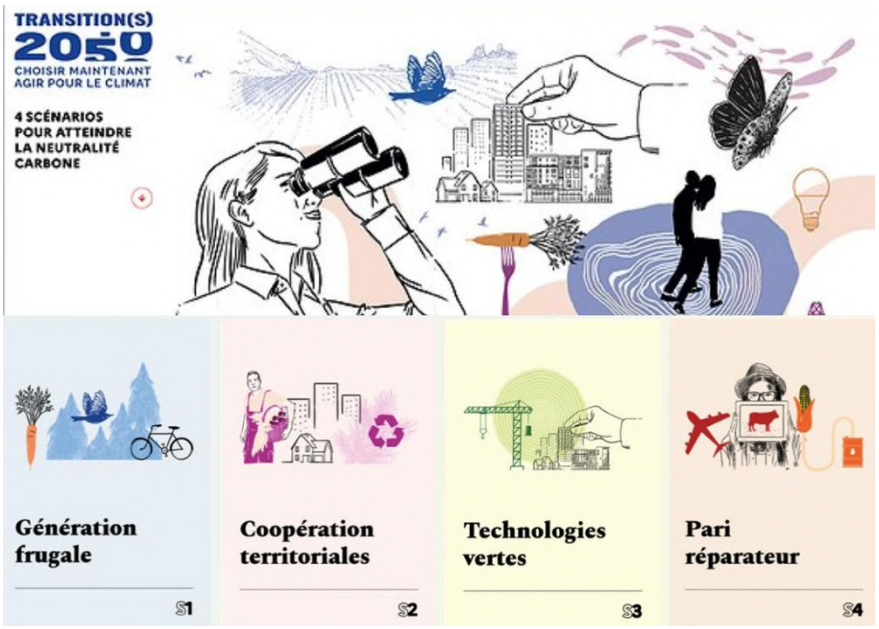

Figure 21: ADEME's sobriety scenarios

9.6. Challenges for democracy in the ecological transition

9.6.1. Short-term political cycles versus long-term climate objectives

One of the main challenges in the fight against climate change is the glaring discrepancy between political cycles, which are generally short-term, and climate objectives, which require long-term vision and action. Political cycles are often governed by elections that take place every four to five years, depending on the country[43] . In contrast, efforts to mitigate climate change require sustained commitment and action over several decades.

[43] Brender, 2009, The Effect of Political Leaders' Education on their Tenure. *Economics & Politics

The situation is complicated by the fact that politicians are often more preoccupied with upcoming elections and the immediate problems of their mandate. Indeed, researchers have found that politicians may have an incentive to favour short-term policies that produce tangible and immediate results, rather than long-term policies that may not bear fruit during their term in office[44] .

This tendency can lead to an underestimation and postponement of the action needed to combat climate change. For example, the implementation of effective climate policies may be postponed in favour of more immediate, but potentially less sustainable, policy initiatives. Researchers such as Gemenne and Barnett[45] have highlighted how this preference for the short term can compromise a country's ability to achieve its long-term climate goals.

9.6.2. Insufficient representativeness

Another major challenge in the fight against climate change is the question of representativeness. Not all citizens are equally represented in the political decision-making process. This inequality in representation can lead to the marginalisation of certain groups, particularly those most vulnerable to the impacts of climate change[46] .

For example, people on low incomes are often less able to have their voices heard in political discussions, which can make them more vulnerable to the negative impacts of climate change[47] . Similarly, ethnic minorities, who are often disproportionately affected by environmental problems, may be under-represented in political decision-making processes[48] .

Women, although particularly affected by the impacts of climate change, may also be under-represented. Studies have shown that climate change tends to exacerbate existing gender inequalities, particularly in developing countries[49] .

Young people and rural populations are also often under-represented in climate-related decision-making processes. This situation can hamper efforts to combat climate change, as these groups are likely to suffer disproportionately from the consequences of climate change[50] .

Efforts to achieve more equitable representativeness are crucial to ensuring a fair and effective ecological transition. Involving all citizens, not just traditionally privileged groups, is a prerequisite for effective and inclusive climate action[51]

9.6.3. The role of lobbying and its impact

Lobbying by companies, and in particular those belonging to the fossil fuel industries, represents another major challenge to be overcome in the fight against climate

[44] Healy, A., & Lenz, G. S. (2014). Substituting the End for the Whole: Why Voters Respond Primarily to the Election-Year Economy. *American Journal of Political Science
[45] Gemenne, F., & Barnett, J. (2014). Climate change and its human security implications
[46] Adger, W. N. (2006). Vulnerability. "Global Environmental Change.
[47] Bullard, R. D. (2000). Dumping in Dixie: Race, Class, and Environmental Quality.
[48] Taylor, D. E. (2014). Toxic Communities: Environmental Racism, Industrial Pollution, and Residential Mobility.
[49] Dankelman, I. (2010). Gender and Climate Change: An Introduction
[50] Schlosberg, D. (2012). Climate Justice and the Capabilities Approach: The Flourishing of Human and Non-Human Communities.
[51] . Leichenko, R., & O'Brien, K. (2008). Environmental Change and Globalization: Double Exposures."

change. These players often have privileged access to political decision-makers and can therefore exert a disproportionate influence on public policy[52] .

