

Renewing Europe

A How-to-Guide for
EU Policy Makers

Edited by: Dr. Antonios Nestoras

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European
Liberal Forum



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EU Policy Makers

EDITED BY

Dr. Antonios Nestoras

WITH CONTRIBUTION FROM

Dr. Maria Alesina

Disclaimer: This publication is the outcome of a joint undertaking between ELF and FNF Europe. Most of the ideas and proposals contained in this book were discussed and developed during a two-day conference of the ELF-FNF Policy Labs held in Brussels on 6 and 7 April 2024. The editor extends heartfelt thanks to Sahra Lissek from FNF and Laurenz van Ginneken from ELF for organising the conference, and to the participants for their invaluable contributions. Special gratitude goes to Dr Maria Alesina (chapters 1 and 2), Zoe van Doren (chapters 4 and 5), and Theresa Winter (chapters 10 and 11), who served as moderators during the conference and captured the participants' discussions and policy recommendations that were the backbone of this publication. Without the dedication and expertise of all these persons, this work would not have been possible.



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The European Liberal Forum (ELF) is the official political foundation of the European Liberal Party, the ALDE Party. Together with 57 member organisations, we work all over Europe to bring new ideas into the political debate, to provide a platform for discussion, and to empower citizens to make their voices heard. Our work is guided by liberal ideals and a belief in the principle of freedom. We stand for a future-oriented Europe that offers opportunities for every citizen. ELF is engaged on all political levels, from the local to the European. We bring together a diverse network of national foundations, think tanks, and other experts. In this role, our forum serves as a space for an open and informed exchange of views between a wide range of different EU stakeholders.

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Preface

The twenty-first century has brought a multitude of interconnected crises that touch every aspect of our lives. As a result, populist and extremist forces try to exploit and amplify people's fears to push their own agendas, offering simplistic and unrealistic solutions to complex issues. We believe that in our constantly changing world, returning to the 'good old days of the past' is a utopian idea. Liberals should 'own the future', which means that instead of fearing what is coming, we must embrace challenges and defend the interest of the European citizens. The only way forward is by adapting to the new world while preserving what truly matters: the quality of our lives, our security, and our freedom.

Changing global power dynamics, foreign interference, and international conflicts threaten European security. Increased immigration has sparked fears about the loss of cultural identity and social cohesion. New technologies are reshaping the way we live but also raise concerns about their possible risks. The rising cost of living imposes an especially significant burden on families, eroding their purchasing power and diminishing their ability to maintain their desired quality of life. As a result, people's current mindset is characterised by a pervasive sense of insecurity and a deep-seated desire for stability.

Our responsibility is to listen to these concerns and to offer solutions that resonate with people's anxieties and aspirations. Now more than ever people need a renewed sense of security, hope, and shared purpose. Fundamental needs, such as financial stability, access to quality healthcare and education, a healthy environment and the assurance of social mobility must be at the core of a new, human-centred liberalism.

The vision articulated in this handbook is of a liberal, prosperous European Union that provides opportunities for all citizens, and where the liberal values of human dignity, freedom, equality, human rights, democracy, and rule of law are enshrined and defended. The building

blocks of a stable future and the wellbeing of the European citizens are a globally competitive, innovation-based free market economy, a democratic open society where everyone has the chance to succeed, and a united Europe, that as a strong global player, ensures the security of its citizens in the increasingly multipolar world.

This book should be used as a detailed vision and mission for achieving this renewed Europe, guiding policymakers and stakeholders towards a future that is resilient, inclusive, and reflective of our shared democratic values..

MEP Hilde Vautmans,

President of the European Liberal Forum

MEP Jan-Christoph Oetjen,

Vice-President of the European Liberal Forum



Introduction:

Which Europe in 2029?

What is driving change in Europe

Europe is changing and is poised to undergo even more significant transformations in the future. The continent is experiencing a period of rapid evolution, driven by a variety of factors that are reshaping its political, economic, and social landscapes. This era of change is not just a continuation of historical trends but a profound shift that demands a new approach to policy and governance. As Europe stands at the crossroads of tradition and innovation, the need for cohesive and forward-thinking strategies has never been more critical.

Externally, the geopolitical landscape is becoming increasingly complex, with rising tensions and shifting alliances influencing Europe's role on the global stage. The resurgence of great power rivalries, particularly with the assertiveness of Russia and the strategic competition between the United States and China, poses significant challenges. Additionally, climate change exerts pressure on Europe to lead global environmental efforts while adapting to its own climate impacts. Technological advancements, from digitalisation to artificial intelligence, are revolutionising industries and labour markets, requiring Europe to stay competitive and secure in the digital age. Economic globalisation continues to transform trade patterns and economic dependencies, making it essential for Europe to adapt to new economic realities and protect its interests.

Internally, Europe faces demographic shifts, such as ageing populations and migration trends, which have profound implications for labour markets, social systems, and cultural integration. Political dynamics are also evolving, with rising populism and nationalism challenging the traditional political order and the cohesion of the European Union. Social changes, driven by increasing diversity and evolving societal values, demand policies that promote inclusion,

equity, and social justice. These internal pressures necessitate innovative approaches to governance and policymaking, ensuring that Europe's institutions are resilient, adaptable, and responsive to the needs of its citizens. The interplay of these internal factors, combined with external pressures, underscores the urgency for Europe to craft a proactive and integrated strategy to navigate the challenges and opportunities of the future.

The role of progressive, centrist, and liberal forces

Europe will necessarily change, and there are many political forces betting on this change. For the next five years, the real question is what kind of Europe we want, and who will have the most impact on where these changes will take Europe. Different political actors, from national governments to transnational organisations and civil society groups, are vying to shape the future of the continent. Their visions for Europe vary widely, from deeper integration and a strengthened union to increased sovereignty and localised governance. The decisions made during this critical period will determine Europe's trajectory and its ability to address the challenges and opportunities ahead effectively. The stakes are high, and the influence of these political forces will be pivotal in guiding Europe's transformation.

Among these political forces are the populists on both the left and the right, who challenge the status quo with promises of radical change and national sovereignty. Particularly on the right, these populists often draw inspiration from authoritarian paradigms emanating from the east, advocating for strong, centralised control and scepticism towards the EU. In contrast, the mainstream centre-left and centre-right parties are striving to maintain their relevance amid electoral declines, attempting to balance calls for reform with the need to preserve stability. Meanwhile, the progressive, liberal centre remains the foundation of European values, championing human rights, democracy, and integration.

For us liberals and centrists, it is essential to win the people over, stay relevant, and play a decisive role in shaping the Europe of 2029. To achieve this, we must be at the forefront of influencing change, ensuring that our vision for a progressive, inclusive, and united Europe prevails. This means actively participating in the political discourse, proposing innovative solutions to the continent's challenges, and building broad coalitions to support our goals. Our ability to be impactful will depend on our engagement, our ideas, and our determination to be a crucial force in deciding Europe's future.

What this book is about

This is what this book is about: policy innovation, influencing change in a way that guarantees our fundamental liberal values, while also delivering tangible results for the people. It is about convincing the public that the EU is not only relevant in their everyday lives, but also capable of implementing policies that will significantly improve their quality of life. By presenting forward-thinking solutions and actionable strategies, this guide aims to demonstrate how liberal policies can address the pressing issues facing Europe today. Through effective governance, we can showcase the EU's potential to drive positive change, ensuring that our vision for a progressive and inclusive Europe becomes a reality.

In answering the question of what kind of Europe we want, the answer is clear: we want a renewed Europe – a Europe with institutional reforms that make it fit for the current geopolitical circumstances, capable of responding swiftly and effectively to external pressures. We envision a renewed Europe that leads in technological progress and sustainability, setting global standards and driving innovation in a way that benefits all its citizens. Furthermore, we seek a Europe that can guarantee the safety of its citizens and uphold the European way of life, ensuring security and stability in an increasingly uncertain world. This vision of a renewed Europe is one that not only meets the challenges of today but is also prepared to seize the opportunities of tomorrow.

Selection criteria for chapters

This publication offers a selection of policy proposals that can influence positive change towards this kind of renewed Europe. It is important to note that this list of policy proposals is not exhaustive. There are many other potential strategies and ideas that could also contribute to the vision of a renewed Europe. However, the proposals included here are chosen for their potential to make a significant and immediate impact, guided by three criteria.

Firstly, consent was a key criterion. The policies included in this guide are those that can garner support from a wide part of the political spectrum. By focusing on areas where there is potential for broad-based backing, we aim to foster unity and cooperation across different liberal perspectives, which is essential for the successful implementation and sustainability of these policies. Secondly, feasibility was considered paramount. The proposed policies are not pie-in-the-sky ideas or science fiction. They are grounded in reality, with practical steps outlined for their implementation. This focus on feasibility ensures that the policies are actionable and can be realistically achieved within the given time frame, taking into account current resources, capabilities, and political climate. Lastly, impact was a crucial factor in the selection process. The policies are designed to have a maximum amount of influence on the way we want to change Europe in the next five years. They target key areas that can drive significant progress towards our vision of a renewed Europe, addressing pressing issues and leveraging opportunities to improve the lives of European citizens.

By adhering to these criteria, the proposals in this publication aim to create a Europe that is responsive, innovative, and secure, capable of meeting the challenges and opportunities of the future. This approach ensures that the policy recommendations are not only visionary but also practical and capable of delivering meaningful results.

Chapter structure

The structure of the chapters in this publication is straightforward and designed to provide a clear and comprehensive analysis of each topic. Each chapter follows a three-part structure to ensure a thorough examination and practical guidance.

First, the context section attempts to develop the significance of the topic. This part delves into why the issue is important, exploring its relevance to Europe's current and future landscape. It sets the stage by highlighting key trends, challenges, and opportunities that make the topic crucial for policymakers and stakeholders.

Next, the EU policy discussion examines the current EU framework related to the topic. This part provides an overview of existing policies, regulations, and initiatives. It also identifies gaps and problems within the current framework, pointing out where the EU's efforts may be falling short or where additional focus is needed. This critical analysis helps to understand the limitations and areas for improvement in current EU policies.

The final section outlines a few key actionable steps that can influence positive change. This part is dedicated to practical recommendations and strategies that can be implemented to address the issues identified in the previous sections. The actionable steps are designed to be realistic and impactful, providing clear guidance on how to achieve the desired outcomes. These recommendations aim to drive progress and help shape a renewed Europe that is responsive, innovative, and secure.

By following this structure, each chapter ensures a comprehensive understanding of the topic, from its significance to the current policy landscape, and finally to practical solutions for improvement. This methodical approach ensures that the policy proposals are well founded, thoroughly analysed, and geared towards making a tangible impact.

Methodology

This publication is the outcome of a joint undertaking between the European Liberal Forum (ELF) and the Friedrich Naumann Foundation for Freedom (FNF) Europe. It represents a culmination of collaborative efforts, discussions, and expert insights aimed at addressing the multifaceted challenges facing Europe today. The majority of the ideas and proposals contained in this book (chapters 1–5, 7, 10, and 11) were discussed and developed during a two-day conference of the ELF-FNF Policy Labs held in Brussels on 6 and 7 April 6 2024.

The ELF-FNF Policy Labs brought together a diverse group of policymakers, academics, practitioners, and civil society representatives from across Europe. This dynamic gathering fostered an environment conducive to in-depth analysis, debate, and creative thinking. The participants, each bringing their unique perspectives and expertise, played a crucial role in shaping the discussions and formulating the policy recommendations presented in this book.

The process was highly participatory, with structured sessions designed to maximise interaction and the exchange of ideas. Through a series of workshops, panel discussions, and breakout groups, participants delved into key topics, identified pressing issues, and proposed actionable solutions. These insights were rigorously analysed and synthesised by the editorial team, ensuring that the final chapters reflect the collective wisdom and innovative thinking of the Policy Labs.

It is important to note that not all chapters in this publication were developed solely through this conference. While the majority of the content is derived from the Policy Labs, some chapters were influenced by additional research, expert consultations, and policy discussions. These contributions were integrated to provide a comprehensive and well-rounded set of policy proposals.

How to use this book

Each chapter in this book is a stand-alone policy proposal, designed to be read and considered independently. However, it is important to note that these proposals are not presented as ready-made and non-negotiable positions. EU policies undergo a rigorous democratic process of consultation and political negotiation, a process in which we take great pride. This democratic engagement ensures that policies are inclusive, widely supported, and adaptable to the diverse needs of all Member States.

Nevertheless, the proposals within this book are intended to serve as a strong starting position. They provide a detailed vision for what Europe can achieve and what Europe should strive to become in the future – secure, sustainable, and up to date with the latest technological and social advancements.

This book can also be used as a comprehensive guide that articulates a detailed vision of a Europe that is prepared to face current and future challenges. It outlines the mission, or the practical steps and strategies necessary to achieve this vision. By doing so, it offers a blueprint for how Europe can evolve to ensure the safety, sustainability, and well-being of its citizens.

We encourage readers to engage with the proposals, debate their merits, and consider their implementation within the broader context of EU policymaking. By doing so, we can collectively work towards a Europe that is not only resilient and forward-thinking but also inclusive and reflective of the democratic values we uphold. This book aims to inspire and inform, providing the foundation for dynamic and effective policy development that can shape the future of Europe.

Dr. Antonios Nestoras, Editor





Institutional Reforms and Policymaking



Part I. Institutional Reforms and Policymaking

1. How to Reform the EU (without Breaking It)

Introduction

Institutional reform within the European Union is no longer a theoretical discussion but has become an urgent necessity. The world is experiencing profound changes across multiple dimensions, impacting Europe's global role. To stay relevant and effective, the EU must adapt its institutional framework to meet contemporary challenges.

However, the current political landscape is not conducive to large-scale reforms such as treaty changes. This adds to the urgency of implementing institutional reforms that do not require treaty amendments. By focusing on feasible, immediate improvements, the EU can make significant progress without getting bogged down in protracted political negotiations.

Rather than increasing political and institutional complexity, the EU needs to optimise and better utilise its existing mechanisms and instruments. While large-scale debates often stall, the immediate priority is to enhance the functionality of current bodies and equip them with tools and approaches for greater efficiency.

This chapter presents practical, actionable solutions that can be implemented quickly to deliver tangible results. It identifies key challenges, highlights pressing policy gaps, and proposes concrete steps for immediate and effective EU reform.

Context and challenges: between urgencies and roadblocks

The European Union faces a new era marked by heightened geopolitical tensions, rapid technological advancements, significant demographic shifts, and evolving political landscapes. These multifaceted dynamics necessitate a sharpened and more agile EU to effectively navigate and address contemporary challenges. The urgency to adapt is compounded by the complex and often cumbersome nature of the EU's institutional framework, which significantly hampers its ability to act swiftly and decisively. This complexity not only impedes timely responses to crises but also undermines the EU's potential to fully realise and magnify the collective benefits for its Member States.

The EU's delayed response to the COVID-19 pandemic highlighted significant shortcomings in coordination and decision-making.

For example, the EU's delayed response to the COVID-19 pandemic highlighted significant shortcomings in coordination and decision-making. Initially, Member States implemented disparate measures, leading to a fragmented approach that weakened the overall effectiveness of the EU's



response. The slow procurement and distribution of vaccines further exposed the inefficiencies within the EU's health policy framework, undermining public confidence and delaying the collective recovery process.

Similarly, the inability to promptly address the migration crisis exposed the Union's inefficiencies in handling urgent humanitarian issues. The influx of refugees in 2015 saw the EU struggling to formulate a cohesive and unified response. Disparate national policies and a lack of solidarity among Member States led to uneven burdens, with frontline countries such as Greece and Italy bearing the brunt of the crisis. This disjointed approach not only exacerbated the humanitarian situation but also strained political relations within the Union. The new Pact on Migration and Asylum policy was finally agreed almost a decade later.

Furthermore, the protracted negotiations and indecision within the European Council regarding energy policies and sanctions against Russia illustrate how the current set-up can hinder the EU's ability to respond effectively to geopolitical threats. The lack of consensus on critical issues, such as the reduction of dependency on Russian energy and the imposition of sanctions, delayed decisive action. This indecision weakened the EU's strategic position and ability to present a united front in the face of aggression, highlighting the need for more efficient and effective decision-making processes.

In this context, the EU must streamline its operations and enhance its institutional efficiency to maintain its relevance and efficacy on the global stage. The current landscape is fraught with urgencies that demand immediate action, yet the roadblocks posed by existing institutional complexities cannot be ignored. Addressing these roadblocks through targeted, feasible reforms that do not require treaty changes is essential. By doing so, the EU can better respond to pressing challenges, capitalise on its collective strengths, and reinforce its position as a pivotal global actor in an increasingly complex world.

Policy gaps: a more functional EU for an increasingly complex world

The core issue of internal reforms revolves around enhancing the efficiency of the EU and its institutions. The upcoming mandate offers a vital opportunity to improve the clarity and relevance of EU institutions and their functions in addressing the current and future challenges facing the Union.

- **Institutional complexity and capacity to act:** Simplifying procedures and streamlining institutions can significantly improve effectiveness and responsiveness. To ensure that the EU fulfils its potential in this complex task, its institutional set-up must reflect the scope and nature of the current and potential crises with which Europe is dealing. In this respect, the competences and responsibilities of certain institutions and their bodies need to be reconsidered, updated, and regrouped.
- **Security concerns:** Security and defence have become key policy areas requiring swift and decisive actions from the EU. Since February 2024, the threat of expanded military aggression from Russia has not diminished but continues to grow. The uncertainty surrounding the upcoming change in US leadership and its geopolitical orientation further accentuates the need for the EU to rely more on its own capacities. The current institutional set-up, with its lack of dedicated bodies and limited competences, coupled with the unanimity requirement in decision-making, undermines the EU's ability to act effectively in this crucial sector. Addressing this requires timely reactions to developments and proactive investments in long-term security and defence.

Security and defence have become key policy areas requiring swift and decisive actions from the EU.

