cerre Centre on Regulation in Europe

AMBITIONS FOR EUROPE 2024-2029

Harnessing regulation to boost the Twin Transition

CERRE WHITE PAPER

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FOREWORD FROM THE EXECUTIVE CHAIRMAN

Implementing an innovation and investment-boosting regulatory framework

As a new legislature begins, the European Union has rarely had to face so many serious challenges at home and abroad: Russia's war against Ukraine and threats at and to the EU borders; US structural disengagement; dealing with China, a partner, a competitor subject to production overcapacities, and a systemic rival; climate change; populism, illiberalism, xenophobia and antisemitism; artificial intelligence – which can generate a new Renaissance but also lead to dystopic scenarios; and, last but not least, multiple impediments to the EU strategic, technological, and industrial autonomy, and to its capability to successfully address global economic competition.

"Polarisation generates fragmentation which, in turn, affects governance, laws, and regulations, since these are driven by values and economic interests."

Polarisation is one of the main consequences of these developments. It refers to growing centrifugal trends within and between the various groups and societies in most parts of the world, including in the European Union and its Member States. Polarisation generates fragmentation which, in turn, affects governance, laws, and regulations, since these are driven by values and economic interests. Illustrations can be provided by trade and investment restrictions and unbridled subsidisation as well as by the inaccessibility of essential technologies to the Global South, thereby increasing inequalities and resentment in those countries and, consequently, resulting in their unfriendly political positioning in global fora.

CERRE's mission is to contribute to robust regulation in the digital and network industries and service sectors. Therefore, the scope of these "Ambitions 2024-2029" for the next EU legislature deliberately does not address all the above challenges. Robust regulation implies, however, developing a set of rules which protect the interests of consumers and users, and uphold the democratic rights of citizens, while simultaneously incentivising innovation and investment. This is why our think tank benefits from a variety of perspectives – legal, economic, business, political and social science, engineering, data science, etc.- to address the width and diversity of our field.

I find, however, two common and complementary threads throughout the set of nine detailed recommendations outlined in this report: mitigating risks while seizing the opportunities presented by the twin – energy/digital – transition and deepening the single market to implement an effective European industrial policy.

Political risks as well as technological opportunities have increased and now supplement economic objectives, making regulation more multi-dimensional and complex than in the 90s and early 2000s,

when economic objectives dominated. The risks involved relate mainly to security, autonomy, and democracy. With a view to mitigate these, the European institutions have, in the last five years, managed to secure approval of a significantly expanded EU acquis in several pivotal digital, energy, and climate areas. The focus is now shifting to implementation, with new challenges facing the EU institutions. For instance, much remains to be done to realise an effective, efficient, and fair dual transition in the public transport sector, including a leading-edge, smart, and sustainable European Mobility Data Space. Moreover, endowed with additional competences allowing it to become the European Digital Regulator, the Commission will have to adapt its role and ways of working to adequately enforce the Digital Markets Act, the Digital Services Act, and the AI Act, to mention a few. In the realm of energy and climate, appropriate institutional and governance frameworks will also have to be devised to reach net zero, adhering to a path which is politically acceptable.

"Robust regulation, as we promote it at CERRE, should play its full part in contributing to the objective of strengthening the EU technological basis."

Moreover, implementing an integrated EU industrial policy rooted in a deepened single market is clearly, in many instances, a necessary condition to secure the security and autonomy of the Union and, as such, enhance its democratic character. Therefore, even if the case for and the benefits of a single market in energy and digital are different, the report emphasises the need for robust, resilient, future-proof infrastructures in both sectors, as well as the crucial importance of developing fair and efficient energy and carbon markets and safe, vibrant, and competitive digital ecosystems.

In the last decade, the EU has managed to leverage its market power to impose its strong values of liberal democracy on technologies that it neither owns nor controls. This worked well for privacy, and it led to the "Brussels effect". There is today, however, no certainty that this will reproduce across different foundational technologies, such as generative artificial intelligence, virtual worlds, and cloud computing. Moreover, the EU has done better at regulating technologies than at removing bottlenecks in innovation, skills retention and investment generation. Referring to the requirements for the development of a thriving European AI sector, Mario Draghi noted recently that, while we have a world-class public network of high-performance computers, the spill-over effects to the private sector are limited. In addition, our power grids are still far from being up to level to meet the huge energy amounts needed to power the data centres without which there is no AI.

Robust regulation, as we promote it at CERRE, should play its full part in contributing to the objective of strengthening the EU technological basis. But obviously, this will not be sufficient without a significant, integrated initiative on innovation, taking the form of consistent trade, competition, taxation, capital markets, and other relevant policies.

The 2019-2024 legislature has made significant progress in establishing a sound regulatory basis for efficiently mitigating the various risks facing the EU and enhancing its resilience. But, as shown by the results of the June elections for the European Parliament, the forces pulling in favour of a disintegration of our Union are, more than ever, at work and are growing. Therefore, to make the twin transition a popular success and safeguard democracy, it is high time for adequate and effective, investment-geared, implementation of the regulatory acquis along an assertive, coordinated EU innovation policy.

It is far from being obvious to me that we will have another similar opportunity five years from now.

BRUNO LIEBHABERG

» INTRODUCTION

WHERE ARE WE STARTING FROM?

As the outgoing European Commission's and Parliament's mandates draw to a close, they leave behind a legacy marked by ambitious targets for 2030, aimed at ensuring a future-ready twin transition.

Faced with industrial and public pressure, as well as growing geostrategic competition, the past term has been marked by a growing temptation to resort to more protectionist and inward-looking industrial policies for both the digital and the energy sectors. However, an open market will provide the necessary ingredients for the EU's dual transition.