A striking example of this influence is the historical opposition of certain oil companies to environmental regulations. A notable case is that of the American Petroleum Institute (API), which has often opposed attempts to regulate greenhouse gas emissions. Despite undeniable scientific evidence of the impacts of climate change, API has regularly lobbied policymakers to downplay the importance of greenhouse gas emissions in environmental legislation[53] .

This type of lobbying can hinder the ecological transition by delaying or weakening environmental and climate regulations. This in turn can undermine efforts to reduce greenhouse gas emissions and slow the transition to renewable energy sources[54] .

Efforts to ensure transparency and fairness in the political decision-making process are therefore essential. Measures such as mandatory disclosure of lobbying expenses and stricter laws on conflicts of interest can help reduce the disproportionate influence of lobbies on climate policy[55] .

9.6.4. Final thoughts on the challenges

In conclusion, it is clear that democracy faces many challenges with regard to the ecological transition. These range from the inherent conflicts between short-term political cycles and long-term climate needs[56] , to the inequality of representativeness in decision-making processes[57] , and the sometimes-disruptive influence of corporate lobbying[58] .

These challenges, while substantial, should not discourage us. On the contrary, they underline the importance of rethinking our political systems and implementing innovative strategies to overcome these obstacles. This means adopting a long-term vision[59] to promote greater equity and representativeness[60] , and ensuring transparency and fairness in the political decision-making process[61] .

Ultimately, the ecological transition offers a unique opportunity to revitalise democracy. As Dryzek and Pickering suggest[62] , this can be done by encouraging more active citizen participation and by strengthening the accountability and transparency of government. It is essential to seize this opportunity to build a more sustainable and just future for all. As Naomi Klein argues[63] in her book "This Changes Everything: Capitalism vs. The Climate", the climate crisis is an invitation to

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[52] Fooks, G., Gilmore, A., Collin, J., Holden, C., & Lee, K. (2013). The Limits of Corporate Social Responsibility: Techniques of Neutralization, Stakeholder Management and Political CSR. Journal of Business Ethics
[53] Banerjee, N. (2015). Exxon: The Road Not Taken. Inside Climate News
[54] Drutman, L. (2015). The Business of America is Lobbying: How Corporations Became Politicized and Politics Became More Corporate.
[55] Oreskes, N., & Conway, E. M. (2011). Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming."
[56] Healy & Lenz, 2014
[57] Leichenko & O'Brien, 2008
[58] Drutman, 2015
[59] Gemenne & Barnett, 2014
[60] Schlosberg, 2012
[61] Oreskes & Conway, 2011
[62] Dryzek, J., & Pickering, J. (2019). The Politics of the Anthropocene
[63] Klein, N. (2014). This Changes Everything: Capitalism vs. The Climate.

rethink our societies in a more equitable and sustainable way.

At the end of this detailed exploration of the democratic ecological transition, a number of crucial questions arise, providing food for thought for the future and inviting further research.

It is interesting to ask how deliberative and participatory democracy might be further improved. Although their merits are obvious, the examples examined in this chapter have shown us that there are still challenges to be met. How these forms of democracy might be adapted or improved to better meet the demands of ecological transition is a question that deserves further exploration.

Similarly, the role of digital technologies in the ecological transition is a promising area, but one that also raises concerns. How can we ensure that the use of digital technologies does not lead to a digital divide that excludes some citizens from the democratic process? How can we ensure that these technologies are used responsibly and do not harm the environment they are supposed to protect?

The idea of sobriety as a democratic choice and necessity is thought-provoking. Could it be the foundation of a new form of democracy that values sustainability above all else? How can this sobriety be achieved without exacerbating existing social inequalities and ensuring that sacrifices are fairly distributed?

Finally, the challenges facing democracy in the context of the ecological transition raise fundamental questions. How can we reconcile short-term political cycles with long-term climate objectives? How can we make representativeness more effective? And how can we minimise the negative impact of lobbying?

These questions suggest that, although the democratic ecological transition offers exciting possibilities, there is still a long way to go. Success will depend on our ability to continue to innovate, learn and adapt our democratic approaches to meeting ecological challenges. Further research in this area is not only desirable, but essential for our collective future, as shown in Figure 22.