- **Enlargement imperative:** Enlargement has become a geopolitical and security imperative. The EU must prepare to ensure that an expanded Union emerges stronger and more efficient rather than slower and self-impeding. This necessitates internal reforms and adjustments. Maintaining the institutional effectiveness of an enlarged Union of 30+ members will require adapting both the EU's institutions and its decision-making processes. This includes reducing the number of Commissioners and extending qualified majority voting (QMV) to more policy areas. Including candidate countries in consultation and decision-shaping as early as possible is essential. Initial steps in this direction can and should be taken immediately, demonstrating the EU's commitment to enlargement and setting the stage for further reforms related to the EU budget and policies.
- **Democratic deficit:** Among the most enduring criticisms of the European Union are the democratic deficit, excessive bureaucracy, and lack of transparency. In an age of growing populism and illiberalism, which threaten the foundations of the European project, it is crucial to enhance the credibility of the EU in the eyes of its citizens and voters. The extreme complexity and idiosyncrasy of the institutional framework do not make the EU more appealing or trustworthy to the increasingly frustrated and inward-looking populations of the Member States. Special attention needs to be paid to making the Union and its functioning more comprehensible, and its added value and scope of competences more evident to citizens. Conducting the reform process in a transparent and participative manner can itself help bring the EU and its technocratic 'Brussels bubble' closer to the citizens and their concerns.

Special attention needs to be paid to making the Union and its functioning more comprehensible, and its added value and scope of competences more evident to citizens.

Actionable steps in the medium term

Without undermining the need for fundamental adjustments that would require a full-fledged treaty change, a medium-term approach to institutional reform involves optimising and unlocking the potential of the existing set-up. This includes clarifying institutional structures and competences, focusing on priority policy areas (especially security and defence), and strengthening participatory approaches to European decision-making.

European Commission

New set-up of the College

- Reduce the number of Commissioners to seventeen and restructure portfolios to align with current EU priorities. Some portfolios can be merged or reshuffled to increase synergies and relevance, while others, such as Security and Defence or Health, may require dedicated portfolios.
- Portfolios can be shared by more than one Commissioner.
- Personal integrity and expertise of Commissioners must be paramount in their appointment to ensure the EU is effective and impactful both for citizens and globally.

Table 1.1: Current vs suggested College of Commissioners

Current College	Optimised College
1. A Europe Fit for the Digital Age	1. Digital Transformation and Communicative Sovereignty
2. An Economy that Works for People	2. Education and Equal Opportunities
3. European Green Deal, Interinstitutional Relations and Foresight	3. Single Market, Industry, Global Prosperity
4. A Stronger Europe in the World	4. Innovative Energy, Climate Policy and Global Cooperation, Energy and Sustainability
5. Values and Transparency	5. Social Cohesion and Migration Management
6. Democracy and Demography	6. Liberal Democracy and Open Society
7. Promoting our European Way of Life	7. Human Rights and International Responsibility
8. Budget and Administration	8. Security and Defence
9. Jobs and Social Rights	9. International Affairs and EU Enlargement
10. Economy	10. Entrepreneurship and Innovation
11. Agriculture	11. Agriculture and Food Safety
12. Internal Market	12. Health
13. Cohesion and Reforms	13. Crisis Management and Resilience
14. Health and Food Safety	14. Home Affairs
15. Justice	15. Transparency, Anti-Corruption, and Rule of Law
16. Equality	16. Budget and Demography



17. Home Affairs	17. Infrastructure (Transport and Mobility)
18. Crisis Management	
19. Transport	
20. Neighbourhood and Enlargement	
21. International Partnerships	
22. Energy	
23. Environment, Oceans and Fisheries	
24. Financial Services, Financial Stability and Capital Markets	
25. Innovation, Research, Culture, Education and Youth	
26. Climate Action	

Enlargement

Standing task forces should be established within the Commission for each candidate country, modelled after the successful practice of dedicated units supporting association reforms in Ukraine.

European Parliament

Align committee structure with the College of Commissioners

Aligning the committee structure with the College of Commissioners will foster interinstitutional cooperation, strengthen ties, and provide greater clarity to European citizens regarding the EU's competences and priorities, thus enhancing the Union's added value.

Table 1.2: Current vs suggested structure of Parliamentary Committees

Current College	Restructured College
2. AFET Foreign Affairs <ul style="list-style-type: none"> • DROI Human Rights • SEDE Security and Defence 	1. Education and Equal Opportunities
2. INTA International Trade	2. Single Market, Industry, Global Prosperity
3. BUDG Budgets	3. Innovative Energy, Climate Policy and Global Cooperation, Energy and Sustainability
4. CONT Budgetary Control	4. Social Cohesion and Migration Management
5. ECON Economic and Monetary Affairs <ul style="list-style-type: none"> • FISC Tax Matters 	5. Liberal Democracy and Open Society
6. EMPL Employment and Social Affairs	6. Human Rights and International Responsibility
7. ENVI Environment, public health and food safety <ul style="list-style-type: none"> • SANT Public Health 	7. Security and Defence
8. ITRE Industry, Research and Energy	8. International Affairs and EU Enlargement
9. IMCO Internal Market and Consumer Protection	9. Entrepreneurship and Innovation
10. TRAN Transport and Tourism	10. Agriculture and Food Safety
11. REGI Regional Development	11. Health
12. AGRI Agriculture and Rural Development	12. Crisis Management and Resilience
13. PECH Fisheries	13. Home Affairs



14. CULT Culture and Education	14. Transparency, Anti-Corruption, and Rule of Law
15. JURI Legal Affairs	15. Budget and Demography
16. LIBE Civil Liberties, Justice and Home Affairs	16. Infrastructure (Transport and Mobility)
17. AFCO Constitutional Affairs	
18. FEMM Women's Rights and Gender Equality	
19. PETI Petitions	

Enlargement

Observer status should be granted to elected representatives from candidate countries, following the Commission's revised enlargement methodology (2020).

Council of the European Union

Foreign and EU Affairs Ministers

Each Member State should appoint a Foreign Affairs Minister who also handles EU Affairs, with regular dedicated meetings to discuss EU-specific issues.

Optional: extending the EU Council Presidency

The mandate of the EU Council Presidency could be extended from 1.5 to three years, allowing more time and incentive for Member States to set and follow through on their agendas, contributing to greater consistency and continuity. Member States holding the Presidency would not delegate a Commissioner during the same mandate due to the reduced number of portfolios.

Decision-Making Process

While a long-term change to unanimity requirements requires a treaty change, interim solutions should be explored (e.g., passerelle clause, opt-outs, and safeguard clauses). In the longer term, redefining the QMV system to establish a lower threshold for a blocking minority could be considered.

Enlargement

- Abandon the practice of unanimity voting for every intermediate step of the EU accession process in favour of QMV, aligning with the EU treaties' requirement for unanimity only at the opening and closing of accession negotiations.
- Regularly invite representatives of candidate countries as observers in key meetings on relevant matters.

By avoiding the pitfalls of comprehensive treaty reform and focusing on targeted, practical changes, the EU can modernise its institutions to better engage with current challenges and priorities. This approach will enhance alignment across different bodies, address urgent security concerns more effectively, and foster greater participation in the EU's decision-making processes, including the involvement of candidate countries. Implementing these reforms will ensure that the EU remains responsive, cohesive, and capable of meeting both present and future demands.



Part I. Institutional Reforms and Policymaking

2. Enlargement Now! Or How to Complete the European Project

Introduction

One of the most successful EU policies, enlargement, has transformed into a highly contested issue. After a decade of stalemate, 2022 saw a rapid advancement driven by unprecedented geopolitical tensions in Europe. The growing security challenges and geopolitical considerations leave little room for the long-standing dilemma: to enlarge or not to enlarge?

Without the enlargement to include the Western Balkan countries, the EU project remains incomplete. The Western Balkans are geographically surrounded by EU Member States, and their exclusion creates a geopolitical vacuum that undermines the unity and stability of the continent. Integrating these countries is crucial for the EU's credibility and its vision of a unified Europe. At the same time, without the inclusion of Eastern Partnership countries such as Ukraine, the EU's geopolitical ambitions are circumscribed. These countries are pivotal in extending the EU's influence and ensuring a stable and secure neighbourhood. Their integration is vital for the EU to assert itself as a global power and to counterbalance rival influences in the region.

However, the issue of enlargement still raises more questions than it answers. The practicalities of the enlargement process, its timeline, and the immediate and long-term obligations of both future and current Member States remain vague, poorly defined, and often subject to political speculation and interpretation. This chapter provides context, outlines the scope of challenges related to the enlargement project, identifies the most pressing policy gaps, and suggests tangible ways of addressing them during the upcoming mandate.

Context: imperatives and benefits of EU enlargement

- **Stalemate:** Since the significant enlargement of 2004, only a few new members have joined the EU, leaving many more stuck in the 'waiting room'. The lack of required reforms in the candidate countries and the internal anti-enlargement climate within the EU have led to a seemingly never-ending impasse. Over the past decade, the EU has been preoccupied with mitigating a series of crises, pushing its involvement with candidate and neighbouring countries further down its priority list. In the meantime, frustration and disillusionment among aspiring countries have grown, encouraged by the EU's geopolitical rivals, who seek to undermine the EU's influence in the Western Balkans and Eastern Partnership regions.
- **New impetus:** In February 2022, the full-scale Russian aggression against Ukraine provided an unprecedented impetus for renewing the enlargement process. Ukraine's membership bid, immediately followed by those of the Republic of Moldova and Georgia, put the EU at a geostrategic crossroads, prompting a genuine U-turn in the position of the EU and its Member States. Enlargement has become a matter of Europe's security, both immediate and long-term. The historic November 2023 Council, granting candidate status to the 'Eastern Trio' and opening negotiations with Bosnia and Herzegovina, marked a decisive step out of the seemingly endless impasse.
- **Opportunities and risks ahead:** These developments have opened new doors for the Eastern Trio and revived the dormant Western Balkans' EU perspective. This moment represents a game changer in the enlargement prospects. However, multiple difficulties lie ahead. A large-scale enlargement to the south and east presents a real chance for the EU to establish itself as a global power. Conversely, the practical challenges of EU accession require substantial reforms on both sides, which will be impossible without strong political will. The main risk is that the challenge of reforming the EU and addressing long-standing issues in its functioning might cause the newly acquired momentum for enlargement to fade again. Losing the current momentum would be a geopolitical, geoeconomic, and credibility failure from which the EU would struggle to recover. As a result, there is no way back, while the way forward is yet to be elaborated.

- Controversy and political speculation: EU enlargement remains a controversial topic, prone to political speculation. European populists use the enlargement argument in their rhetoric, supporting the accession of candidate countries that deviate from foundational EU values and democratic principles (e.g., Serbian or Georgian governments). This approach risks destabilising the EU and liberal democracies from within. To avoid this, liberals must lead both the internal and external narrative about enlargement and ensure that the accession negotiations practice aligns with EU values.

Policy gaps and problems

After November 2023, the course on admitting new members appears set. However, an adequate roadmap is still missing. The practicalities of the accession negotiations, considering the negative lessons of the past decade's stalemate, as well as the immediate and long-term implications of the expansion on the EU's daily functioning, come with significant uncertainties that must be addressed.

Concerns can be categorised into three main groups: candidates' capacity to join, the accession negotiations themselves, and the EU's own 'absorption' capacity (its ability to function effectively as a Union of 30+ members).

Candidates' capacity to join

The latest reports from the European Commission, published in November 2023, indicate that none of the nine candidate countries are close to the required level of preparedness for EU membership. Despite remarkable progress from Ukraine and Moldova since 2022, they still lag behind most Western Balkan countries in terms of fulfilling accession criteria. To achieve the necessary readiness within a reasonable time frame, both the EU and the candidates must intensify their joint efforts. Clear incentives and motivation are crucial for speeding up the process, while adequate technical and financial support is indispensable for assuring the quality of the costly reforms.

Methodological and procedural gaps

Before 2022, discussions were confined to methodological conversations against the backdrop of 'enlargement fatigue'. The revised enlargement methodology adopted by the European Commission in 2000 aimed to accelerate the accession process but yielded few practical results. An innovative, staged integration model developed by think tanks and civil society representatives proposed a more predictable and progressive approach to full membership. The current approach of the European Commission officially aims for gradual integration based on the candidates' level of preparedness. However, substantial gaps remain:

- Financial benefits: Meaningful financial benefits before accession are envisioned but not practically approved or agreed upon in the Council.
- Tailor-made support: While the methodology envisions a tailor-made approach to each candidate country, the current structures of the European Commission lack the necessary capacity for detailed and targeted assistance and integration.
- Vetoes and blockages: The methodology does not provide safeguards against vetoes and blockages.
- Concrete timelines: There is no indication of concrete timelines for the accession negotiations.
- To address these gaps, elements of the staged integration model can be adopted, such as fixed and predefined milestones and deadlines, along with tangible benefits throughout the process, ensuring accountability and limiting the impact of political changes and roadblocks.

EU's absorption capacity

- Efficiency and functionality: The current set-up of the European Parliament and College of Commissioners, including the number of Members of Parliament and Commissioners, as well as the distribution of seats and portfolios, will need to be reformed if the EU is to enlarge to 30+ members. Long-standing concerns about the voting procedures in the Council, specifically the unanimity requirement for key domains (foreign affairs, security, and defence), risk turning the voting process into

a deadlock. While the Treaty only requires unanimous approval for the opening and closing of accession negotiations, informal practices in the Council extend this requirement to each step of the process, allowing for politically motivated blockages and vetoes.

- **Rule of law:** Another major issue is strengthening and effectively applying mechanisms to sanction Member States that deviate from the rule of law. This puts extra weight on ensuring the supremacy of the rule of law requirement in the accession process. EU enlargement must expand the zone of democracy and shared values, rather than bringing in more illiberal democracies.
- **Budget and policy adjustments:** The EU budget and key policy domains, such as the common agricultural policy and cohesion policy, will need substantial adjustments to accommodate new members, particularly large ones such as Ukraine. Complex technical and political negotiations are needed, but these should not block the accession process itself.
- **Public opinion and narrative:** The lack of clarity, mutual understanding, and trust among officials and citizens from both sides opens space for misinformation and malign narratives. Frustration and disillusionment among Western Balkan citizens, as well as high expectations among the Eastern Trio, call for straightforward, innovative, and tangible actions from the EU. Properly informing EU citizens about the drivers and benefits of enlargement – not just its costs and risks – is crucial. Closer and more regular interaction and collaboration on institutional and personal levels are needed to foster a sense of shared values, interests, and destiny

Actionable steps

Addressing these policy gaps is essential for the success of the EU enlargement project. A clear, strategic, and collaborative approach will help ensure that both current and future Member States are prepared for and benefit from the expansion, ultimately strengthening the EU as a unified and influential global entity.

Supporting the candidates

Tangible incentives throughout the process

To quickly advance on the path of costly reforms, candidate countries and their citizens need tangible incentives throughout the accession process, offering a growing taste of EU membership. This includes progressive access to EU funds, policy areas, and decision-shaping (without voting rights).

Tailor-made support and Standing Task Forces

1. Tailor-made roadmaps: Develop specific, tailor-made roadmaps for each candidate country to ensure gradual integration into the EU single market, EU funding, and other sectoral policies. Identify tangible interim incentives for implementing key reforms.
2. Standing Task Forces: Establish a Standing Task Force for each country, modelled on the successful Task Force for the EU–Ukraine Association Agreement. These units within the European Commission would coordinate daily with candidate countries, bridging and synergising all relevant programmes and initiatives.

Observer status and institutional participation

Enable candidate countries to participate as observers in key EU institutions. The European Economic and Social Committee has already allowed civil society representatives from candidate countries to become involved in its advisory work. This practice should extend to all EU institutions, including granting aspirants' representatives a permanent advisory status in the European Parliament.

Public administration training: ERASMUS+ and regional platforms

1. Erasmus+ for civil servants: Establish an Erasmus+ programme for civil servants to enhance capacity building, good governance, and socialisation.

2. Western Balkans–Eastern Trio Platform: Create a standing platform for exchanges among civil society organisations and civil servants from the Western Balkans and Eastern Trio. This will foster creativity, engagement, and competition in implementing EU reforms.

Preparing the EU for integrating new Member States

- Budget and policy framework: The next Multiannual Financial Framework (MFF) must address the needs of candidate countries, envisioning their gradual integration into EU funds, conditional upon the implementation of reforms. Preparations for the MFF should begin early to ensure agreement on enlargement-related budget reforms.
- Decision-making and consensus-building: Utilise existing instruments and mechanisms to adapt decision-making processes to the realities of an enlarged EU. This includes using the passerelle clause to switch from unanimity to qualified majority voting (QMV) for urgent matters and abandoning the informal practice of requiring unanimity for each intermediate step of the accession process.
- Enlargement Commissioner: The next Commissioner on Enlargement must possess a pro-enlargement stance, personal and political integrity, and relevant expertise. Their credibility is crucial for maintaining trust among candidate countries and ensuring necessary majorities in EU decision-making.
- Public support for EU enlargement: Consistently communicate the benefits of enlargement and the costs of non-enlargement to EU citizens. This narrative should extend beyond geopolitical imperatives to highlight practical gains in security, economic, political, cultural, and demographic terms. Engaging EU citizens in debates and consultations about enlargement will raise public awareness and generate insightful, ambitious ideas for the future.



Part I. Institutional Reforms and Policymaking

3. How to Improve EU Policymaking by Better Engagement with Civil Society

Introduction

Effective policymaking in the European Union hinges on robust engagement with civil society. As a cornerstone of democratic governance, civil society organisations (CSOs) play a critical role in ensuring that policies are inclusive, transparent, and representative of diverse societal interests. CSOs, encompassing a broad spectrum of non-governmental entities including non-profits, advocacy groups, community organisations, and professional associations, serve as vital conduits between the public and the government. They provide a platform for citizens to voice their concerns, advocate for their interests, and contribute to the democratic process.

The EU is committed to consulting with CSOs as part of its governance framework. This is institutionalised through several mechanisms, such as consultation periods before the introduction of new legislation and the establishment of dedicated bodies such as the European Committee of the Regions (CoR) and the European Economic and Social Committee (EESC). These bodies facilitate ongoing engagement with civil society and ensure that regional and sectoral voices are integrated into EU policymaking. Additionally, the EU has shown openness to experimental direct democracy processes, exemplified by the Conference on the Future of Europe (CoFEU).