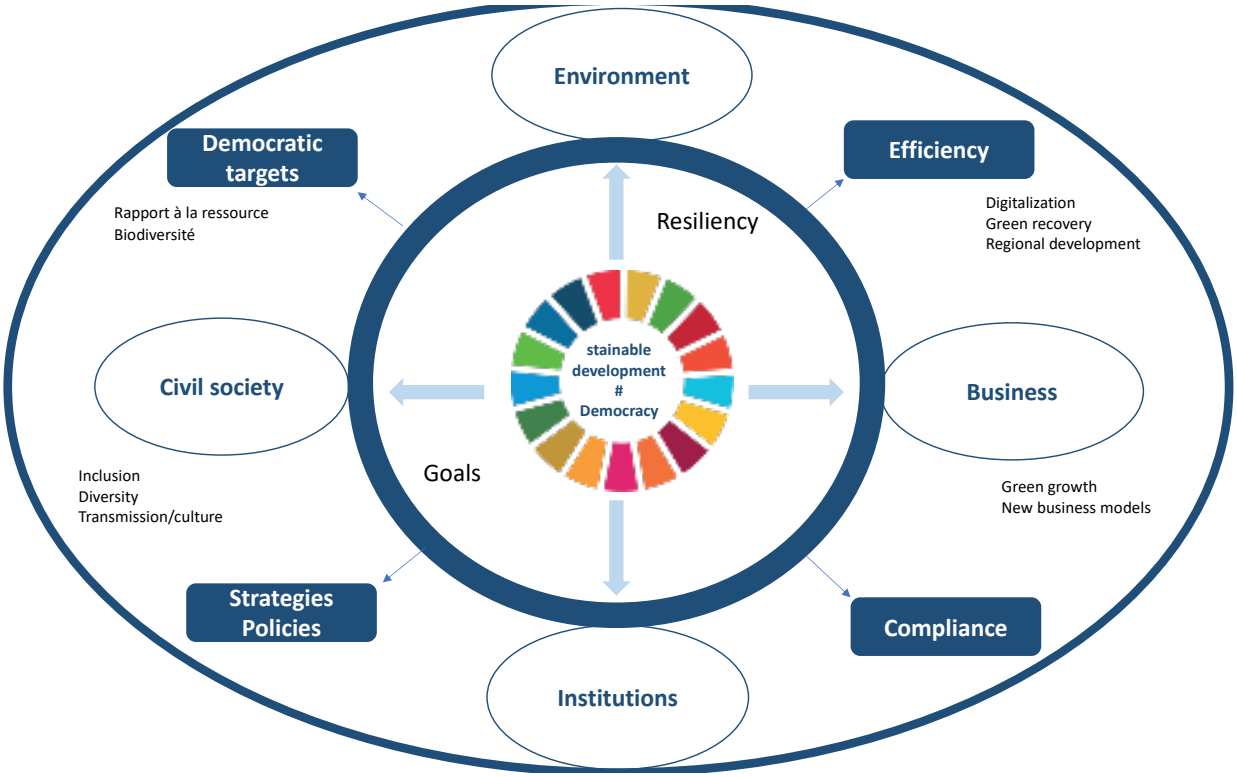

Figure 22: The possibilities for democracy in the ecological transition

In this section we have highlighted the key role of deliberative and participatory democracy in the ecological transition. We have discussed the opportunities offered by digital technologies to strengthen ecological education and citizen participation, while warning against the associated risks.

We denounced the imbalance of power in favour of business in environmental decision-making, stressing the importance of citizen counter-expertise. We also insisted on an inclusive and transparent decision-making process, and called for a long-term vision, as well as constant research to improve our democratic systems for a successful ecological transition.

10. CONCLUSIONS

This report explored the intrinsic relationship between democracy and the ecological transition. Through a holistic and citizen-centred approach, it has addressed the definitions, complementarities and differences between the ecological and energy transitions, while underlining the indispensable role that democracy plays in this process.

By looking at climate change and the ecological crisis from a global perspective, we illustrated the unprecedented impact of these phenomena on our planet and our society. We have highlighted how global warming is exacerbating global crises and threatening human societies in different ways, while exploring various theories and perspectives for achieving a democratic ecological transition.

The report highlighted the vitality of a democratic ecological transition based on deliberation, participation and inclusion. We discussed the importance of education for ecology and citizenship and examined the potential role of digital technologies. The acceptability of degrowth, social justice and democratic participation were discussed, underlining the importance of a fair and democratic transition to degrowth.

The importance of citizen participation was highlighted on several occasions, underlining the key role of deliberative and participatory democracy in promoting an ecological transition. It is crucial to understand that the climate crisis can only be resolved effectively and equitably by involving all citizens in defining the strategies for resolving it.

Renowned authors such as John Dryzek, Robyn Eckersley and Amartya Sen were cited to highlight the fact that, although democracy can be slow and complex, it has the merit of incorporating a diversity of opinions and interests, encouraging transparency and accountability, and offering mechanisms for citizen control over public decisions. These characteristics make it better able to manage the complexity of the ecological transition and avoid errors of judgement that could prove disastrous for the environment and society.

However, it is also essential to understand that democracy, as it is practised today, must evolve to meet the challenges of the ecological transition. We need more deliberative, participatory and inclusive democracy, public policies that promote sobriety, social justice and sustainability, and more democratic and equitable global climate governance.

In conclusion, the idea of a transition to an ecological democracy offers an ambitious and engaging vision for the future. It has many advantages, particularly in terms of citizen participation, political innovation and environmental justice. However, this vision is not a complete and definitive solution to all the environmental challenges we face. The complexity of today's environmental challenges calls for a variety of responses and strategies, both local and international.

Indeed, in the face of the climate crisis, it is imperative to explore, innovate and constantly seek the most effective and equitable ways of protecting our planet. This calls for humility, open-mindedness and unprecedented collaboration. Ecological democracy could be a valuable tool in our arsenal of solutions, but it must be complemented by other approaches, such as technological initiatives, economic regulations, cultural changes and many others. So now is the time for collective action and experimentation, to tackle this climate crisis in a responsible, united and visionary way.