Despite these mechanisms, there are still areas for improvement in the EU's engagement with civil society. Challenges remain in ensuring that consultations are genuinely inclusive and accessible to all segments of the population, particularly marginalised and underrepresented groups. There is also a need to enhance the transparency and feedback mechanisms of the consultation processes, so participants can see how their input influences policymaking. Furthermore, the EU could strengthen the capacity of CSOs to participate effectively, providing them with the necessary resources and support to engage in the complex EU policy environment.

This chapter explores the importance of civil society in policymaking, examines the current state of engagement within the EU, and outlines

actionable steps for enhancing this engagement to improve policy outcomes and strengthen democratic legitimacy. By addressing these areas, the EU can further enhance its engagement with civil society, ensuring that its policies are more reflective of and responsive to the needs and aspirations of its diverse citizenry. This will not only strengthen the legitimacy and effectiveness of EU policies but also reinforce the democratic foundations of the Union.

The importance of civil society for policymaking

In liberal democracies, the engagement of civil society is not just a complementary aspect of governance but also a cornerstone of effective and inclusive policymaking. The role of civil society in policymaking is multifaceted. Firstly, it enhances transparency and accountability by scrutinising government actions and policies. CSOs often serve as watchdogs, holding public officials accountable and ensuring that policies are implemented fairly and effectively. This oversight is essential in preventing corruption and ensuring that government actions align with public interests.

CSOs often serve as watchdogs, holding public officials accountable and ensuring that policies are implemented fairly and effectively.

Secondly, civil society engagement fosters inclusivity and diversity in the policymaking process. By involving a wide range of stakeholders, including marginalised and underrepresented groups, policymakers can better understand the diverse needs and preferences of the population. This leads to more balanced and equitable policies that reflect the interests of all segments of society, rather than just those of the most powerful or vocal groups.

Through research, advocacy, and direct engagement, civil society provides valuable data, innovative solutions, and practical perspectives that might otherwise be overlooked in the formal policymaking process.

Moreover, CSOs contribute to the knowledge base of policymakers. They often possess specialised expertise and grassroots insights that can significantly enhance the quality of policy decisions. Through research, advocacy, and direct engagement, civil society provides valuable data, innovative solutions, and practical perspectives that might otherwise be overlooked in the formal policymaking process.



A balanced interest representation, achieved through robust civil society engagement, benefits policymaking in several ways. It promotes social cohesion by ensuring that diverse voices are heard and considered. It enhances the legitimacy of policies by grounding them in broad-based support. Furthermore, it strengthens democratic governance by fostering a more informed, engaged, and active citizenry.

Engagement with civil society in the EU

The European Union is obligated to consult with CSOs as part of its commitment to democratic governance and transparent policymaking. This engagement is institutionalised through several mechanisms and practices aimed at ensuring that the voices of citizens are heard and considered in the legislative process.

One of the key practices is the consultation period before the introduction of new legislation. During these periods, the European Commission, which is responsible for proposing legislation, solicits input from a wide range of stakeholders, including CSOs, businesses, and the general public. These consultations are designed to gather diverse perspectives, identify potential impacts, and enhance the quality and legitimacy of the proposed legislation. Public consultations are typically conducted through online platforms, allowing broad participation and access.

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In addition to consultation periods, the EU has established dedicated bodies to facilitate ongoing engagement with civil society. The CoR and the EESC are two such institutions. The CoR represents local and regional authorities, ensuring that regional voices are integrated into EU policymaking. The EESC, meanwhile, brings together representatives from various economic and social sectors, including employers, employees, and various interest groups. Both institutions provide opinions and advice on EU policies, ensuring that the perspectives of civil society are systematically incorporated into the legislative process.

This initiative aimed to engage citizens directly in shaping the future direction of the EU. Through a series of events, panels, and digital platforms, citizens from all Member States had the opportunity to discuss and provide input on key issues facing the EU.

The EU is also open to experimental direct democracy processes, exemplified by the CoFEU. This initiative aimed to engage citizens directly in shaping the future direction of the EU. Through a series of events, panels, and digital platforms, citizens from all Member States had the opportunity to discuss and provide input on key issues facing the EU. The CoFEU represents a bold step towards more direct and participatory forms of democracy, demonstrating the EU's willingness to innovate and adapt in its engagement with civil society. Despite these robust mechanisms, there are still areas for improvement in the EU's engagement with civil society.



Actionable steps for improvement

To enhance the EU's engagement with civil society and ensure more effective interest representation, several actionable steps can be taken.

Introduce lobbying quotas for the European Commission and Members of the European Parliament (MEPs)

- **Geographic representation:** Establish quotas to ensure that lobbying activities reflect the diverse interests of all Member States. This will prevent the overrepresentation of more influential or economically powerful states and ensure that smaller or less represented countries have an equal voice.
- **Sectoral representation:** Implement quotas to balance the representation of various sectors, including industry, agriculture, services, and technology. This will ensure that policies are developed with a comprehensive understanding of the impacts on different economic sectors.
- **Business and social balance:** Create quotas to balance the influence of business interests and social organisations. This will help ensure that social issues such as labour rights, environmental protection, and public health are given equal consideration alongside economic growth and competitiveness.

Enhance the role and relevance of the CoR and the EESC

- **Increased consultation:** Mandate that the CoR and the EESC are consulted more frequently and comprehensively on all major legislative

proposals, particularly those that have a significant regional impact.

- **Greater involvement in candidate Member States:** Expand the CoR's and EESC's role to include candidate countries, providing them with a platform to voice their regional concerns and prepare for eventual membership.
- **Mandatory involvement in parliamentary hearings and Council meetings:** Make it obligatory for both the CoR and the EESC to participate in hearings and meetings, ensuring that social partners and civil society have a direct and consistent voice in the legislative process.
- **Inter-institutional agreement:** Develop a formal agreement detailing the procedures for conducting structural dialogues. This agreement should outline the roles and responsibilities of the CoR and the EESC, the European Parliament, and the Council, ensuring systematic and meaningful engagement with civil society.

Regular and effective citizens' consultations and structured dialogues

- **Institutionalise citizens' consultations:** Building on the success of the CoFEU, make regular citizens' consultations a mandatory part of the EU decision-shaping process. These consultations should occur well in advance of any legislative or major policy proposals.
- **Structured dialogues across institutions:** Require structured dialogues across all EU institutions, ensuring that citizen input is considered at every stage of the policymaking process. These dialogues should be designed to gather broad and diverse perspectives, providing a clear and transparent mechanism for citizens to influence policy.
- **Feedback mechanisms:** Develop robust feedback mechanisms to show how citizens' input is incorporated into policy decisions. This transparency will enhance trust and encourage greater participation in future consultations.



Part I. Institutional Reforms and Policymaking

4. How to Foster a Culture of Innovation in Europe

Introduction

The European Union stands at a crucial juncture where it must address significant challenges to maintain and enhance its competitive advantage. As the global landscape rapidly evolves, the EU must adapt its strategies to uphold its influence and drive innovation. This chapter discusses how the EU can enhance its competitiveness, emphasising the need for effective implementation of policies rather than introducing more regulations.

Despite numerous initiatives under the Digital Decade aimed at boosting innovation and regulatory frameworks, the EU's competitive advantage is waning in many areas. With newly implemented or passed initiatives such as the Digital Services Act (DSA), Digital Markets Act (DMA), Artificial Intelligence Act (AI Act), and the Chips Act, the focus should now be on the effective implementation of existing policies. The EU has positioned itself as a global leader in creating robust frameworks in the digital sphere. This is important, but to ensure competitiveness, it must now prioritise the implementation of these frameworks to foster growth and innovation.

Context and challenges

Background

Historically, the EU has excelled in research and development (R&D) and in fostering small and medium-sized enterprises (SMEs). The unique structure of the EU, comprising 27 different markets, provides diverse opportunities for testing and innovation. This diversity can be a significant advantage, allowing different markets to offer various benefits. However, it also leads to fragmentation, making harmonisation across these markets crucial for creating a level playing field.

The current political focus should be on implementing and harmonising existing frameworks to maximise the benefits of these diverse markets. This approach would help in addressing the fragmentation issue while leveraging the unique advantages of the EU's structure.

Key challenges

Risk-averse culture

One of the primary challenges is the EU's risk-averse culture. There is a tendency to prioritise regulating risks over fostering opportunities, leading to a complacency that stifles innovation. This cautious approach often results in stringent regulations that can hinder the development of new technologies and ideas. Additionally, there is a noticeable cultural divide between academia and entrepreneurship in the EU. Bridging this divide is essential to keep intellectual property within Europe and to encourage a more dynamic exchange of ideas between these sectors.

There is a noticeable cultural divide between academia and entrepreneurship in the EU.

Complexity and fragmentation

The complexity of laws and regulations, coupled with varying speeds of implementation across Member States, creates uncertainties that can be detrimental to innovation. The lack of harmonisation across the EU's diverse markets can be a significant barrier to competitiveness. Simplifying and harmonising these regulations is essential to mitigate these issues and create a more conducive environment for innovation.

Regulation for innovation

Current regulatory frameworks can often hinder innovation by being inflexible and not keeping pace with technological advancements. There is a need for tech-neutral regulations that focus on outcomes rather than specific technologies. Such regulations should be designed to adapt to the rapid development of new technologies and ensure that emerging innovations are not stifled by outdated rules.

Legal harmonisation

Another significant challenge is the lack of legal harmonisation across Member States. Nationalistic tendencies and fragmented markets reduce the EU's competitive potential. There should be a concerted effort to create coherent regulations that enhance European market power and foster competition globally rather than within the EU. This harmonisation is crucial for creating a unified market that can compete effectively on the global stage.

Policy gaps and problems

Regulation for innovation

One of the significant issues with the current regulatory framework is the uncertainty it creates. Prolonged discussions and implementation periods, coupled with a lack of transparency, often result in a trickle-down effect that burdens SMEs with unnecessary bureaucracy. This environment can deter innovation and create barriers to market entry.

Regulations should specify outcomes and functional definitions rather than specific technologies, ensuring they remain relevant as new innovations emerge.

Furthermore, the inflexibility of current regulations means they often fail to adapt to the rapid development of new technologies. There is a need for more flexible and tech-neutral frameworks that can accommodate the ever-changing landscape of technological advancements. Regulations should specify outcomes and functional definitions rather than specific technologies, ensuring they remain relevant as new innovations emerge. The directive 2019/944 serves as an example of tech-neutral regulation.

The presence of grey zones in regulation also hampers innovation. These unclear areas create uncertainty for businesses, making it difficult for them to navigate

the regulatory landscape. Establishing clear guidelines and regulatory sandboxes can provide more certainty and facilitate market entry. Sandboxes,

in particular, can offer controlled environments where new technologies can be tested without the full weight of regulation, fostering innovation and reducing barriers to entry. Another way of dealing with grey zones is with Codes of Conduct, which can already be observed in the AI Act, the DSA, and the GDPR.

Legal harmonisation and implementation

The lack of coordination among enforcement agencies across Member States leads to inconsistencies in the application of laws. Different speeds of implementation and varying interpretations of regulations create uncertainties that can be detrimental to businesses. Greater coordination and cooperation among Member States are needed to ensure uniformity and predictability in the regulatory environment.

Protectionism is another issue that needs to be addressed. Regulations should not favour legacy technologies or specific countries within the EU. Instead, they should support innovation across the entire Union, ensuring that new and emerging technologies can thrive. This approach would help create a more competitive and dynamic market, fostering innovation and growth. Lastly, the EU must tackle the overarching question regarding in what cases harmonisation and centralisation should be prioritised.

The lack of coordination among enforcement agencies across Member States leads to inconsistencies in the application of laws.



Actionable steps

Fostering a culture of innovation

To shift from a risk-averse mindset to one that embraces innovation, the EU must encourage risk-taking and create an environment where new ideas can flourish. Simplifying regulation is a crucial step. By implementing tech-neutral regulations and reducing bureaucracy, the EU can create a more conducive environment for innovation.

Harmonising laws across Member States is essential to create a unified market. The EU should create coherent regulations that eliminate fragmentation and foster an even playing field. The successful coordination seen during the COVID-19 vaccine roll-out demonstrates that harmonisation is possible and can be highly effective.

Promoting standardisation in collaboration with industry is another important step. Developing standards that support interoperability and are cost-effective can help reduce barriers to innovation and create a more competitive market.

Better standard setting

The EU must aim to elevate products to the highest levels of quality and performance. This can be achieved by establishing standards that promote operability and interoperability, which are essential when setting industry-wide benchmarks. Recognising that standardisation incurs costs to industries, it is important to balance these expenses with the long-term benefits of higher quality and more competitive products.



The introduction of the AI Act and its provisions on standards is a step in the right direction. These standards should not only focus on immediate compliance but also prepare industries for future advancements. International standard setting should be a priority, ensuring that EU standards are aligned with global practices to maintain competitiveness.

A specific actionable step is to adopt the 'runner-up principle', which involves making the performance standards of the best-performing companies the industry standard within a few years. This encourages continuous improvement and ensures that the entire industry moves towards higher performance levels. National innovation agencies, modelled after successful entities such as DARPA in the United States, can play a crucial role in this process. Initiatives such as the Joint European Disruptive Initiative (JEDI) could be a starting point to provide valuable frameworks for fostering innovation. Additionally, establishing cluster innovation accelerators that focus on outcomes can drive progress.

The Directorate-General for Research and Innovation should manage EU funds more effectively, directing resources towards upskilling and supporting projects at higher technology readiness levels (TRL 5–9). National innovation agencies should coordinate with national authorities managing regional action funds, which are part of broader EU cohesion policy programmes. These funds, available from 2021–2027, aim to make Europe more competitive and smarter through innovation and support for SMEs.

Establishing innovation hubs and regulatory sandboxes can provide SMEs and start-ups with the support they need to test new technologies in a controlled environment. These initiatives can reduce market entry barriers and foster a more innovative ecosystem.

Enhancing legal and regulatory frameworks

Developing flexible regulatory frameworks that can adapt to technological changes is essential for fostering innovation. Creating codes of conduct for grey zones and ensuring regulations do not lock in legacy technologies are important steps in this direction. Regular impact assessments of regulations on businesses can also ensure that they do not hinder innovation. Increasing accountability and transparency in the regulatory process can help create a more favourable environment for innovation.

Coordinated implementation

Determining when to centralise or decentralise regulation based on urgency and agency is crucial for effective implementation. For high-urgency situations, centralising efforts can ensure swift action and coordination. Improving the coordination of enforcement agencies across Member States can also ensure consistent implementation and reduce uncertainties for businesses.

Leveraging data for innovation

Data is crucial for innovation, particularly in the health sector, as it serves as the foundation for advancements in medical research, enhances patient care, and fosters the development of new treatments and technologies. High-quality, accurate data enables researchers to identify patterns, understand diseases, and develop effective therapies. Moreover, robust data facilitates personalised medicine, improving patient outcomes by tailoring treatments to individual needs. The responsible use and sharing of data not only drive scientific discoveries but also promote collaboration across the healthcare ecosystem, ultimately leading to more efficient and effective healthcare solutions.

Some policy recommendations for leveraging data include the following:

- Ensure provisions that support data quality, making it representative, accurate, secure, and robust, to enable data-driven innovation and collaboration.
- Facilitate appropriate data access and sharing within and across countries for scientific research, consistent with existing intellectual property and privacy legislation.
- Promote global and EU-level alignment on regulatory frameworks and technical standards needed to operate in upcoming technologies, such as AI, across nations and regions.



Part I. Institutional Reforms and Policymaking

5. How to Consolidate the EU's Position as a Global Leader in Technology Regulation: The Importance of a Technology-Neutral Approach

Introduction

Technology-neutral regulation refers to the creation of legal frameworks that apply universally across different technologies, without favouring or discriminating against any specific technology. This approach ensures that laws remain relevant and effective regardless of the emergence of new technologies or the obsolescence of old ones. By focusing on the underlying principles and outcomes rather than the means of achieving them, technology-neutral regulation promotes a level playing field for innovation, competition, and consumer protection.

Adopting a technology-neutral approach will allow the EU to consolidate its position as a global leader in technological regulation. It will ensure that regulations are adaptable and future-proof, capable of addressing the challenges and opportunities presented by emerging technologies. Ultimately, technology-neutral regulation supports a thriving, competitive, and innovative market that serves the best interests of businesses, consumers, and society at large.

This chapter aims to provide a framework for understanding and implementing technology-neutral regulation within the EU. It highlights the necessity of such an approach in today's fast-paced technological environment and outlines the benefits of focusing on functional outcomes rather than specific technological means. It also offers actionable steps for creating more adaptable, inclusive, and forward-looking regulatory frameworks. Ultimately, this chapter seeks to equip policymakers,

Technology-neutral regulation supports a thriving, competitive, and innovative market that serves the best interests of businesses, consumers, and society at large.

regulators, and stakeholders with the knowledge and tools needed to craft regulations that foster innovation, competition, and consumer protection while remaining relevant and effective in the face of continuous technological change.

The importance of technology-neutral regulation

In today's rapidly evolving technological landscape, the EU faces the critical task of crafting regulations that effectively manage technological advancements while fostering innovation, competition, and consumer protection. The dynamic nature of technology necessitates a regulatory approach that can adapt to continuous change without stifling progress or favouring specific technologies. This is where the concept of technology-neutral regulation becomes indispensable.

Encouraging innovation

A technology-neutral regulatory environment encourages innovation by providing businesses with the flexibility to develop and implement new technologies without the fear of regulatory changes that choose the winners and losers by default. When regulations are not tied to specific technologies, companies can invest in research and development with greater confidence, knowing that their efforts will not be thwarted by sudden regulatory shifts.

Innovation is the lifeblood of economic growth and competitiveness. By fostering an environment where new ideas can flourish, technology-neutral regulation allows businesses to explore cutting-edge solutions, optimise processes, and create new products and services. This freedom is crucial for start-ups and smaller companies, which are often at the forefront of technological innovation. These companies can experiment and pivot without the burden of conforming to outdated or overly prescriptive regulations.

Fostering competition

Technology-specific regulations can inadvertently create market barriers by favouring certain technologies over others, leading to monopolies

or oligopolies. Technology-neutral regulation, in contrast, ensures that all market participants have an equal opportunity to succeed, fostering healthy competition. This competitive environment drives technological advancements and leads to better products and services for consumers. Healthy competition is essential for a vibrant market. When regulations favour particular technologies, they can entrench incumbent players and stifle new entrants. Technology-neutral regulation removes these barriers, encouraging a diverse range of companies to compete on a level playing field. This diversity drives innovation, as companies strive to differentiate themselves and offer superior products and services. Consumers benefit from this competitive landscape through increased choice, lower prices, and higher quality.