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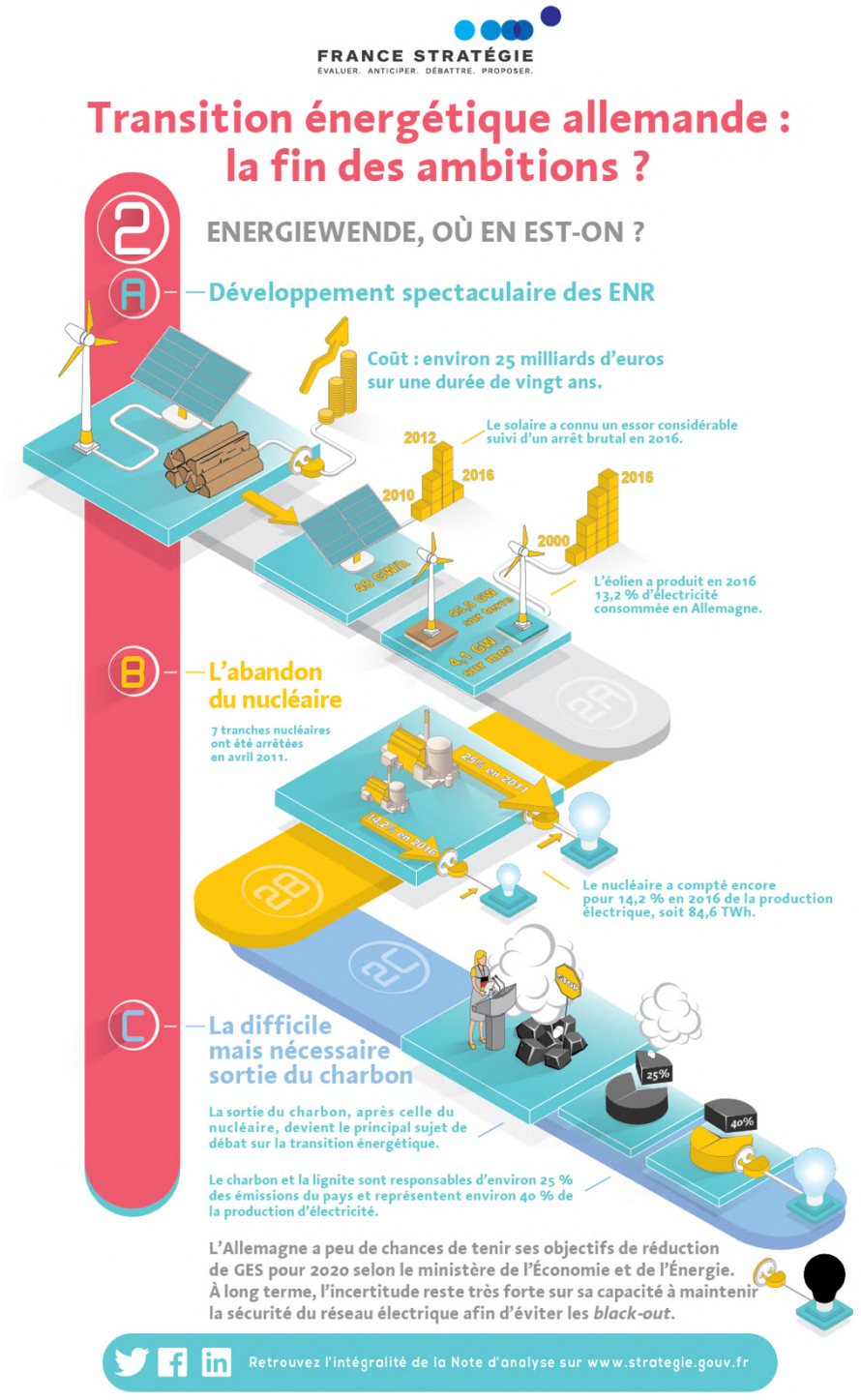
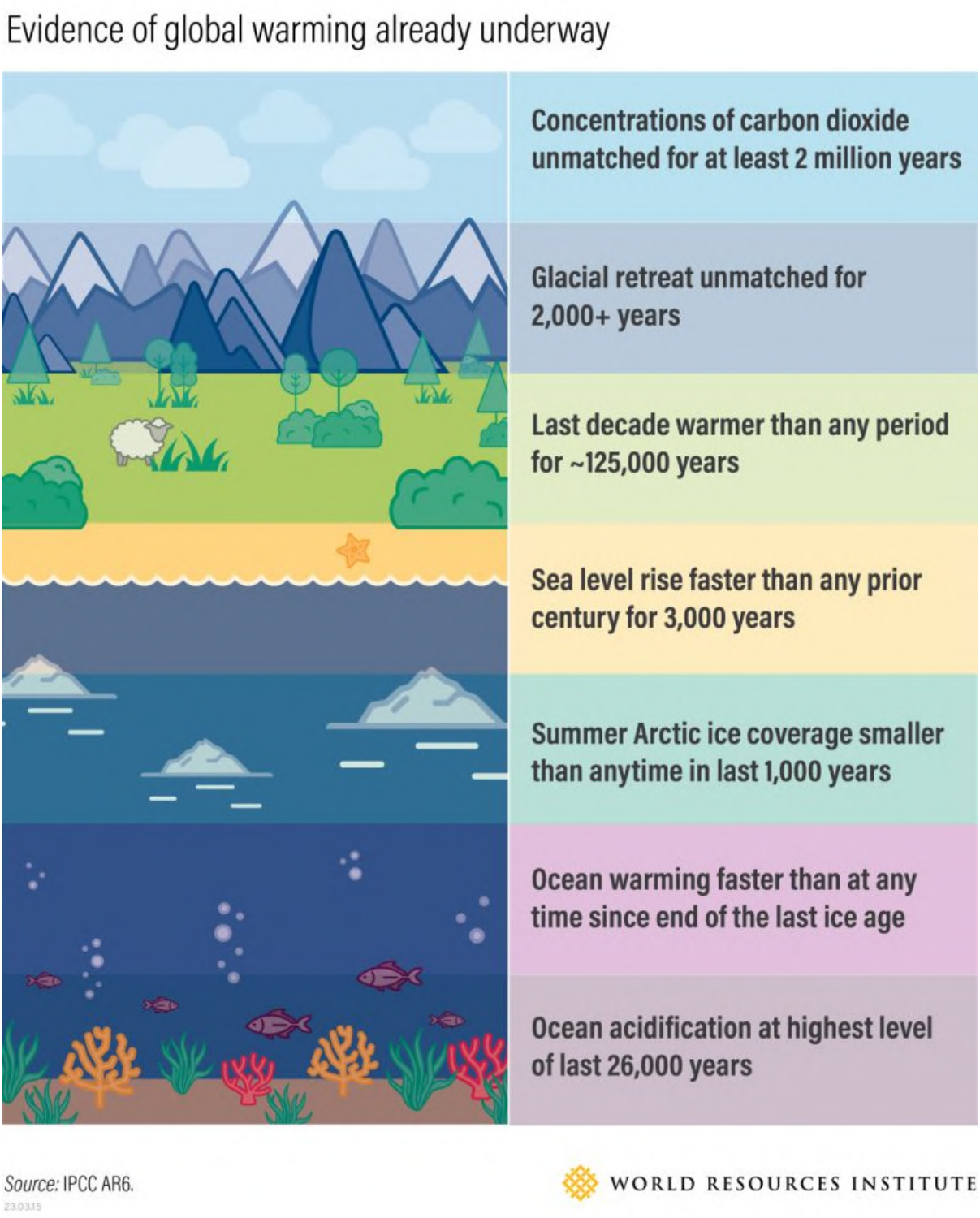
12. APPENDICES

APPENDIX 1: 10 measures to involve the French in the ecological transition

APPENDIX 2: German energy transition: the end of ambitions?



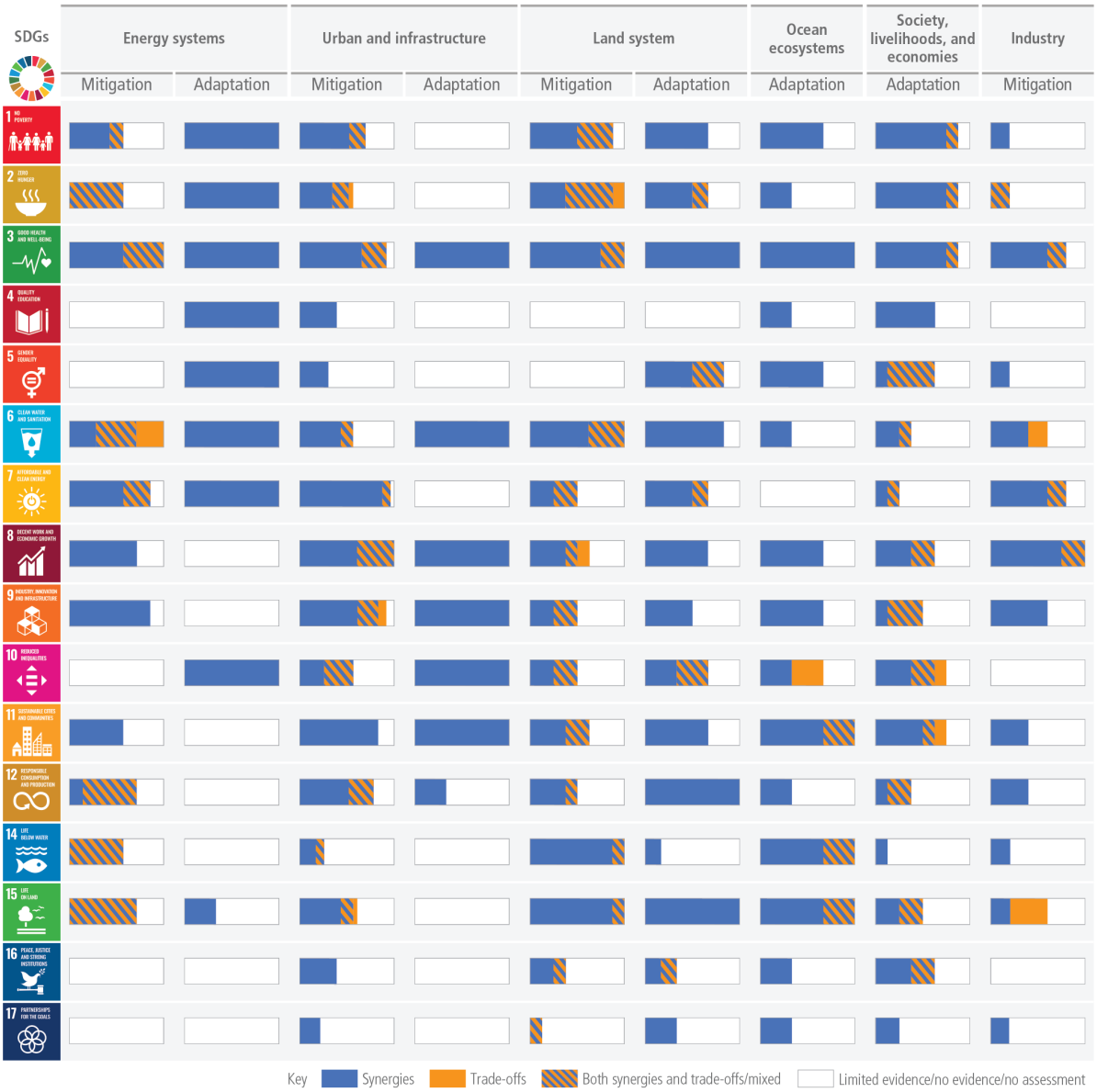
APPENDIX 3: Climate change - interactions between factors of change



APPENDIX 4: Link between actions taken and the SDGs in the context of climate change and the ecological transition

Near-term adaptation and mitigation actions have more synergies than trade-offs with Sustainable Development Goals (SDGs)

Synergies and trade-offs depend on context and scale



APPENDIX 5: Action plan for resilient and concerted water management - France

GOUVERNEMENT
Liberté
Égalité
Fraternité

DOSSIER DE PRESSE
30 Mars 2023

53 MESURES POUR L'EAU

PLANIFICATION ÉCOLOGIQUE

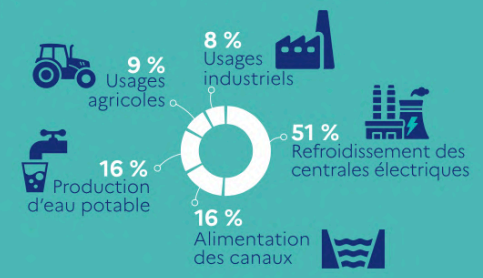
PLAN D'ACTION POUR UNE GESTION RÉSILIENTE ET CONCERTÉE DE L'EAU

FRANCE NATION VERTE
Agir · Mobiliser · Accélérer

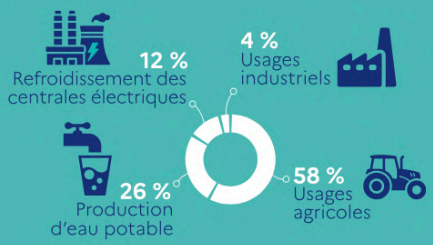
Chiffres clés sur la ressource en eau en France