Ensuring long-term relevance

Technological advancements often outpace the legislative process, resulting in regulations that quickly become outdated. By adopting a technology-neutral approach, regulations remain relevant and effective over a longer period, reducing the need for frequent updates and amendments. This stability is crucial for both regulators and businesses, as it provides a clear and consistent legal framework within which to operate.

The pace of technological change is accelerating, with new breakthroughs occurring regularly. Traditional regulatory approaches, which may take years to develop and implement, struggle to keep up with this rapid evolution. Technology-neutral regulation, by contrast, focuses on the underlying principles and desired outcomes, allowing it to remain applicable even as specific technologies change. This forward-looking approach reduces the administrative burden on regulators and provides businesses with a predictable environment in which to plan and invest.

By adopting a technology-neutral approach, regulations remain relevant and effective over a longer period, reducing the need for frequent updates and amendments.

Protecting consumer interests

Technology-neutral regulations focus on the outcomes and impacts of technology on consumers rather than the specific technological means. This approach ensures that consumer protections are robust and adaptable to different technological contexts. Whether it's data privacy, cybersecurity, or product safety, regulations can be crafted to safeguard consumer interests regardless of how the technology evolves. Consumer protection is a cornerstone of effective regulation. In a technology-neutral framework, regulations prioritise the end goals – such as ensuring privacy, security, and safety – rather than prescribing the means to achieve these goals. This flexibility allows regulations to remain effective as new technologies emerge. For example, privacy regulations can be designed to protect personal data regardless of whether it is stored on physical servers, in the cloud, or using blockchain technology. This adaptability is essential in maintaining public trust and ensuring that technological progress benefits society as a whole.

The necessity of technology-neutral regulation in the EU cannot be overstated. As technological advancements continue to reshape industries and societies, the EU must adopt regulatory frameworks that promote innovation, competition, long-term relevance, and consumer protection. By focusing on the principles and outcomes rather than the specific technologies, the EU can create a dynamic and resilient regulatory environment that benefits all stakeholders.

Policy gaps and problems in technology regulation

While the European Union has made strides in implementing technology-neutral regulations in sectors such as telecommunications and digital payments, there remain significant policy gaps and problems. The telecommunications sector exemplifies successful technology-neutral regulation. By focusing on service standards and consumer protections rather than specific technologies, the EU has enabled seamless integration of advancements from landlines to mobile networks and now to 5G and beyond (notwithstanding security considerations from third-country competitors). This approach has facilitated innovation and competition, ensuring consumers benefit from high-quality, affordable services. In digital payments, the EU has adopted a technology-neutral stance that

accommodates a wide range of payment solutions, from traditional banking systems to fintech innovations such as mobile wallets and blockchain-based systems. This inclusive regulatory environment has fostered a diverse and competitive market, enhancing consumer choice and driving technological progress.

However, issues often arise when policy aims are defined in non-functional terms, extraneous conditions based on current technology are included in regulations, or market design parameters exclude certain technologies.

For example, the electrification of the grid has faced challenges due to regulations that are not technology-neutral. Policies have often favoured certain technologies, such as specific types of renewable energy sources, without adequately considering emerging or even existing alternative technologies (e.g. nuclear). This approach can stifle innovation and limit the market's ability to adapt to new technologies that could enhance grid efficiency and sustainability. Furthermore, the EU's choice to ban internal combustion engines (ICEs) by a certain date is another example where regulations are defined in non-functional terms and include extraneous conditions. While the goal is to reduce emissions and promote cleaner transportation, focusing solely on banning ICEs may exclude potential solutions such as synthetic fuels or advanced hybrid technologies that could achieve similar environmental benefits.

This narrow focus can hinder technological diversity and innovation in the automotive sector and may jeopardise our ability to achieve the set targets. In the case of electric vehicles, there are particular challenges, such as the availability of lithium and other raw materials, that must be addressed. The future availability of these resources is uncertain. If, for instance, we cannot mine sufficient lithium to meet the projected demand for electric vehicles, it is crucial to consider alternative solutions that can also contribute to the decarbonisation of the transport sector. Without this flexibility, we risk failing to meet our goals.

Similarly, regulations that prescribe specific technologies for achieving energy efficiency, rather than setting performance-based targets, can limit innovation. For instance, mandating the use of particular insulation materials in building codes can exclude newer, potentially more effective solutions that do not meet the exact specifications but achieve the same or better outcomes.

Policies that favour certain waste processing technologies, such as incineration or composting, over others, such as advanced recycling or waste-to-energy conversion, can create barriers to the adoption of innovative waste management solutions. Technology-specific regulations can lock in suboptimal practices and prevent the market from evolving toward more efficient and sustainable methods.

Moreover, in the healthcare sector, regulations must keep up with scientific progress and facilitate innovations that address unmet needs, that are accessible across the EU, and that improve patient outcomes. For example, the Pharmaceutical Package should be an upgrade of the regulatory system to an agile, fit-for-purpose, and future-proofed framework.

Finally, regulations should not mandate the use of specific medical devices or treatment protocols, which can stifle innovation. For example, requiring the use of particular types of diagnostic equipment can prevent the adoption of newer, potentially more accurate or cost-effective technologies. A technology-neutral approach that focuses on outcomes, such as accuracy and patient safety, would allow for greater flexibility and innovation.

Regulations that prescribe specific technologies for achieving energy efficiency, rather than setting performance-based targets, can limit innovation.



Actionable steps towards technology-neutral regulation

Emphasise outcome-based approaches

To enhance our strategy, we should prioritise focusing on outcomes and contributions to the system rather than the specifics of how technologies work. This approach allows for greater flexibility and innovation, ensuring that we achieve our desired results without being constrained by the limitations of particular technologies. By evaluating success based on the impact and benefits delivered, we can better adapt to evolving circumstances and incorporate a broader range of effective solutions.

Define policy aims in functional terms

Achieving technology-neutral regulation begins with defining policy aims in functional terms, focusing on desired outcomes rather than specific technologies. For example, instead of mandating the use of electric vehicles or solar panels, policies should aim to reduce carbon emissions or increase energy efficiency. This approach enhances flexibility, promotes innovation, and ensures the longevity of regulations by allowing them to adapt to new technologies that achieve the same or better results. Focusing on the outcome rather than the means allows for a broader range of solutions, encouraging creativity and technological advancement across various sectors.

Avoid extraneous conditions based on current technology

To foster innovation and accommodate future technological advancements, regulations should avoid including extraneous conditions based on current technology. Instead, they should be designed to be inclusive of new developments by setting broad criteria for technologies to meet, such as safety, efficiency, and environmental impact, without specifying the means to achieve these criteria. This encourages technological diversity and ensures that the regulatory environment remains dynamic and forward-looking. By removing constraints tied to current technologies, regulations can more readily adapt to breakthroughs and shifts in the technological landscape, supporting a more resilient and innovative market.

Design inclusive market parameters

Creating inclusive market parameters is crucial for fostering a competitive and innovative market. This involves removing barriers that favour specific technologies and ensuring that market rules and incentives allow participation from a wide range of technological solutions, including small and emerging technologies. Such an approach supports competition and drives innovation, leading to better products and services for consumers. Inclusive market design promotes diversity and allows for the best solutions to emerge, enhancing overall market efficiency and effectiveness. By encouraging a broad range of participants, the market can become more vibrant and responsive to changing needs and opportunities.

Implement dynamic and adaptive regulatory frameworks

Dynamic and adaptive regulatory frameworks are essential for keeping pace with technological advancements. These frameworks should regularly incorporate feedback from stakeholders, implement periodic reviews and updates, and encourage pilot programmes and experimental regulations. This ensures that regulations remain relevant and effective in the light of new developments and emerging technologies. By being responsive and flexible, regulatory frameworks can better address the evolving challenges and opportunities presented by rapid technological change. Pilot programmes, in particular, can serve as testing grounds for new ideas, allowing regulators to assess the viability and impact of innovative solutions prior to their wider implementation.

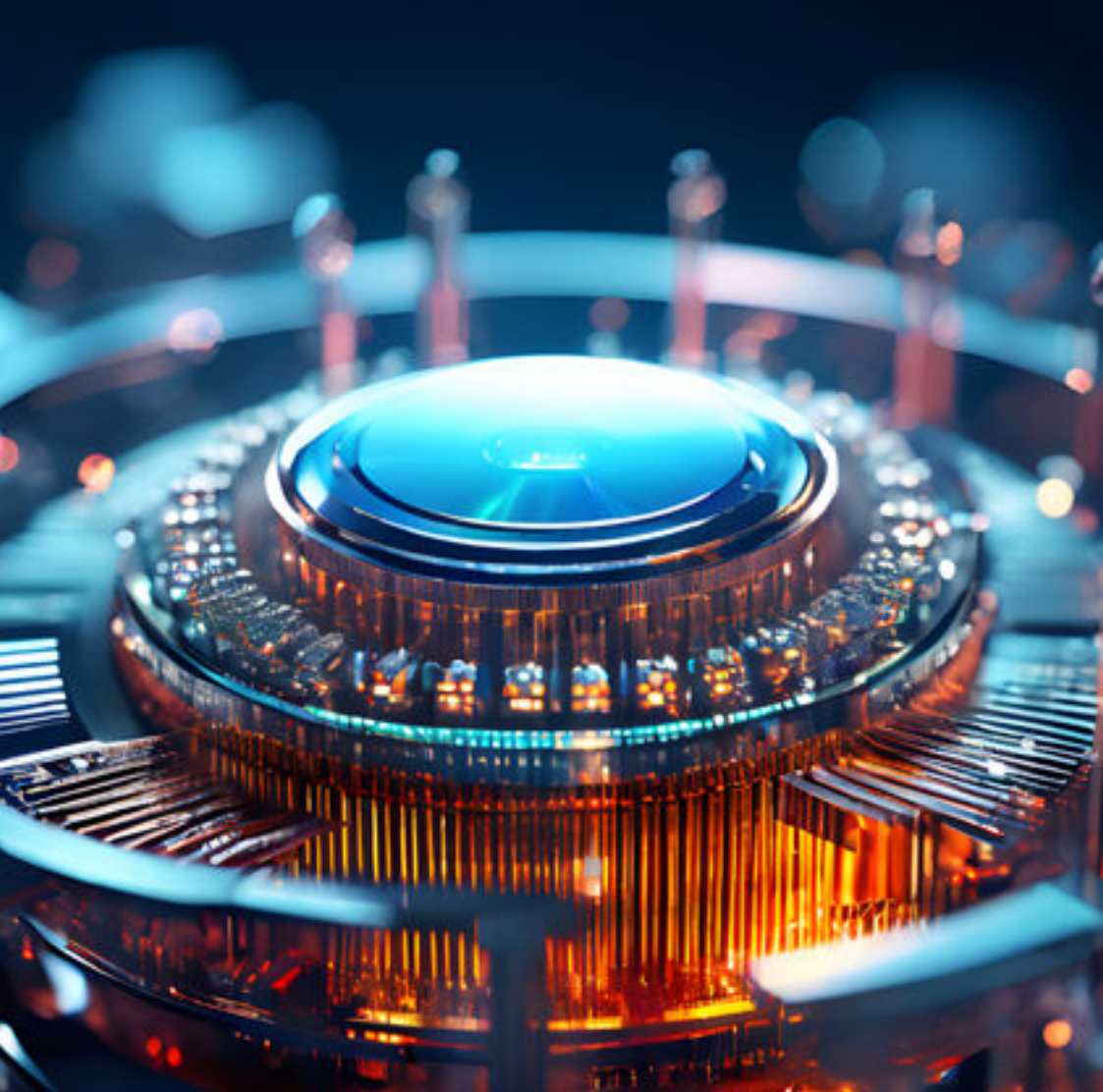
Set increasing market standards based on the 'runner-up principle'

Adopting the 'runner-up principle' for setting market standards can drive continuous improvement and innovation. This principle involves setting standards based on the performance of the second-best technology in the market. This approach raises the bar progressively, encourages fair competition, and drives companies to continuously innovate and improve their technologies to avoid falling behind. By not setting the standard at the level of the top performer, this method maintains a competitive environment where all participants strive to excel, leading to incremental and sustained advancements across the industry. It fosters an environment where innovation is rewarded and where companies are motivated to push the boundaries of what is possible.





Technology, Sustainability, and Energy



Part II. Technology, Sustainability, and Energy

6. How to Make a Quantum Leap in Europe: Fostering Quantum Innovation and Security

The significance of quantum computing

Quantum technology is poised to revolutionise several critical sectors through its unique capabilities that classical computing paradigms cannot match. Here is an in-depth discussion on how these technologies could transform cybersecurity, healthcare, finance, and defence, and why their integration into EU strategic initiatives is essential.

Quantum computing introduces the potential for creating virtually unbreakable encryption through quantum key distribution (QKD), which could drastically enhance the security of transmitting sensitive information across the internet. However, this same technology poses significant risks to current encryption standards. The EU must invest in quantum-safe cryptography to protect against future quantum attacks. Implementing robust quantum-resistant protocols will secure infrastructures against emerging quantum threats, thereby preserving data integrity and confidentiality in governmental, financial, and personal communications.

The EU must invest in quantum-safe cryptography to protect against future quantum attacks.

In healthcare, quantum computing can accelerate drug discovery processes by simulating molecular interactions at unprecedented speeds and accuracy, reducing the time and cost associated with bringing new drugs to market. This capability is vital for responding swiftly to global health crises, such as pandemics, where rapid vaccine development is crucial. Moreover, quantum algorithms can optimise complex logistical operations within healthcare systems, such as patient scheduling, resource allocation, and treatment plan optimisation, thereby increasing efficiency and patient outcomes.

Quantum technologies offer significant advantages in the finance sector by enabling the quick and efficient analysis of vast data sets for risk assessment, fraud detection, and algorithmic trading. Quantum algorithms can optimise portfolios by calculating the risk–return ratio of vast combinations of assets more efficiently than classical computers. This advancement will allow financial institutions to make more informed decisions, thereby potentially stabilising markets and offering better returns on investments.

In the realm of defence, quantum computing can significantly enhance the capabilities of simulations and other computationally intensive tasks such as the design of complex systems, including aircraft and satellites, or the real-time strategic decision-making in military operations. Furthermore, quantum sensing and imaging provide breakthrough technologies for surveillance, which can detect objects that are invisible to classical sensors, thus offering significant tactical advantages.

European context and challenges

The European Union is at a pivotal juncture in the field of quantum technology, a sector that promises to reshape the global technological landscape. Despite notable progress in Member States such as Finland and Germany, several critical challenges hinder the EU's potential to fully capitalise on this revolutionary technology. Understanding these challenges is essential for strategic planning and policymaking to ensure Europe remains competitive on the international stage.

Fragmented efforts

One of the EU's most pressing issues in quantum technology is the fragmentation of research and development efforts across various Member States. While countries such as Finland and Germany are making significant strides, there is a lack of a coordinated, union-wide approach that could leverage the unique strengths of each Member State. This fragmentation leads to inefficiencies such as duplicated research efforts, inconsistent funding allocation, and a piecemeal approach to innovation that does not fully exploit the synergies that a more unified strategy could provide.

Insufficient funding

Quantum technology development is highly resource-intensive, requiring substantial long-term investments. Current funding levels from EU sources, such as Horizon Europe and other related frameworks, while substantial, are still outpaced by investments made by global leaders such as the United States and China. The EU's investment in quantum technologies must not only increase but also become more strategic, focusing on areas where Europe can realistically gain a competitive or strategic advantage, or where it can contribute to securing its technological sovereignty.

Talent shortages

The demand for skilled professionals in quantum sciences far exceeds the current supply, a gap that is expected to widen as the technology progresses towards more practical applications. European educational institutions and workforce development programmes need to be scaled up and aligned more closely with the emerging needs of the quantum technology sector. Initiatives such as Erasmus+ and Marie Skłodowska-Curie Actions provide a solid foundation, but targeted programmes designed to attract and retain top talent specifically in quantum sciences are needed.

The demand for skilled professionals in quantum sciences far exceeds the current supply, a gap that is expected to widen as the technology progresses towards more practical applications.

Need for substantial infrastructure

Quantum technologies require sophisticated infrastructure not only in terms of advanced research facilities but also for the development of quantum computers, secure quantum communication networks, and supportive ecosystems that include everything from start-ups and small and medium-sized enterprises (SMEs) to large corporations and government bodies. The current infrastructure in Europe, while progressing, requires significant expansion to support the scaling of quantum technologies from the laboratory to industry-scale applications.

Policy gaps and problems with current EU legislation

The European Union faces significant challenges in harnessing the full potential of quantum technologies due to gaps in policy integration, educational strategies, and funding mechanisms. These shortcomings not only slow the pace of technological advancement but also affect Europe's competitive position in the global quantum race.

Integration of quantum technologies across Member States:

- **Inconsistent regulatory frameworks:** Different countries within the EU may have varying regulations concerning quantum technology, leading to a fragmented market that complicates the deployment of quantum technologies at scale.
- **Uneven access to resources:** Some Member States have advanced infrastructure and funding for quantum research, while others lag significantly behind. This disparity hinders the ability of the EU as a whole to develop a cohesive quantum ecosystem that leverages the strengths of all its members.
- **Collaboration barriers:** Without a unified approach, collaboration across borders within the EU is less efficient, slowing down the exchange of knowledge and best practices that could accelerate quantum technology development.

Quantum education and workforce development:

- **Lack of specialised programmes:** There are limited quantum-focused educational programmes at the university and vocational levels, which are essential for training a new generation of scientists and engineers.
- **Insufficient collaboration between academia and industry:** The current educational programmes often do not align with industry needs, resulting in a skills mismatch where graduates are not equipped with the practical skills required by employers in the quantum technology sector.

- Regional disparities in educational opportunities: Similar to research and development resources, educational opportunities in quantum technology are not uniformly distributed across the EU, limiting the ability of some regions to contribute to and benefit from advancements in quantum technology.