Usages de l'eau en France

Prélèvements | **32,8** milliards de m³ d'eau douce prélevés
Moyenne 2010-2019

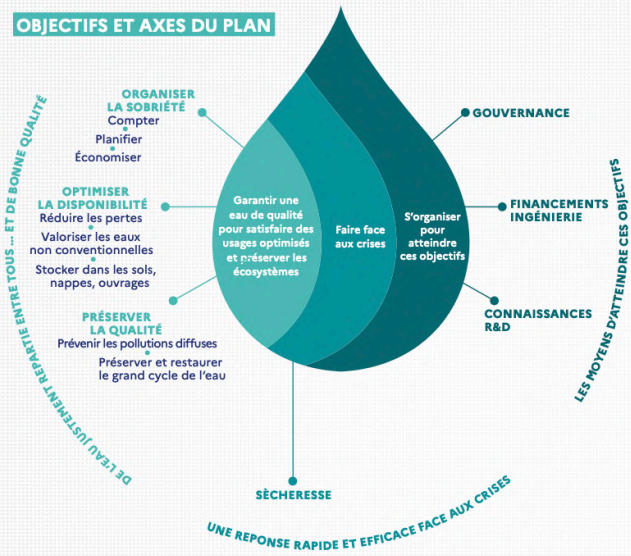


Consommations | **4,1** milliards de m³ d'eau douce consommés
Moyenne 2010-2019



La série de données sur l'estimation de la consommation d'eau douce a été révisée à la baisse, en mars 2023, à la suite de la mise à disposition de données détaillées de consommation d'eau par centrale électrique nucléaire. Ces estimations de consommation par centrales, transmises par EDF, ont montré que les coefficients précédemment utilisés pour l'estimation de la consommation des centrales conduisaient à une surestimation de cette consommation. Cette révision modifie en conséquence la valeur de consommation totale et la répartition entre usages.

Dossier de presse — 4



Une politique de l'eau décentralisée et construite avec les parties prenantes

La politique de l'eau est une politique décentralisée qui entend donner aux acteurs locaux et aux collectivités les moyens d'agir sur les trois leviers identifiés : sobriété, qualité, disponibilité. Elle s'organise à l'échelle des bassins versants ou des nappes, qui sont les périmètres de gouvernance pertinents pour gérer la ressource et les milieux.

Les mesures très concrètes du plan, mais également les chantiers qui seront lancés afin d'aboutir à des réformes d'ampleur se traduiront, en particulier dans le cadre des travaux de définition du 12e programme des agences de l'eau (2025-2031).

L'élaboration de ce plan s'appuie sur un travail collaboratif avec l'ensemble des parties prenantes. Ainsi, le Comité national de l'eau , instance nationale de débat sur l'eau, ainsi que les comités de bassin, de par leur rôle essentiel de définition de la stratégie locale de gestion concertée de l'eau (SDAGE, plan d'adaptation des bassins au changement climatique...) ont été saisis afin de faire part de leurs enjeux et propositions. Les contributions ont nourri le présent plan d'actions.

→ Lien vers les travaux
https://www.cne.developpement-durable.gouv.fr/IMG/pdf/synthese_travaux_cne.pdf

43 %

des eaux de surface en bon état écologique (2019)

(source : https://www.eaufrance.fr/sites/default/files/2022-03/bulletin_rapportage_2019_final.pdf)