Funding mechanisms:

- Lack of targeted funding: While the EU provides significant funding for research, there is a need for more targeted funding programmes that focus specifically on the development and commercialisation of quantum technologies.
- Insufficient support for start-ups and SMEs: Emerging companies often struggle to secure funding that would allow them to scale quantum technologies to a market-ready stage. The existing funding mechanisms may favour established institutions and larger corporations.
- Complex funding processes: The bureaucratic nature of funding processes can be a significant barrier, especially for smaller organisations and start-ups that do not have the resources to navigate complex application procedures.

Emerging companies often struggle to secure funding that would allow them to scale quantum technologies to a market-ready stage.



Actionable steps to enhance the EU's quantum technology landscape

To bridge the current gaps in the integration, education, and funding of quantum technologies within the European Union, the following strategic actionable steps are proposed. Each is designed to boost the EU's quantum capabilities in a coordinated and effective manner.

1. Establish a European Quantum Act

The Quantum Act would serve as a central legislative framework to unify and streamline quantum research and commercialisation efforts across the EU. Similar to the European Chips Act, this Act would aim to consolidate funding, standardise regulations, and facilitate a common market for quantum technologies.

2. Create quantum innovation hubs

Develop a network of quantum innovation hubs across the EU to foster collaboration and synergy among academia, industry, and government. These hubs would act as centres of excellence, driving innovation and commercialisation of quantum technologies.

Implementation steps:

- Site selection: Identify strategic locations for these hubs, ideally in regions with existing research infrastructures such as universities and tech parks.
- Infrastructure development: Invest in state-of-the-art facilities equipped with quantum computers, laboratories, and collaborative workspaces.
- Partnership formation: Encourage partnerships between universities, tech companies, and public agencies to support research and development projects.

- Community engagement: Organise workshops, seminars, and conferences to disseminate quantum knowledge and foster a community of practice.

3. Enhance support for quantum start-ups

Strengthen the quantum technology ecosystem by providing targeted support to start-ups, including financial incentives and protection measures to guard against hostile takeovers by non-European entities.

Implementation steps:

- Tax incentives: Introduce tax breaks for quantum technology start-ups and investors to stimulate growth and attract funding.
- Co-investment funds: Establish co-investment funds that match private investment with public funds to reduce financial risks for new ventures.
- Protective measures: Implement regulations that prevent critical quantum technologies from being controlled by non-European interests, ensuring strategic autonomy.
- Start-up ecosystem: Develop incubators and accelerators that provide mentoring, technical support, and business development services to quantum start-ups.

4. Develop a comprehensive quantum education framework

Prepare the next generation of quantum scientists and engineers by creating a comprehensive educational framework that covers elementary education to university-level programmes and continuous professional development.

Implementation steps:

- Curriculum development: Collaborate with educational institutions to integrate quantum computing and quantum physics into science, technology, engineering, and mathematics (STEM) curricula.

- Training programmes: Establish specialised training programmes at universities and technical schools that offer degrees and certifications in quantum technologies.
- Industry partnerships: Partner with quantum technology companies to provide practical training, internships, and job placements for students.
- Public awareness: Launch public awareness campaigns to highlight the importance and potential of quantum technologies, inspiring young people to pursue careers in this field.

Implementing these steps would significantly enhance the EU's quantum technology capabilities, making it a global leader in this cutting-edge field. These initiatives would not only address current gaps but also lay a robust foundation for future advancements in quantum technologies.



Part II. Technology, Sustainability, and Energy

7. How to Achieve Energy Security by Diversifying Sources and Vectors: The Case for Hydrogen

Introduction

In an era defined by rapid technological advancements and escalating geopolitical tensions, the urgent need for sustainable and secure energy solutions has become a central focus for global economies. Within this context, hydrogen emerges as a pivotal component of the European Union's energy strategy, offering a promising path towards diversification and enhanced security of energy supply. This chapter explores the significant role that hydrogen could play in augmenting the EU's energy security by broadening the range of energy sources and vectors available. The importance of hydrogen in this strategic diversification is particularly relevant under the 'Europe 2029' initiative, which aims to propel the EU towards greater energy independence and sustainability.

The chapter unfolds against a backdrop of increased energy demands and the pressing need to reduce reliance on fossil fuels, which are susceptible to geopolitical disruptions and are environmentally detrimental. Hydrogen, with its high energy content and versatility, is posited as a transformative element that can bridge the gap between renewable energy sources and demand sectors that are challenging to decarbonise. As the EU navigates this transition, the integration of hydrogen into its energy system presents a unique opportunity to reinforce its energy autonomy, enhance its technological leadership, and mitigate environmental impacts.

Hydrogen, with its high energy content and versatility, is posited as a transformative element that can bridge the gap between renewable energy sources and demand sectors that are challenging to decarbonise.

Furthermore, the strategic adoption of hydrogen technologies aligns with the EU's broader objective of achieving a resilient and sustainable energy ecosystem. By leveraging hydrogen, the EU can not only diversify its energy matrix but also enhance its geopolitical stance, reducing vulnerabilities associated with energy imports and fostering stronger intra-regional energy collaborations. This chapter delves into the multifaceted role of hydrogen in achieving these objectives, outlining both the opportunities it presents and the challenges that must be overcome to realise its full potential as a cornerstone of Europe's energy future.

Context and challenges

Europe's energy framework has been significantly shaped and tested by the string of recent global energy crises. Particularly illuminating were the dependency issues that were brought to the forefront during the COVID-19 crisis, which revealed Europe's massive overdependence on imports of many basic goods and materials – and currently in the Russia–Ukraine conflict, which starkly highlights the vulnerability of relying heavily on energy imports from geopolitically unstable regions. Such crises have underscored the critical need for a robust and resilient energy system within the European Union – a system capable of withstanding geopolitical pressures and supply disruptions.

The current energy architecture of the EU is marked by a significant dependency on external sources, with natural gas being a prime example. The reliance on this single energy source became a critical point of failure during the 2020 natural gas crisis, when supply shortages and price volatility severely impacted European economies and consumers. Prices started to increase from the summer of 2021 onwards, and then really exploded after the start of the war in February 2022. This not only exposed the EU's energy vulnerabilities but also demonstrated the risks of geopolitical leverage over energy resources, which can be used as economic and political tools against dependent nations.

Moreover, the EU's energy security is compromised by its heavy reliance on a limited number of supply routes and sources, most of which are concentrated in regions fraught with political and economic instability. This dependency constrains the EU's ability to respond flexibly to energy shortages and price spikes, making the energy system both rigid and fragile in the face of external shocks.



The EU's energy security is compromised by its heavy reliance on a limited number of supply routes and sources, most of which are concentrated in regions fraught with political and economic instability.

In response to these challenges, diversification emerges as a critical strategy. By expanding the energy portfolio to include sustainable and widely available sources such as hydrogen, the EU can mitigate the risks associated with over-reliance on any single energy source or supplier. Hydrogen, in particular, offers several strategic advantages. It can be produced from a variety of energy sources, including renewables such as wind and solar, which aligns with the EU's long-term goals for sustainability and carbon neutrality. Additionally, hydrogen can be stored and transported over long distances, offering flexibility in how and where energy is utilised.

The shift towards hydrogen not only enhances the EU's energy security by diversifying supply but also strengthens its position in the global energy market by reducing its vulnerability to geopolitical tensions and market manipulations. However, realising the full potential of hydrogen as a cornerstone of Europe's energy strategy requires overcoming substantial challenges, including technological advancements, infrastructure development, and regulatory adjustments, all of which are essential for integrating hydrogen into the existing energy systems.

Policy gaps and problems

While the potential of hydrogen as a sustainable energy vector is widely recognised within the European Union, there are considerable gaps in the existing policy framework that impede its comprehensive deployment across the Member States. These gaps pose significant challenges in transitioning to a hydrogen-based energy system, reinforcing old dependencies and creating new vulnerabilities.

One of the most critical issues is the EU's reliance on non-EU manufactured electrolysers, which are essential for hydrogen production. Predominantly sourced from China, this reliance mirrors the broader dependency issue that the EU faces in other critical sectors such as rare earth materials and electronics. This not only poses a risk to the security of hydrogen supply but also leaves the EU vulnerable to external geopolitical shifts and trade dynamics. Moreover, it undermines the EU's strategic autonomy ambitions by making it difficult to control the supply chain of a crucial component of the hydrogen economy.

Furthermore, existing energy policies within the EU have traditionally favoured short-term, low-cost solutions. This inclination has been particularly evident in the liberalisation and deregulation trends that encourage market competition based primarily on price. While such policies have benefits, including lower immediate costs for consumers, they have also exposed the EU to significant risks during energy price fluctuations and supply crises, as seen during the natural gas shortages. These policies fail to account for the long-term strategic benefits of investing in more expensive but secure and sustainable energy solutions such as hydrogen.

The policy framework currently lacks adequate incentives and support mechanisms for developing local production capacities in hydrogen technology. Without significant investment in research, development, and deployment of hydrogen technologies, including local production of electrolysers, the EU risks lagging in a critical area of future energy technology.

To address these gaps, a re-evaluation of the EU's energy policy priorities is imperative. The focus should shift towards creating a supportive environment for the hydrogen economy, which includes enhancing funding for technology development, scaling up infrastructure investments, and establishing robust

regulations that encourage long-term sustainability over short-term gains. Support mechanisms specifically designed to reduce dependency on non-EU sources for critical technologies such as electrolyzers are also essential.

In sum, the current policy landscape requires comprehensive adjustments to foster a robust, locally supported hydrogen economy. These changes are crucial not only for the successful integration of hydrogen into the EU's energy mix but also for enhancing the overall energy security and sustainability of the region. Implementing these changes will position the EU as a leader in the global shift towards sustainable energy systems, aligned with its broader environmental and economic objectives.

The current policy landscape requires comprehensive adjustments to foster a robust, locally supported hydrogen economy.

Actionable steps

To overcome the challenges outlined in the policy gaps and to expedite the integration of hydrogen into Europe's energy matrix, EU policymakers must undertake a series of decisive and actionable steps. These steps should aim to strengthen the internal production capabilities, enhance international cooperation on renewable energies, revise regulatory frameworks to support a balanced energy market, and significantly invest in the necessary infrastructure to support a hydrogen economy.

- **Promote local production:** To diminish the EU's dependency on non-EU manufactured electrolyzers and other hydrogen-related technologies, the EU must implement subsidies and incentives specifically targeted at projects using EU manufactured equipment. These financial incentives could include tax breaks, grants, and guaranteed market prices for locally produced hydrogen. Additionally, investment in research and development programmes that aim to innovate and reduce the costs of electrolyser production within the EU is crucial. This not only supports the local economy but also secures the EU's supply chain in critical technologies.

- **Strategic energy partnerships:** Developing new and strengthening existing strategic partnerships with geopolitically stable and friendly countries is essential for securing a reliable and diversified supply of hydrogen. These partnerships should focus on collaborative investments in renewable energy projects and hydrogen production facilities. The EU should prioritise agreements that include joint research projects, shared technology transfers, and mutual investments in infrastructure, such as interconnectors and terminals for hydrogen import and export. Such partnerships will not only secure additional hydrogen supplies but also promote EU standards globally.
- **Regulatory frameworks:** The revision of the Third Energy Package is critical to ensure it supports the unique aspects of hydrogen integration into the energy market. This legislative package should be amended to encourage a balance between short-term affordability and long-term energy security. Policies must be adapted to support long-term energy contracts and incentives for investments in hydrogen technologies, balancing the current emphasis on competitive, market-driven short-term pricing. This approach will stabilise the hydrogen market and make it more attractive for investors seeking to fund large-scale, long-term projects.
- **Invest in infrastructure:** A substantial acceleration in investments in hydrogen infrastructure is essential. This includes the development of pipelines specifically designed for hydrogen, as well as storage facilities that can handle large volumes of hydrogen for both seasonal storage and peak-shaving. Enhancing the distribution network across Europe is also crucial to ensure that hydrogen can be transported efficiently from points of production to points of use. Infrastructure development should also focus on integrating hydrogen facilities with existing natural gas networks where possible, to leverage existing assets and minimise costs.

By implementing these actionable steps, EU policymakers can effectively address the current shortcomings in the hydrogen sector and move towards a more secure and sustainable energy future. These measures will help in creating a resilient energy system that not only meets the current demands but also anticipates and mitigates future challenges, aligning with the broader objectives of the 'Europe 2029' initiative.



Part II. Technology, Sustainability, and Energy

8. How to Enhance the Green Deal through Clean Waste-to- Energy Solutions

Introduction

As Europe intensifies its transition towards a sustainable future, the management of waste remains a critical yet complex challenge. The European Green Deal, an ambitious initiative aimed at propelling the EU towards a greener economy, necessitates innovative approaches to waste management that complement broader environmental and energy goals. Central to this transformation is the strategic deployment of clean waste-to-energy technologies, such as pyrolysis and gasification. These technologies not only promise significant waste reduction but also contribute to the production of clean energy, thereby supporting the EU's commitments to sustainability and strategic energy autonomy.

This chapter delves into the crucial role that clean waste-to-energy solutions can play in enhancing the Green Deal. It argues for their integration into the EU's policy framework by 2029, emphasising their potential to transform waste management practices, reduce environmental impacts, and secure energy supply in an eco-friendly manner. By exploring these technologies in the context of existing challenges and policy gaps, this discussion sets the stage for a comprehensive review of actionable steps that can facilitate this integration, ultimately steering the EU towards a more sustainable and autonomous future.

Context and challenges

The escalating waste volumes in the European Union pose a significant sustainability challenge, particularly in the light of the ambitious environmental goals set by the EU. These challenges are exacerbated by stringent environmental regulations that mandate reductions in pollution and waste. Traditional waste management methods, such as incineration and landfilling, are increasingly viewed as unsustainable due to their considerable environmental footprints, including high greenhouse gas emissions and inefficient material use.

Moreover, the EU's commitment to achieving a carbon-neutral economy by 2050 necessitates a paradigm shift in how waste is perceived and managed. The reliance on non-renewable energy sources needs to be curtailed, not only to meet climate goals but also to reduce the vulnerability associated with energy imports and fluctuating fossil fuel markets. This transition requires the integration of renewable energy sources into all sectors of the economy, including waste management.

Traditional waste management methods, such as incineration and landfilling, are increasingly viewed as unsustainable.

The integration challenge is multifaceted: it involves adapting to the rapid pace of technological advancements, aligning with EU-wide legislative frameworks, and overcoming infrastructural and market barriers. Furthermore, waste management practices must evolve not only to handle waste more sustainably but also to harness its potential as a resource for energy production. This dual approach will support the EU's broader objectives of reducing environmental impacts, enhancing energy security, and moving towards greater economic circularity.

Thus, the EU stands at a critical juncture where the need to innovate in waste management intersects with the imperative for energy transformation. Addressing these intertwined challenges through the adoption of clean waste-to-energy technologies could offer a path forward, aligning with both environmental ambitions and energy needs.

Policy gaps and problems

The current landscape of EU policies reveals a noticeable disparity in the utilisation of waste as a valuable energy resource. This gap is primarily due to an entrenched focus on traditional waste management practices, such as recycling, incineration, and landfilling, alongside a strong emphasis on established renewable energy sources such as wind and solar power. Despite the growing recognition of waste-derived energy's potential, the European legislative framework, particularly the Renewable Energy Directive (RED), is

not technology-agnostic and falls short in accommodating existing waste-to-energy technologies effectively.

One critical issue is the narrow definition of renewable resources within the RED, which predominantly recognises biologically derived materials rather than energy harvested from general waste. This restrictive classification limits the scope for incorporating advanced waste-to-energy solutions, such as those deriving energy from non-biodegradable waste through methods such as pyrolysis and gasification. Consequently, these technologies do not receive the same level of support, incentives, or integration into energy plans as more traditional renewable sources.

Environmental, energy, and waste policies often operate in silos, resulting in a lack of coordinated effort to integrate waste management with energy production goals.

Additionally, there is a fragmented approach to policymaking across different sectors that impacts waste-to-energy technologies. Environmental, energy, and waste policies often operate in silos, resulting in a lack of coordinated effort to integrate waste management with energy production goals. This disjointed policy environment complicates the deployment of holistic solutions that can address multiple sustainability challenges simultaneously.

Moreover, the EU faces substantial challenges in funding and financing these technologies. Current funding mechanisms are not aligned to support the scale-up of innovative waste-to-energy projects. The criteria for funding often favour established technologies and overlook emerging solutions that could potentially offer greater benefits in terms of energy efficiency and environmental impact. This funding shortfall is exacerbated by a complex bureaucratic process that can deter small and medium-sized enterprises (SMEs) and start-ups, which are often at the forefront of innovation in waste-to-energy technologies.

To bridge these policy and funding gaps, there is a pressing need for a comprehensive revision of existing frameworks. Policies must be realigned to recognise the full spectrum of waste-to-energy technologies as

legitimate and vital components of the EU's renewable energy strategy. Such changes would not only enhance the scalability and deployment of these technologies but also ensure they contribute effectively to the EU's ambitious environmental and energy targets.

Actionable steps

To effectively address the outlined challenges and harness the potential of waste-to-energy technologies within the EU's Green Deal framework, the following actionable steps are essential.

Policy revision

Amend the Renewable Energy Directive: This amendment should broaden the definition of renewable energy sources in a technology-agnostic way, in order to accommodate clean waste-to-energy technologies and allow emerging and existing technologies to compete in the market and achieve a business case. By officially recognising technologies such as pyrolysis and gasification as viable renewable energy sources, the EU can better integrate these solutions into its overall energy strategy. This recognition will also help align national policies and encourage Member States to invest in these technologies.

Regulatory incentives

Incorporate waste incineration in the EU Emissions Trading System (ETS): By bringing waste incineration under the ETS, the EU can set a cap on emissions from these plants, thereby creating a financial disincentive for their operation when other alternatives, from a technical, regulatory, and legal point of view, are available. This move will encourage the shift towards more sustainable waste management practices and drive the adoption of cleaner technologies by making it less economically attractive to rely on incineration when other options are at hand.

Sector-specific policies

Develop integrated recycling and waste management policies: These policies should be comprehensive and sector-specific, covering key areas such as

plastics, textiles, and agriculture. By integrating waste-to-energy solutions into these policies, the EU can ensure that waste streams from these sectors are efficiently transformed into energy, thus supporting circular economy goals and reducing environmental impact.

Funding and support

Enhance funding mechanisms for SMEs: Programmes such as Horizon Europe and the Strategic Technologies for Europe Platform (STEP) should be tailored to specifically support the research, development, and deployment of waste-to-energy technologies. This includes providing grants, facilitating partnerships, and offering financial incentives to SMEs that are pioneering these technologies. Streamlining the application processes and reducing bureaucratic hurdles will also be crucial in making these funds more accessible.

Local solutions

Promote adoption in remote, rural, and island regions: Encourage local governments and communities in remote, rural, and island areas to adopt waste-to-energy technologies. These regions are often ideal for such initiatives due to their unique waste management challenges and energy needs. Supporting local energy independence through tailored solutions can lead to economic development and enhanced sustainability in these communities. This could involve providing technical assistance, sharing best practices, and creating local incentives to build and operate waste-to-energy facilities.

By implementing these steps, the EU can significantly enhance its approach to managing waste and producing energy, aligning with its ambitious goals for a sustainable and energy-independent future under the Green Deal framework.

Supporting local energy independence through tailored solutions can lead to economic development and enhanced sustainability in these communities.



Part II. Technology, Sustainability, and Energy

9. How to Facilitate Decarbonisation of Energy-Intensive Industries: The Case for Green Pools

Introduction

Europe's path to achieving climate neutrality by 2050 is marked by ambitious legislative and strategic initiatives under the comprehensive European Green Deal. This initiative aims to significantly reduce greenhouse gas emissions, targeting a 55 per cent reduction by 2030 as a milestone towards the 2050 climate neutrality goal. However, the industrial sector, particularly energy-intensive industries such as steel, aluminium, chemicals, and cement, face immense challenges in aligning with these targets. These industries are crucial not only for the economy but also for the strategic autonomy of the European Union.

Investment in low-emission technologies and renewable energy sources has been identified as pivotal to decarbonising industrial electricity supply. Despite clear regulatory frameworks, there is a pronounced lag in actual investments and deployment of these technologies. For instance, only a small fraction of the announced low-emission hydrogen projects have reached final investment decisions, highlighting a significant investment gap that risks derailing the interim 2030 targets. Furthermore, despite several funding schemes to help the market generate energy from renewable resources (on the supply side), there is a distinct lack of initiatives to help energy-intensive industries switch to renewable electricity (on the demand side). This seems like a dramatic oversight when we consider that renewables-based electrification is supposed to be one of the key drivers of the Green Deal.

The introduction of innovative market mechanisms such as the Green Pool aims to address these challenges. The Green Pool mechanism proposes a sustainable model that can bridge investment gaps and facilitate the transition to renewable energy sources by mitigating the risks associated with renewable power purchase agreements (PPAs). This model is crucial for enabling energy-intensive industries to convert to greener energy sources without sacrificing operational stability or financial viability. The urgency and effectiveness of solutions such as the Green Pool align perfectly with the broader objectives of 'Europe 2029', which seeks not only to foster environmental stewardship but also to ensure sustainable economic

growth across the EU. Through the lens of the Green Pool initiative, this chapter explores how the European Union can operationalise its climate commitments while supporting its industrial base in a manner that is both sustainable and economically viable.

Context and challenges

The European Union has charted an ambitious course towards climate neutrality with the European Green Deal, aiming to set a global standard in reducing environmental impact through stringent greenhouse gas emission reductions. The centrepiece of this initiative is a binding target to cut emissions by 55 per cent by 2030 compared with 1990 levels, setting the stage for achieving climate neutrality by 2050. However, the journey towards these goals is fraught with substantial economic and technical challenges, particularly in the industrial sector.

Investments in critical low-emission technologies, such as hydrogen fuel and carbon capture, storage, and utilisation (CCSU), are pivotal for the transition to a greener economy. Yet these technologies have not seen the level of deployment needed to meet the EU's near-term targets. International Energy Agency reports indicate that a mere fraction of the planned hydrogen projects have reached final investment decisions, highlighting a significant shortfall in the capital necessary to foster these technologies.

Investments in critical low-emission technologies, such as hydrogen fuel and carbon capture, storage, and utilisation (CCSU), are pivotal for the transition to a greener economy.

Energy-intensive industries (that primarily consume heat) and electro-intensive industries (that primarily consume electricity), although not identical, are equally vulnerable to price fluctuations. These sectors depend on stable and affordable energy supplies to maintain production efficiency and competitiveness. However, the current energy crisis, exacerbated by geopolitical tensions and supply chain disruptions, has led to soaring energy costs and a subsequent decline in industrial output. For instance,

industrial production in the EU saw a decrease of over 5 per cent in early 2024 compared with the previous year, with even steeper declines in some areas, such as the eurozone.

This downturn underscores the urgent need for effective and sustainable mechanisms that can secure the energy supply for these industries without compromising the overarching climate objectives of the Green Deal. The challenges are multifaceted, involving not only the adoption of green technologies but also ensuring that these technologies can be integrated into the existing industrial landscape in a cost-effective and scalable manner. Additionally, the EU must navigate the complexities of international energy markets, which are increasingly influenced by external political and economic factors, further emphasising the need for resilience and self-sufficiency in its energy strategy.

Therefore, it is imperative for the EU to innovate not just in technology but also in its approach to market structures and regulatory frameworks to facilitate a smoother transition for its industrial sectors. The introduction of mechanisms such as the Green Pool could play a crucial role in addressing these issues, providing a model for linking renewable energy supply directly with industrial demand, thereby stabilising energy costs and contributing to emission reductions while supporting industrial productivity and competitiveness.

Policy gaps and problems

The European Union's renewable energy strategies have traditionally emphasised supply-side measures such as feed-in tariffs (FiTs) and contracts for difference (CfDs). These policies have successfully spurred growth in the generation of renewable energy across the continent; however, they predominantly target the production rather than the consumption side of the energy market. This approach has inadvertently created a significant policy gap: the insufficient linkage of renewable energy supply with the specific demands of industrial sectors.

Renewable sources such as wind and solar are subject to variability, which does not always match the steady energy demand of industrial operations.

This gap is particularly evident in the realm of renewable power purchase agreements. While PPAs are instrumental in promoting the direct purchase of renewable energy by end users, their complexity and the financial and operational risks associated with them have deterred widespread adoption among energy-intensive industries. These industries are integral to the EU's economic framework and require large, continuous energy inputs, which renewables have historically struggled to provide due to their intermittent nature.

The primary challenges with renewable PPAs include the following.

- **Volatility and intermittency:** Renewable sources such as wind and solar are subject to variability, which does not always match the steady energy demand of industrial operations.
- **Complexity of agreements:** Negotiating PPAs can be complex, involving long-term agreements that many industries find restrictive and risky compared with more conventional energy contracts.
- **Lack of tailored solutions:** Current policies and mechanisms do not fully address the unique needs of heavy industries, such as the necessity for energy supplies that are both stable and cost-effective.

These issues result in the underutilisation of renewable energy sources (RES), as energy-intensive industries continue to rely on electricity from the grid mix to avoid the risks associated with renewable energy variability. In this way, we end up missing out on the potential that industrial electricity consumers drive the energy transition by leveraging their financial might and large electricity offtake to directly finance new RES investments by signing PPAs. The lack of a compelling business case for the consumption of RES electricity exacerbates the problem, slowing down the EU's progress towards its 2030 and 2050 climate goals.

Additionally, existing support schemes such as FiTs and CfDs have been oriented towards lowering the risks for renewable energy producers rather than consumers, creating a market environment where developers prefer secure, long-term contracts with the state over potentially more lucrative but riskier private contracts with industrial consumers. This orientation has stifled the development of a more dynamic and consumer-responsive renewable energy market.

To bridge these gaps, it is essential for EU policy to evolve towards integrating supply-side support with demand-side flexibility and incentives that directly address the needs and concerns of industrial energy users. This evolution would not only enhance the adoption of renewable energy but also ensure that its benefits are maximised across the economy in a way that supports industrial growth and sustainability.

Additionally, it is crucial to ensure that the instruments and legislation that are available to, and to be implemented by, companies are fit for purpose and proportionate, rather than overburdening for the industry. For instance, the Carbon Border Adjustment Mechanism (CBAM) should be designed in a way that balances environmental goals with the competitiveness of EU industries, avoiding unnecessary regulatory burdens while still achieving the desired climate objectives.

it is essential for EU policy to evolve towards integrating supply-side support with demand-side flexibility and incentives that directly address the needs and concerns of industrial energy users.

Actionable steps

To bridge the existing policy gaps and catalyse the decarbonisation of energy-intensive industries through the enhanced utilisation of RES, several concrete steps can be taken. These steps are designed to align with the EU’s legislative framework and strategic objectives, ensuring both feasibility and effectiveness.

Promotion of renewable PPAs

- **Legislative enhancements:** Amend the current Electricity Market Regulation (EMR) and the Renewable Energy Directive (RED) to provide clearer, more streamlined guidelines that facilitate the formation and execution of renewable PPAs. These amendments should focus on

minimising bureaucratic hurdles and simplifying the regulatory processes that currently impede the adoption of PPAs by energy-intensive industries. Member States' schemes to implement EMR and RED provisions should be treated as a priority by the Commission.

- **Educational initiatives:** Launch initiatives to educate stakeholders in the energy market – including industrial consumers and renewable energy providers – about the benefits and processes associated with PPAs. This could involve workshops, seminars, and comprehensive guides that demystify PPAs and promote their advantages.

Implementation of the Green Pool model

- **Pilot projects:** Initiate pilot projects in key industrial sectors to test and refine the Green Pool model. These pilots can help identify sector-specific challenges and opportunities, providing a blueprint for wider implementation. Use the pilot projects to identify challenges and opportunities before considering a roll-out of similar mechanisms in other Member States.
- **Integration with grid management:** Ensure that the Green Pool model is integrated into broader grid management and renewable energy deployment strategies to enhance systemic efficiency and resilience.

Public–private partnerships and incentives

- **Funding mechanisms:** Establish dedicated funding mechanisms to subsidise a portion of the costs associated with shaping renewable energy outputs to meet the consumption profiles of industrial users. These subsidies can make PPAs more attractive to both providers and consumers by reducing financial risks and improving project bankability.
- **Risk-sharing instruments:** Develop risk-sharing instruments that can be used to mitigate the financial and operational risks associated with the intermittency of renewable energy sources. These instruments could include guarantees, insurance products, and other financial derivatives.

Annual tenders for aggregators

- **Tender process design:** Design and implement a transparent, competitive tender process to select aggregators for the Green Pool annually. This

process should prioritise cost-effectiveness, reliability, and innovation in service delivery.

- **Performance-based contracts:** Ensure that contracts with aggregators are performance-based, incorporating clear benchmarks and incentives for exceeding performance targets. This approach will encourage continuous improvement and cost reduction, enhancing the overall value proposition of the Green Pool model.

By taking these actionable steps, the European Union can significantly advance the decarbonisation of its industrial sector, aligning economic growth with environmental sustainability goals. The successful implementation of these initiatives would not only reduce greenhouse gas emissions but also bolster the EU's leadership in global climate action.



European
Liberal Forum





**Security, Defence,
and Civil Protection**



Part III. Security, Defence, and Civil Protection

10. How to Incentivise European Defence Cooperation

Introduction

The importance of European defence cooperation has never been more pronounced. As the EU aspires to assert itself as a significant geopolitical actor, the necessity for a more integrated and robust defence framework has become evident. This ambition is driven by the increasingly complex and multipolar global geopolitical landscape, which poses multifaceted challenges that individual Member States are ill-equipped to tackle alone. Enhanced defence cooperation is crucial not only for protecting peace and stability within the EU's borders but also for addressing regional instability and global threats effectively.

Despite the clear need for a cohesive defence strategy, the EU has struggled to act as a unified defence union. This inability stems from divergent national interests, institutional fragmentation, limited defence budgets, and inconsistent political and public will. To move forward, the EU must overcome these obstacles to streamline decision-making, enhance coordination, and foster a cohesive defence strategy across Member States.

This chapter explores the context underpinning the urgency of European defence cooperation, examines the factors contributing to the EU's current inability to act as a unified defence entity, and proposes actionable steps to incentivise and strengthen this cooperation.

Context: the necessity for a defence union

In recent years, European defence cooperation has emerged as a pivotal issue for the EU. This shift is driven by a confluence of factors that underscore the need for a more integrated and robust defence framework for the EU. As the global geopolitical landscape becomes increasingly complex, the EU faces mounting pressure to assert itself as a geopolitical actor. Achieving this goal necessitates enhanced defence cooperation among Member States, not only to protect peace and stability within its borders but also to address the multifaceted challenges that arise from an ever-evolving international environment.

As the global geopolitical landscape becomes increasingly complex, the EU faces mounting pressure to assert itself as a geopolitical actor.

Geopolitical relevance and strategic autonomy

The EU's aspiration to become a relevant geopolitical actor hinges on its ability to project power and influence beyond its immediate neighbourhood. This requires a unified approach to defence and security, enabling the EU to respond effectively to external threats and crises. Historically, the EU has relied heavily on NATO and, by extension, the United States for its security needs. However, recent shifts in global politics, including Russian aggression, the rise of China, and the unpredictable nature of US foreign policy, have highlighted the vulnerabilities of this reliance. To mitigate these risks, the EU must develop its strategic autonomy, which is achievable only through deeper defence cooperation.

Peace and stability in the European neighbourhood

Europe's immediate neighbourhood is fraught with instability, from the persistent conflicts in Eastern Europe and the Balkans to the ongoing turmoil in the Middle East and North Africa. These regions are critical to European security, as instability can lead to spillover effects such as terrorism, uncontrolled migration, and economic disruption. A cohesive European defence strategy is essential to manage and mitigate these risks effectively. Enhanced cooperation would allow the EU to deploy joint missions, share intelligence, and pool resources, thereby increasing its capacity to stabilise its neighbourhood and promote peace.

Addressing complex challenges in a multipolar world

The contemporary international system is characterised by its multipolar nature, with multiple states and non-state actors exerting influence on global affairs. This multipolarity presents a range of complex challenges, including cyber threats, hybrid warfare, and the proliferation of weapons of mass destruction. These threats are transnational and multifaceted, requiring a coordinated and comprehensive response. Individual EU Member States, operating in isolation, lack the capacity to address these challenges effectively. However, through collective action and shared capabilities, the EU can enhance its resilience and responsiveness to such threats.

Economic efficiency and technological innovation

Defence cooperation also brings significant economic and technological benefits. Collaborative efforts in defence research and development can lead to cost savings and technological advancements that individual

Joint procurement initiatives can reduce redundancy and foster interoperability among EU armed forces, enhancing overall military effectiveness.

Member States would struggle to achieve independently. Joint procurement initiatives can reduce redundancy and foster interoperability among EU armed forces, enhancing overall military effectiveness. Moreover, a strong and unified defence sector can stimulate economic growth and innovation, contributing to the EU's broader strategic and economic objectives.

Strengthening European identity and solidarity

Lastly, enhanced defence cooperation can play a crucial role in fostering a sense of European identity and solidarity. By working together to protect common interests and values, EU Member States can reinforce the principles of unity and shared destiny that underpin the European project. This solidarity is particularly important in an era when internal divisions and external pressures threaten to undermine the cohesion of the EU.

The imperative for European defence cooperation is clear. To become a relevant geopolitical actor, protect regional peace and stability, address complex global challenges, and capitalise on economic and technological opportunities, the EU must pursue a more integrated and collaborative defence strategy. This context sets the stage for exploring how such cooperation can be incentivised and effectively implemented.

Inability of the EU to act as a unified defence union

Despite the clear need for a cohesive defence strategy, the European Union has struggled to act as a unified defence union. Several factors contribute to this inability, ranging from political and strategic divergences among Member States to institutional and operational challenges. Understanding these impediments is crucial to devising effective incentives for enhanced cooperation.

Divergent national interests and strategic cultures

One of the primary obstacles to a unified EU defence policy is the divergence in national interests and strategic cultures among Member States. Each country has its own unique historical, geopolitical, and security concerns, leading to different defence priorities and threat perceptions. For instance, Central and Eastern European countries, particularly those bordering Russia, are primarily concerned with immediate security threats and the need for robust territorial defence. In contrast, Southern European countries may prioritise issues such as migration and instability in North Africa and the Middle East. This heterogeneity makes it challenging to formulate a common defence policy that satisfies all Member States.

Moreover, strategic cultures vary significantly across the EU. Some countries, such as France and the United Kingdom (pre-Brexit), have a long tradition of military intervention and a willingness to project power abroad. Others, such as Germany, have historically been more restrained in their use of military force, emphasising diplomacy and economic measures. These cultural differences complicate the establishment of a unified stance on defence matters.

While the CSDP provides a framework for crisis management and coordination, it lacks the binding authority and operational capacity to enforce collective defence measures effectively.



Institutional fragmentation and overlapping structures

The institutional framework of the EU further complicates efforts to act as a unified defence union. The EU's Common Security and Defence Policy (CSDP) is often seen as fragmented and insufficiently robust to handle significant security challenges independently. While the CSDP provides a framework for crisis management and coordination, it lacks the binding authority and operational capacity to enforce collective defence measures effectively.

Additionally, the existence of multiple, overlapping structures and initiatives within the EU and between the EU and NATO creates confusion and inefficiencies. Programmes such as the Permanent Structured Cooperation (PESCO), the European Defence Fund (EDF), and the Coordinated Annual Review on Defence (CARD) are designed to enhance cooperation, but their overlapping mandates can lead to duplication of efforts and resource allocation conflicts. This institutional fragmentation dilutes the overall effectiveness of EU defence initiatives.

Limited defence budgets and capabilities

Another critical issue is the disparity in defence budgets and capabilities among EU Member States. Defence spending across the EU varies widely, with not all countries meeting the NATO guideline of spending 2 per cent of their GDP on defence. This financial disparity results in significant differences in military capabilities, further hindering the ability to conduct joint operations and develop interoperable systems.

The reliance on the US also means that many EU countries have underinvested in their own defence capabilities, assuming that NATO will provide the necessary security guarantees. This dependency undermines the EU's efforts to build a self-sufficient defence posture and reduces the urgency for Member States to commit to higher defence spending and capability development within the EU framework.