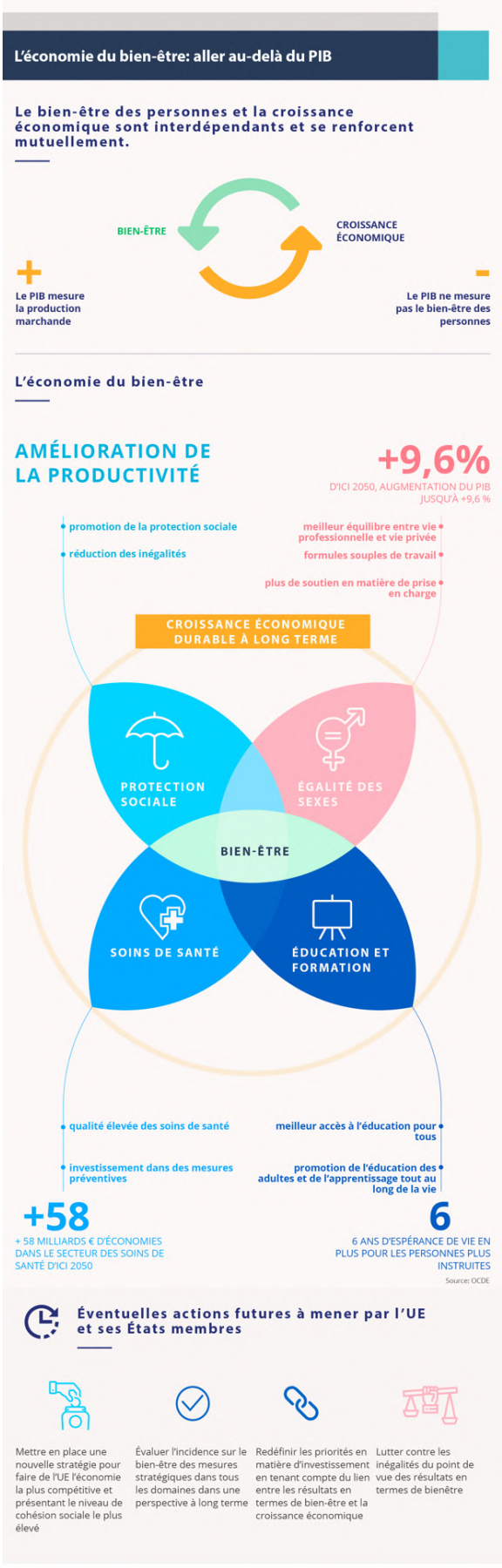
Chiffres clés sur l'eau destinée à la consommation humaine

148 litres
Volume moyen d'eau consommé par habitant par jour

4,3 €/m³
Prix moyen de l'eau TTC au 1er janvier 2021, dont 2,11 €/m³ pour l'eau potable et 2,19 €/m³ pour l'assainissement collectif

1 litre sur 5
Volume moyen perdu sur le réseau d'eau potable dû aux fuites

APPENDIX 6: The welfare economy - European vision



APPENDIX 7: Involvement of citizens in governance tools
Source: Notre énergie, A place for democracy

ÉNERGIE ET CLIMAT

Des plans à tous les échelons

EN EUROPE

Adoption du paquet ***Fit for 55*** en 2022, **le nouveau plan climat de l'Union européenne**, qui fixe l'objectif d'une réduction minimale de 55 % des gaz à effet de serre et porte à 45 % la part des énergies renouvelables dans la consommation globale d'énergie de l'Union européenne d'ici 2030.

EN FRANCE

LA PROCHAINE STRATÉGIE FRANÇAISE SUR L'ÉNERGIE ET LE CLIMAT (SFEC) PRÉVUE EN 2024 COMPREND :

- **La première loi de Programmation sur l'énergie et le climat (LPEC, 2023)**. Elle fixe les objectifs de la Programmation pluriannuelle de l'énergie (PPE) et les priorités d'action des pouvoirs publics pour la gestion de l'énergie sur le territoire métropolitain (2024-2033) et de la Stratégie nationale bas-carbone (SNBC).
- **La 3e édition de la Programmation pluriannuelle de l'énergie (PPE)**
- **La 3e édition du Plan national d'adaptation au changement climatique (PNACC).**
- **La 3e édition de la Stratégie nationale bas-carbone (SNBC)** révisée et adoptée en avril 2020. Objectif : neutralité carbone en 2050.

EN RÉGIONS

- **Les schémas régionaux d'aménagement, de développement durable et d'équilibre des territoires (SRADDET)** définissent la politique énergétique des Régions chargées de coordonner l'action des collectivités locales. Les SRADDET intègrent les Schémas régionaux de cohérence écologique (SRCE), et les Schémas régionaux climat-air-énergie (SRCAE). Onze Régions françaises métropolitaines ont adopté des SRADDET.

EN SAVOIR +
Retrouvez cinq ressources-clés sur les thèmes de la démocratie et de l'énergie : www.cler.org

DANS LES EPCI

- **Le Plan climat-air-énergie territorial (PCAET).** Il est obligatoire pour les intercommunalités (EPCI) de plus de 20 000 habitants, il décline localement la Stratégie nationale bas-carbone. En août 2022, 44 % des EPCI de plus de 20 000 habitants avaient adopté leur PCAET.
- **Le Schéma de cohérence territoriale (SCoT)** est un outil d'aménagement du territoire. Il doit être en cohérence avec les objectifs du SRADDET.

APPENDIX 8: ADEME energy-saving scenarios