Political and public will

The political and public will to pursue deeper defence integration remains inconsistent across the EU. In some Member States, there is strong public support for national sovereignty in defence matters, with scepticism towards ceding control to supranational entities. This sentiment is often reflected in national politics, where defence policies are closely tied to issues of national identity and sovereignty.

Moreover, political leaders may be reluctant to push for deeper integration due to concerns about domestic backlash and the complex nature of consensus-building within the EU. Achieving unanimity among 27 diverse Member States on sensitive defence issues is a formidable challenge, often leading to watered-down agreements and incremental progress rather than bold, transformative initiatives.

While NATO provides a well-established command infrastructure for its members, the EU has yet to develop a comparable system that can effectively coordinate multinational forces in real time.

Operational and logistical challenges

Operational and logistical challenges also impede the EU's ability to act as a unified defence entity. Differences in military standards, procedures, and equipment among Member States create interoperability issues that complicate joint operations. Harmonising these aspects requires significant investment and coordination, which are often hindered by bureaucratic inertia and national prerogatives.

The lack of a centralised command and control structure within the EU further exacerbates these challenges. While NATO provides a well-established command infrastructure for its members, the EU has yet to develop a comparable system that can effectively coordinate multinational forces in real time. This deficiency limits the EU's capacity to respond swiftly and cohesively to emerging threats.

In conclusion, the inability of the EU to act as a unified defence union stems from a complex interplay of divergent national interests, institutional fragmentation, limited defence budgets, political and public will, and operational challenges. Addressing these issues is essential for fostering effective defence cooperation and enabling the EU to assume a more assertive and independent role in global security.

Actionable steps for enhancing European defence cooperation

To overcome the challenges hindering the EU from acting as a unified defence union, several actionable steps can be taken. These steps aim to streamline decision-making, enhance coordination, and foster a more cohesive defence strategy across the Member States. The following measures are proposed to incentivise and strengthen European defence cooperation.

Regular meetings of defence ministers

One crucial step towards greater defence cooperation is the institutionalisation of regular meetings among EU defence ministers. Currently, these meetings occur on an ad hoc basis, lacking the consistency needed for sustained progress. Establishing a standing Defence Council that meets regularly, such as every six months, would provide a structured platform for continuous dialogue, strategic planning, and coordination. Regular meetings would ensure that defence ministers are consistently aligned on policy priorities and can quickly respond to emerging threats and challenges. This regularity would also foster a culture of collaboration and mutual trust among Member States.

Creation of a full-fledged Commissioner portfolio and Parliamentary Committee

Elevating security and defence to a full-fledged Commissioner portfolio and establishing a dedicated Parliamentary Committee would significantly enhance the EU's capacity to coordinate and implement defence policies. A dedicated Commissioner for Defence would ensure that defence issues receive the necessary attention at the highest levels of EU decision-making.

This role would involve overseeing the implementation of defence initiatives, coordinating with Member States, and representing the EU in international defence matters. Similarly, a specialised Parliamentary Committee on Defence would provide a focused forum for legislators to scrutinise defence policies, propose legislation, and ensure accountability. This committee could also facilitate greater transparency and public engagement in EU defence matters, thereby increasing political and public support for defence cooperation.

Reinforcement of existing structures: empowering the European Defence Agency

Rather than introducing new initiatives, reinforcing existing structures such as the European Defence Agency (EDA) is essential. The EDA, established in 2004, plays a vital role in supporting collaborative defence research and procurement projects and promoting defence industry cooperation. However, its impact has been limited by insufficient funding, complex decision-making processes, and bureaucratic hurdles.

To enhance the EDA's effectiveness, several reforms are necessary.

- **Increased funding:** The EDA's budget should be significantly increased to support more ambitious projects and initiatives. Adequate funding is crucial for the agency to fulfil its mandate and drive innovation in defence technologies.
- **Simplified decision-making:** Decision-making within the EDA should be streamlined to allow for majority voting on specific issues. This approach would reduce the need for consensus, which often slows down progress. All Member States should agree on the areas where the EDA can decide independently, with provisions for transparency and a simplified veto option to maintain accountability.
- **Clear strategic vision:** The EDA's mission should be guided by a clear and coherent strategic vision. The reworking of the EU's Strategic Compass would provide this clarity, outlining a joint strategic vision for European defence and defining the EDA's role within this framework. A well-defined strategic vision would align Member States' efforts and ensure that the EDA's initiatives are focused on common objectives.



Part III. Security, Defence, and Civil Protection

11. How to Enhance EU Military Capabilities

Introduction

The EU's strategic landscape is characterised by the need for greater autonomy and a robust collective defence mechanism, even as NATO remains a cornerstone of European security. Enhancing military capabilities within the EU is essential not only for reducing dependency on external allies but also for addressing internal security challenges and fulfilling the EU's long-standing commitment to global peacekeeping and humanitarian efforts.

Economic considerations further underscore the importance of a strong defence sector, which can drive innovation, create jobs, and ensure supply chain security. Equitable burden sharing among EU Member States is vital for a sustainable defence strategy, requiring financial contributions, collective training, joint operations, and interoperability.

Institutionally, initiatives such as the European Defence Fund (EDF) and Permanent Structured Cooperation (PESCO) are steps towards deeper defence cooperation, but their effective implementation depends on strong political will and cohesive action among Member States.

Despite ongoing efforts, significant challenges remain, including understaffing, resource shortages, and political fragmentation. This chapter presents specific policy recommendations to help overcome these obstacles, aiming to achieve a stronger, more unified European military capability. Through a multifaceted approach that addresses immediate needs and long-term goals, the EU can ensure the security of its citizens and maintain its role as a key global actor in defence and security.

Context and rationale for enhanced EU military capabilities

In the rapidly changing global security environment, the European Union faces an array of challenges that necessitate a reassessment and enhancement of its military capabilities. This chapter provides the context for understanding why the EU needs to bolster its military strength, exploring the geopolitical, economic, and security dynamics that drive this imperative.

Geopolitical shifts and rising threats

Russian aggression and the rise of China have significantly altered the balance of power, compelling the EU to reconsider its defence strategies. These nations are investing heavily in modernising their militaries, projecting power beyond their borders, and asserting influence in regions traditionally dominated by Western powers, including Europe. Additionally, the EU's proximity to unstable regions such as the Middle East and North Africa (MENA) exposes it to a range of security threats, including terrorism, political instability, and mass migration. The conflicts in these areas often spill

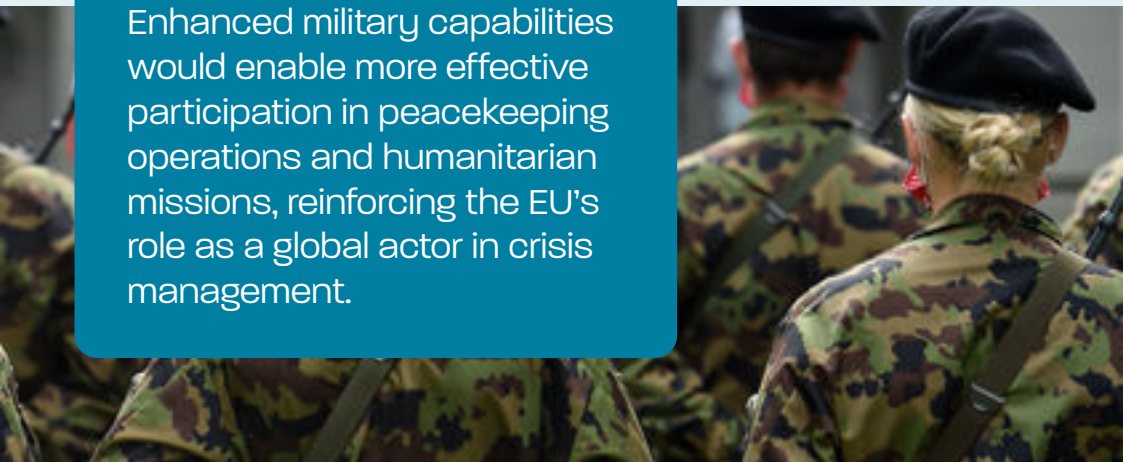
over, affecting European security and necessitating a capable and responsive military presence.

The nature of warfare is evolving, with an increase in hybrid threats that combine conventional military tactics with cyber warfare, disinformation campaigns, and economic coercion.

The nature of warfare is evolving, with an increase in hybrid threats that combine conventional military tactics with cyber warfare, disinformation campaigns, and economic coercion. The EU must be prepared to counter these multifaceted threats through advanced technological capabilities and coordinated defence strategies.

Strategic autonomy and collective defence

While NATO remains the cornerstone of European defence, there is a growing consensus that the EU should enhance its own military capabilities to reduce dependency on the United States. Strategic autonomy does not imply a divergence from NATO but rather a strengthening of the EU's ability to act independently when necessary. The EU must also address internal security challenges, including terrorism, organised crime, and civil emergencies. Enhanced military capabilities can support civilian authorities in managing crises and ensuring the safety and security of EU citizens. Moreover, the EU has a long-standing commitment to promoting peace and stability globally. Enhanced military capabilities would enable more effective participation in peacekeeping operations and humanitarian missions, reinforcing the EU's role as a global actor in crisis management.



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Economic considerations

Increasing defence spending can stimulate economic growth by driving innovation and creating jobs within the defence industry. A robust European defence industrial base is crucial for developing advanced military technologies and ensuring supply chain security. Equitable burden sharing among EU Member States is essential for a sustainable and credible defence posture, involving not only financial contributions but also commitments to collective training, joint operations, and interoperability of forces.

Institutional and political dynamics

The EDF represents a significant step towards funding collaborative defence research and development projects. Strengthening the EDF and ensuring its effective implementation is vital for enhancing EU military capabilities. PESCO provides a framework for deeper defence cooperation among willing and able Member States, enabling joint capability development and operational readiness, contributing to the EU's overall strategic autonomy.

Achieving enhanced military capabilities requires strong political will and cohesion among EU Member States. This involves aligning national defence policies, fostering mutual trust, and committing to long-term investments in defence.

The need to enhance EU military capabilities is driven by a complex interplay of geopolitical shifts, security threats, economic considerations, and institutional dynamics. By understanding the context and rationale behind this imperative, the EU can develop a coherent strategy to strengthen its defence posture, ensure the security of its citizens, and maintain its role as a key global actor. The following section delves into specific strategies, initiatives, and recommendations for achieving these goals.

Ongoing EU initiatives and their challenges

The European Union has embarked on several initiatives to bolster its military capabilities and foster greater defence cooperation among its Member States. Despite these efforts, the EU faces significant challenges due to resource constraints, political fragmentation, and broader socio-economic issues. This section examines the key initiatives that are currently underway, highlighting their objectives, their achievements, and the obstacles hindering their effectiveness.

European Union Battlegroups

The European Union Battlegroups (EUBGs) are rapid response forces established in 2007 to conduct crisis management operations. These multinational units, consisting of approximately 1,500 troops each, are

intended to be deployable within ten days for peacekeeping, humanitarian assistance, and stabilisation operations in conflict zones. However, EUBGs face several problems. Understaffing and limited resources undermine their effectiveness, as many Member States struggle to meet personnel commitments due to demographic challenges and a shortage of skilled labour. Furthermore, the political will to deploy EUBGs has been inconsistent, with Member States often reluctant to commit troops to potentially risky operations, leading to underutilisation. The EUBGs have never been deployed, raising questions about their operational readiness and the EU's ability to respond swiftly to crises. Regular joint exercises and real-world deployments are necessary to ensure these forces are prepared for action.

The political will to deploy EUBGs has been inconsistent, with Member States often reluctant to commit troops to potentially risky operations, leading to underutilisation.

European Intervention Initiative

Launched in 2018, the European Intervention Initiative (EII) aims to enhance military cooperation and build a shared strategic culture among European countries. Operating outside the formal EU framework, the EII allows for more flexible and pragmatic collaboration among participating states. Key objectives include conducting joint military exercises, improving interoperability, and coordinating strategic planning. Despite its potential, the EII faces significant challenges. Resource allocation remains a major issue, with Member States having different defence budgets and priorities, which can hinder collective efforts and lead to disparities in capabilities. The involvement of countries both within and outside the EU can lead to coordination challenges, as differences in strategic priorities and military doctrines complicate joint operations and planning. Ensuring sustained commitment from all participating countries is also challenging, as political changes, budgetary constraints, and shifting national priorities can impact long-term participation and effectiveness.

Broader challenges to military integration

European militaries face significant understaffing issues, exacerbated by demographic decline and competition for skilled labour in civilian sectors. Resource constraints, particularly in terms of funding and advanced military technology, limit the EU's ability to build a robust and modern defence infrastructure. Efficient use of existing resources is critical, but achieving this requires significant coordination and cooperation among Member States. Additionally, political fragmentation impedes deeper military integration, as divergent national interests and political agendas among EU Member States often lead to delays and inefficiencies in implementing collective initiatives.

Towards a European Army

The long-term vision of a unified European Army seeks to consolidate military capabilities across the continent, providing a stronger and more effective deterrent for European security. This vision aims to enhance efficiency through shared resources, foster unity among Member States, and project a collective defence posture. However, building a European Army requires unwavering political commitment from all Member States. National sovereignty concerns and varying levels of enthusiasm for deeper integration present significant obstacles. Achieving interoperability among diverse national forces involves standardising equipment, training, and operational procedures, a process that is complex and resource-intensive, requiring sustained investment and coordination. Developing a shared strategic culture and cohesive defence policy is essential for a unified European Army, yet differences in threat perceptions, military doctrines, and strategic priorities among Member States need to be reconciled.

While the EU has made strides in enhancing its military capabilities through initiatives such as the EUBG and EII, significant challenges remain. Understaffing, resource shortages, political fragmentation, and broader socio-economic issues hinder progress towards a more integrated and capable European defence posture. Addressing these challenges requires sustained political will, efficient resource allocation, and a long-term commitment to deeper military integration. The following section explores specific strategies and recommendations for overcoming these obstacles and achieving the vision of a stronger and more unified European military capability.

Actionable steps for enhancing EU military capabilities

To address the challenges and enhance the military capabilities of the European Union, a comprehensive and coordinated approach is required. This section outlines actionable steps that can be taken to improve the efficiency and effectiveness of the EU's defence posture, leveraging existing initiatives and introducing new strategies to build a robust and unified European defence capability.

Moving Towards a European Army

The long-term vision of a European Army for unified defence efforts is crucial for achieving strategic autonomy and enhancing collective security. This vision can be realised through several key initiatives.

- **European Defence Union:** Establish a European Defence Union to centralise and coordinate defence efforts, ensuring a unified and strategic approach to security challenges.
- **EU Battlegroups:** Revitalise and fully utilise EU Battlegroups by ensuring they are well funded, adequately staffed, and regularly deployed in joint exercises and real-world missions.
- **European Cyber Force:** Create a European Cyber Force to enhance cybersecurity capabilities. Given the transnational nature of cyber threats, a multinational component is essential to address these challenges effectively. This force should focus on building advanced cyber defences and conducting joint cyber operations.
- **Empowering the European Defence Agency (EDA):** Strengthen the role of the EDA in coordinating defence industry initiatives, standardising equipment, and promoting joint procurement. This will enhance operational efficiency and foster a more integrated defence market.

Standardisation and industrial reform

To improve operational efficiency and foster a competitive defence industry, the following steps should be prioritised.

- **Standardisation of ammunition:** Prioritise the standardisation of ammunition across EU Member States to enhance interoperability and streamline logistics.
- **European defence industrial reform:** Implement reforms to create a single market for defence products, promoting competition and innovation. This includes removing tariffs on European defence products and ensuring subsidies do not lead to monopolies.
- **Centralised procurement:** Establish centralised procurement platforms in Europe, allowing national armies to ‘borrow’ equipment. This approach will optimise resource allocation and reduce redundancies.
- **Investment in European defence industry:** Promote ‘Buy European’ policies to incentivise defence cooperation and support the European defence industry. This includes giving the European Investment Bank (EIB) permission to invest in defence projects.
- **Focus on securing the entire supply chain:** Reliance on imports of critical raw materials such as steel, aluminium, and copper undermines our strategic autonomy, especially when these materials are sourced from countries with which Europe is currently or potentially in conflict. We must develop and diversify our sources for these raw materials within Europe or through reliable and stable partnerships to ensure the resilience and sustainability of our defence manufacturing capabilities.

Building coalitions and enhancing cooperation

Strengthening defence cooperation through coalitions and joint initiatives is essential for a more integrated and resilient European defence framework.

- **Coalitions of the willing:** Form coalitions for joint procurement, military integration, and intelligence sharing. Examples include the German–Dutch army cooperation and the Belgian–German tank battalion initiative. Strengthening intelligence cooperation through the EU Intelligence

and Situation Centre (EUINTCEN) will enhance strategic awareness and coordination.

- **Black Sea region integration:** Consider integrating and enlarging defence cooperation in the Black Sea region, including potential partnerships with countries such as Georgia to enhance regional stability and security.
- **Energy independence:** Further invest in energy independence to reduce strategic vulnerabilities and enhance resilience against external pressures.

Strategic communications and investment

Effective communication and strategic investments are vital for building a cohesive and capable defence structure.

- **Joint strategic communications:** Develop a joint strategic communications effort to promote transparency, build public support, and counter misinformation. This initiative should focus on highlighting the benefits of a unified European defence strategy.
- **European Investment Bank:** Authorise the EIB to invest in the European defence industry, providing necessary financial support for research, development, and procurement of advanced defence technologies.

Enhancing EU military capabilities requires a multifaceted approach, addressing both immediate needs and long-term strategic goals. By implementing conscription or alternative methods to increase military personnel, moving towards a European Army, standardising equipment, reforming the defence industry, building coalitions, and investing strategically, the EU can build a robust and unified defence capability. These steps will ensure the EU is prepared to address current and future security challenges, maintaining its role as a key global actor in defence and security.



Part III. Security, Defence, and Civil Protection

12. How to Encourage the Use of UAVs and UGSs for Peaceful Purposes

Introduction

Unmanned aerial vehicles (UAVs) and unmanned ground systems (UGSs) have revolutionised modern warfare and hybrid conflict scenarios by providing advanced capabilities in surveillance, reconnaissance, logistics, and combat operations. These technologies have evolved rapidly, driven by the complex challenges of contemporary conflict zones and the need for real-time intelligence and precision operations. However, the potential of UAVs and UGSs extends far beyond military applications. Their versatility and innovative uses in civilian sectors present significant opportunities for enhancing public safety, environmental monitoring, and infrastructure protection.

Despite their proven military effectiveness, the peaceful applications of UAV and UGS technologies are often overlooked. From conducting aerial inspections of critical infrastructure to aiding in disaster response and precision agriculture, these systems can address a wide range of societal challenges. Yet the widespread adoption of UAVs and UGSs for non-military purposes faces several obstacles, particularly in the European Union, where a comprehensive regulatory framework for civilian use is lacking.

This chapter explores the current context of UAV and UGS technology, identifies the regulatory gaps hindering their peaceful application in Europe, and proposes a multifaceted approach for EU policymakers to encourage the safe and innovative use of these technologies. By implementing harmonised regulations, providing financial incentives, supporting research and development, and raising public awareness, the EU can unlock the full potential of UAVs and UGSs for the benefit of society.

Context

In recent years, UAVs and UGSs have emerged as pivotal technologies in modern warfare and hybrid conflict scenarios. These systems, which operate without the need for direct human intervention, offer unparalleled capabilities in surveillance, reconnaissance, logistics, and combat operations. The rapid advancement and deployment of UAVs and UGSs have been driven by the evolving character of warfare and the complex challenges presented by contemporary conflict zones.

Modern warfare has undergone a significant transformation, moving away from traditional large-scale battles to more asymmetric and hybrid forms of conflict. These hybrid conflicts often involve a mix of conventional military operations, irregular warfare, cyber-attacks, and information warfare. In such environments, the ability to gather real-time intelligence, conduct precision strikes, and support ground operations without exposing personnel to undue risk has become crucial. UAVs and UGSs provide these capabilities, making them indispensable tools on the modern battlefield.

One of the significant advantages of UAVs and UGSs is their effectiveness against soft targets – those that are lightly defended and vulnerable to attack. These include supply lines, communication nodes, and other critical infrastructure. By employing UAVs for aerial surveillance and UGSs for ground-based operations, military forces can identify, monitor, and neutralise these targets with precision and efficiency.

Furthermore, the threat of chemical, biological, radiological, and nuclear (CBRN) warfare necessitates specialised approaches to detection, decontamination, and response. UAVs equipped with sensors can quickly cover large areas to detect and map CBRN threats, while UGSs can safely conduct ground-level assessments and decontamination procedures. This combination enhances the military's ability to respond to CBRN incidents swiftly and effectively, protecting both personnel and civilians from harm.

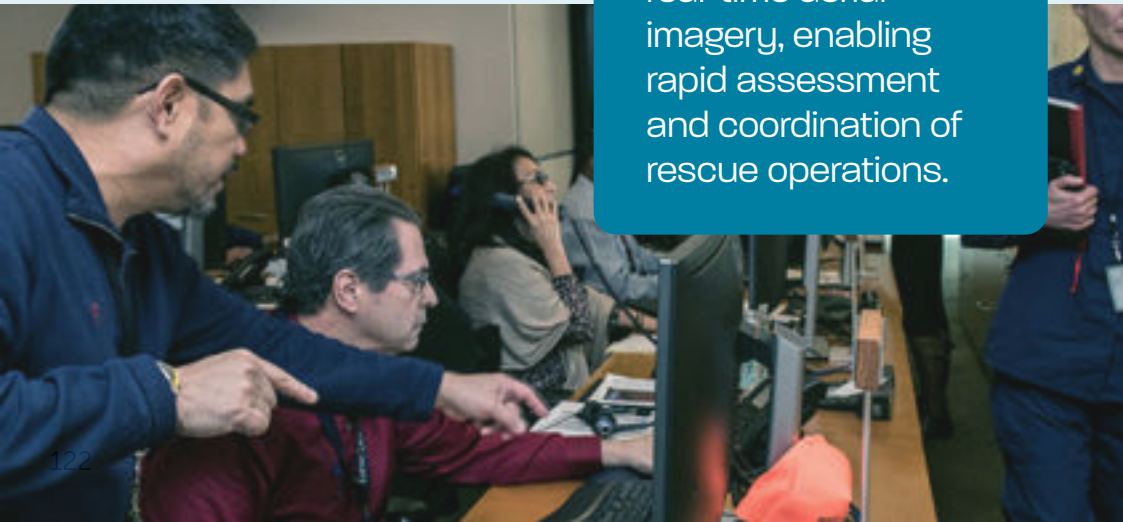
One of the significant advantages of UAVs and UGSs is their effectiveness against soft targets – those that are lightly defended and vulnerable to attack.

While UAV and UGS technologies were initially developed to meet the demanding requirements of modern military operations, their potential for peaceful applications is vast and often overlooked. These technologies have been adapted for a range of civilian uses that contribute significantly to public safety, environmental monitoring, and humanitarian efforts.

One crucial area where UAVs and UGSs have shown immense promise is in the protection and maintenance of critical infrastructure. UAVs can conduct aerial inspections of power lines, bridges, and pipelines, identifying potential issues such as structural weaknesses or leaks before they become major problems. This not only enhances the safety and reliability of essential services but also reduces the need for risky and time-consuming manual inspections. Meanwhile, UGSs can be deployed for ground-level tasks such as monitoring railways, inspecting tunnels, and performing maintenance in hazardous environments.

UAVs are now widely used in disaster response to provide real-time aerial imagery, enabling rapid assessment and coordination of rescue operations. In agriculture, they facilitate precision farming by monitoring crop health and optimising resource use, thus enhancing food security. Similarly, UGSs are employed in hazardous material handling, infrastructure inspection, and even medical logistics, where they can navigate challenging terrains to deliver critical supplies in remote areas. These peaceful applications not only highlight the versatility of UAV and UGS technologies but also underscore their potential to address pressing global challenges and improve quality of life across various sectors.

UAVs are now widely used in disaster response to provide real-time aerial imagery, enabling rapid assessment and coordination of rescue operations.



Policy gaps

The European Union has already recognised the military potential of UAV and UGS technologies and has funded projects such as the Integrated Modular Unmanned Ground System (iMUGS). This project, under the EU's Permanent Structured Cooperation (PESCO) framework, aims to create a European standard for UGSs and develop a scalable modular architecture for hybrid manned-unmanned systems. The iMUGS initiative focuses on increasing interoperability, enhancing situational awareness, and expediting decision-making processes in military contexts, reflecting the EU's commitment to advancing its defence capabilities through innovative technology.

However, despite these advancements in the military sphere, the EU has yet to establish a comprehensive regulatory framework across the continent for the peaceful use of UAVs and UGSs. This regulatory gap presents a significant barrier to the widespread adoption of these technologies for civilian purposes. Without harmonised regulations, the deployment of UAVs and UGSs for infrastructure protection, environmental monitoring, and disaster response remains fragmented and limited.

The absence of a unified regulatory framework leads to several challenges. Firstly, it creates inconsistencies in how UAVs and UGSs are utilised across different Member States, hindering cross-border cooperation and innovation. For instance, a UAV designed for agricultural monitoring in one country might face legal and operational hurdles when deployed in another, due to differing regulations on airspace use, data privacy, and operational safety. Similarly, UGS technologies that could be used for infrastructure inspection or emergency response may be underutilised due to a lack of standardised safety and operational guidelines.

Moreover, the lack of comprehensive regulation stifles the potential economic benefits that widespread adoption of UAV and UGS technologies could bring. Companies and research institutions may be hesitant to invest in developing new applications for these technologies without clear and consistent regulatory guidance. This not only slows technological progress but also limits job creation and economic growth within the EU.

To fully leverage the benefits of UAVs and UGSs, the EU must develop and implement policies that facilitate their safe, ethical, and efficient use across various non-military sectors. This involves establishing standardised regulations that ensure the privacy and security of data collected by UAVs and UGSs while also promoting interoperability between systems used in different countries and sectors.

Additionally, the EU could create incentive programmes to encourage innovation and investment in civilian applications of these technologies. By providing funding and support for pilot projects and research initiatives, the EU can stimulate the development of new uses for UAVs and UGSs that address societal needs, from environmental protection to public safety.

Actionable steps: encouraging the peaceful use of UAV and UGS in the EU

To fully harness the potential of UAVs and UGSs for peaceful purposes, EU policymakers must adopt a multifaceted approach that combines regulatory frameworks, incentives, research and development support, and public awareness initiatives. By creating an environment that fosters the safe and innovative use of these technologies, the EU can address societal challenges and enhance public welfare.

Establish a comprehensive regulatory framework

- **Harmonised regulations:** Develop and implement a unified regulatory framework across EU Member States that standardises the use of UAVs and UGSs. This includes clear guidelines on airspace management, operational safety, data privacy, and security. Harmonised regulations will ensure consistency and facilitate cross-border operations, promoting the widespread adoption of these technologies.
- **Certification and licensing:** Introduce standardised certification and licensing processes for UAV and UGS operators. This will ensure that operators are adequately trained and adhere to best practices, enhancing the safety and reliability of these technologies.
- **Data protection laws:** Strengthen data protection laws to safeguard the information collected by UAVs and UGSs. This will address privacy concerns and build public trust in the use of these technologies for peaceful applications.

Provide financial incentives

- **Research and development grants:** Offer grants and funding opportunities for research and development projects that explore innovative uses of UAVs and UGSs in civilian sectors such as agriculture, environmental monitoring, and disaster response. This will stimulate technological advancement and the creation of new applications.
- **Tax incentives:** Implement tax incentives for companies and organisations that invest in the development and deployment of UAV and UGS technologies for non-military purposes. Financial incentives can accelerate the commercialisation and adoption of these technologies.
- **Public–private partnerships:** Promote public–private partnerships to leverage the expertise and resources of both sectors. Collaborative projects can drive innovation and ensure that the benefits of UAV and UGS technologies are widely distributed.

Support research and development

- **Innovation hubs:** Establish innovation hubs and centres of excellence dedicated to UAV and UGS technologies. These hubs can facilitate collaboration between academia, industry, and government, fostering a culture of innovation and knowledge sharing.
- **Pilot projects:** Fund pilot projects that demonstrate the practical benefits of UAVs and UGSs in various civilian applications. Successful pilot projects can serve as models for broader implementation and encourage other stakeholders to adopt these technologies.
- **Collaborative research initiatives:** Support collaborative research initiatives that involve multiple EU Member States. Such initiatives can address common challenges, share best practices, and promote the development of interoperable systems.



Part III. Security, Defence, and Civil Protection

13. How to Save Europe's Forests: A Proposal for a European Fire Management Service

Introduction

The European Union is an intricate mosaic of diverse landscapes, climates, and urban environments, each presenting its own set of challenges and vulnerabilities to fire-related disasters. As the impact of climate change intensifies, the frequency and severity of these disasters are on the rise, posing significant risks not only to human life and property but also to biodiversity and the overall economic stability of the region. In response to these increasing threats, the EU has implemented various mechanisms aimed at enhancing cooperation and resource sharing during emergencies, such as the EU Civil Protection Mechanism. However, despite these efforts, there remain substantial gaps in the EU's overall fire management strategy. This chapter explores the pressing need for a more comprehensive and unified approach to fire management across the European Union. It proposes the creation of a European Fire Management Service (EFMS), an independent agency modelled after FRONTEX and EUROPOL, to centralise and enhance fire management efforts. The EFMS would not only provide a more efficient and coordinated response to fire emergencies but also integrate crucial preventive measures, advanced technology deployment, and strategies for post-fire recovery, thereby bolstering the EU's resilience against future fire-related challenges.

Context

The European Union faces a complex landscape of fire management challenges shaped by its diverse geographical, climatic, and developmental characteristics. Each Member State encounters unique risks and conditions that influence their approach to fire prevention and response. For instance, Mediterranean countries such as Greece, Spain, and Portugal experience frequent and severe wildfires during their dry, hot summers, often exacerbated by strong winds and high temperatures. Conversely, Northern European nations typically deal with industrial and urban fires, alongside sporadic forest fires influenced by factors such as industrial activity and urban density.

These varied conditions necessitate tailored fire management strategies in each region. However, many European countries encounter common obstacles including limited financial resources, shortages of high-tech firefighting equipment, and disparities in training standards among emergency personnel. Additionally, bureaucratic hurdles can impede the swift procurement and mobilisation of firefighting resources.

Cross-border fire emergencies are becoming increasingly common, driven by the expanding reach of wildfires and the interconnected nature of the European landscape. These situations require swift, coordinated responses that transcend national boundaries. The European Union has initiatives such as the EU Civil Protection Mechanism to facilitate cooperation and mutual assistance among Member States during emergencies. Yet the effectiveness of such initiatives can vary, and the need for more robust, integrated systems is evident.

Financial constraints significantly influence fire management capabilities across the EU. Wealthier Member States in Western and Northern Europe can afford advanced fire management infrastructure, including state-of-the-art equipment and extensive training programmes. In contrast, less affluent countries, particularly in Eastern and

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Southern Europe, often contend with outdated technology and insufficient budgets. This disparity not only undermines the individual countries' ability to manage fires but also affects the EU's collective response to simultaneous emergencies.

The costs associated with forest fires in Europe are substantial and multifaceted. Human lives are the most tragic casualties, with fatalities occurring almost every year among both civilians and firefighting personnel. The ecological toll is also severe, as fires devastate wildlife habitats, decrease biodiversity, and disrupt ecosystems. These environmental impacts can have long-lasting effects, including soil erosion and diminished air and water quality, which further influence local climates and agriculture.

Economically, the damage from fires is significant, often amounting to billions of euros in direct costs such as firefighting efforts, evacuation procedures, and rebuilding. The indirect costs can be even greater, impacting tourism, agriculture, and overall economic stability in the affected regions. For instance, the tourism sector, a major economic driver in Southern Europe, suffers when frequent and high-profile wildfires deter visitors. The long-term economic recovery from such disasters is complex and costly, underscoring the need for more effective fire management and prevention strategies at both the national and EU levels.

Policy gaps

The EU already has mechanisms in place, such as the EU Civil Protection Mechanism, designed to enhance cooperation and facilitate resource sharing during emergencies. This mechanism, which has been the cornerstone of the European Union's disaster response strategy since 2001, coordinates efforts across Member States in responding to natural disasters such as floods, wildfires, and earthquakes, as well as man-made crises. Despite its comprehensive framework, it faces critical challenges that impact its effectiveness in fire management.

Funding and resource allocation

The mechanism depends on national resources volunteered by Member States, meaning these resources may not always be readily available. The variability in the availability of these resources can severely constrain immediate response capabilities, particularly when rapid deployment is

necessary. Moreover, response times depend on the efficiency of various national bodies, which can vary widely.

Financial constraints in operational support

The EU covers up to 75 per cent of the operational costs for deploying resources, which can discourage some countries, especially those with tighter financial conditions, from committing their assets. This partial funding can restrict the number and quality of resources available for mutual aid in extensive or concurrent disasters, adding to the strain on the mechanism's functionality.

Challenges in research and technology integration

Although there have been significant technological advancements in fire management, such as satellite monitoring and artificial intelligence for early detection, the adoption of these technologies is inconsistent across the EU. Some Member States leverage these innovations to enhance their fire prediction and response strategies, while others fall behind due to financial limitations or lack of expertise.

Narrow fire management strategies

The EU Civil Protection Mechanism, though vital as a crisis response tool, does not encompass a comprehensive fire management strategy. Current EU policies lack preventive measures, public awareness, climate change adaptation, and post-fire economic recovery, which are essential components of a holistic fire management strategy. These aspects need to be expanded not only to respond to fires more effectively but also to prevent them and manage their aftermath more comprehensively.

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Proposing the creation of a European Fire Management Service

As a solution to the increasingly complex and frequent fire-related challenges facing Europe, the EU should consider the creation of a European Fire Management Service as an independent agency akin to FRONTEX and EUROPOL. This proposal offers a cohesive and robust solution to the current shortcomings in fire management across the continent. Like FRONTEX, which manages border security cooperation, and EUROPOL, which facilitates law enforcement cooperation, an EFMS would centralise and specialise fire management at the EU level. This specialised agency would harness the collective strengths of Member States to address fire disasters more effectively, leveraging shared resources, expertise, and strategic capabilities. Such an agency would not only streamline and strengthen fire management efforts across the EU but also embody the principles of solidarity, cooperation, and shared responsibility central to the European Union's mission.

Enhanced response capabilities across diverse terrains and climates

A centralised EFMS would facilitate the development and implementation of region-specific strategies informed by comprehensive risk assessments and tailored to the unique needs of different environments – from the Mediterranean's wildfire-prone areas to the industrial fire risks in northern urban centres.

Streamlined and rapid deployment of resources

By operating independently of the EU Civil Protection Mechanism and possessing its own resources fully financed by the EU, the EFMS would overcome the limitations of voluntary resource pooling. It could rapidly deploy resources without the delays inherent in coordinating among multiple national entities, thus providing a quicker and more decisive response to fire emergencies.

Focused investment in advanced technologies

The EFMS could drive the adoption of cutting-edge fire detection and management technologies, such as artificial intelligence, drones, and satellite surveillance. Centralising the budget and management for such technologies would ensure that innovations are evenly distributed and effectively utilised across all Member States, maximising their impact on fire prevention and control.

Comprehensive approach to fire management

Beyond immediate fire suppression, the EFMS would integrate preventive measures, public awareness campaigns, and post-fire recovery strategies into its mandate. This comprehensive approach would address the entire life cycle of fire management, from educating the public on fire prevention to supporting ecological restoration and economic recovery after a fire, thus enhancing both the resilience and the sustainability of impacted communities.

As climate change increases the frequency and intensity of wildfires, an EFMS would align closely with the EU's broader climate adaptation strategies. It would play a crucial role in implementing fire management practices that mitigate the impact of fires on life, property, and biodiversity, thereby supporting the EU's sustainability and environmental objectives.

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Economic efficiency

The cost of fire management, especially post-disaster recovery, can be staggering. By pooling resources at the EU level and sharing the burden of expensive firefighting infrastructure, the EFMS would achieve greater economies of scale and reduce the financial impact on individual Member States. Additionally, proactive fire management and prevention can significantly lower the overall costs associated with fire damage.