> *"The EU should continue to leverage its regulatory influence to ensure that technological advancements serve the public good and promote the region's ethical standards at the global level."*

The EU must ensure that its core values – such as democracy, human rights, but also the protection of our planet – are embedded in the development and deployment of new technologies. Additionally, the EU should continue to leverage its regulatory influence to ensure that technological advancements serve the public good and promote the region's ethical standards at the global level. In other words, **European values must shape digital technologies and not the other way around**.

On the **digital transition, Europe is on course for achieving its ambitious 2030 targets** on infrastructure and skills, as well as on digitalisation, while also ensuring that technological advancements serve humanity, in that they enhance rather than reduce human agency and societal welfare. The focus should be on creating technologies that support human decision-making and interaction rather than replacing them, thus **maintaining a human-centric approach to technology** as proclaimed in the European Declaration for Digital Rights and Principles.

An innovative and competitive EU economy cannot be built on the regulation of technologies developed elsewhere – the "Silicon Valley effect" continues to prove more powerful than the "Brussels effect". The **EU must foster a robust environment for home-grown innovation**, also because it can no longer ignore global supply chain pressures that threaten its growth objectives. This involves supporting startups and established companies alike, building on Europe's traditional industrial strength whilst continuing to promote trade integration at a global level.

On the climate agenda, Europe can today claim a position of global leadership. For the Green Deal to succeed as a sustainable growth strategy, **the institutions' upcoming priorities must stay true to the EU's long-term net zero ambitions**: the green transition of private sector investments can best be supported and attracted with a robust and simple regulatory framework, which provides for investment and planning security.

Europe's industrial leadership in technology will only prevail and – in the case of artificial intelligence (AI) materialise - if the region rolls out **adequate infrastructure and affordable energy**. We are in an era of rapid technological expansion that so far relies on an ever-growing, ever more power-hungry data infrastructure. The tran-

sition into a secure and environmentally sustainable energy supply will be costly, and the distributional effects of any policy in this field will receive higher political attention in the upcoming term.

The EU must strengthen its security and strategic autonomy in digital, economic, and energy sectors to ensure resilience against external shocks and dependencies in an increasingly volatile international environment. This involves a continued focus on becoming more independent from fossil fuel imports, but also to rethink the EU's approach to state aid, partnerships, and mergers. The EU should place a **greater focus on the security and resilience of its infrastructure**, which constitutes the backbone of any industrial activity in the digital and energy sectors.

Moreover, much remains to be done to realise an effective, efficient, and fair **dual transition in the public transport sector**, including a leading-edge, smart, and sustainable **European Mobility Data Space**.

The dual transition will be costly and pose significant risks and challenges to consumers and industrial customers alike. It is imperative to provide for an **equal distribution** of costs and to ensure broad public support for these necessary changes.

HOW DO WE ACHIEVE OUR GOALS?

In view of recurrent calls for an EU industrial policy with varying degrees of state planning and intervention, it is important to remain focused on fostering a competitive environment in a strengthened single market. The EU should encourage innovators, and not merely protect the losers of the twin transitions or pick the next winners.

Regulated market forces should drive success and failure, ensuring a level playing field rather than undue competition amongst EU member states. It is important to leverage the EU's digital acquis to encourage openness and accessibility in digital networks, platforms, and data to spur innovation and create opportunities for new innovative entrants and existing businesses. By promoting competition and innovation through smart regulation and breaking down barriers via interoperability and data sharing, the EU can create a more dynamic and competitive economy.

Europe's single market remains the dual transition's most important asset and best ally. It is the conditio sine qua non for the region's leadership in technology and a pioneering net zero growth and productivity model. A unified market is becoming more important when outside competition is reduced for economic security purposes. The best way of dealing with the new geopolitical imperative is to do one's homework and concentrate on the implementation of the EU's Green Deal and digital acquis. Accelerated and more decisive action is needed.

The transposition and implementation of the digital provisions should involve a clear **definition of the roles, objectives, tasks, and financial responsibilities of both market players and state institutions** to create a balanced and efficient regulatory environment. This clarity will ensure that both public and private sectors can contribute effectively to advancing Europe's growth and productivity agenda. In that same vein, new policies should aim to stimulate the demand side through the creation of an environment where consumers are eager to adopt new technologies.

It is also crucial to break down the complexity of existing rules and achieve better coordination, not only at the EU level but also amongst national regulatory authorities (NRAs). Aspects of the current regulation, such as in the telecoms sector, must be reviewed and adapted to new market

"In a context of poly-crisis and heightened geostrategic competition, it is essential to ensure that EU policies are coherent and mutually reinforcing, thereby accelerating progress towards the EU's ambitious climate and technology leadership goals."

realities. If a second Von der Leyen Commission achieves its original ambition to reduce the regulatory burden ("one in, one out"), and to truly simplify regulation, funding mechanisms, and contradictory rules, this would not only make compliance easier for businesses but also enhance the cost efficiency of the dual transition. In a context of poly-crisis and heightened geostrategic competition, it is essential to ensure that EU policies are coherent and mutually reinforcing, thereby accelerating progress towards the EU's ambitious climate and technology leadership goals.

Finally, fast-paced change that puts a significant regulatory burden on industry and consumers requires a **complete application of the EU's better regulation principles**, which emphasise transparency, evidence-based policymaking, consideration of the long-term implications of each policy, as well as stakeholder involvement. By fully applying these principles, the EU can ensure that its regulations are not only effective but also adaptable to new challenges and opportunities. This approach will help avoid further overly burdensome regulations that stifle innovation. It will, on the contrary, promote a regulatory environment that supports sustainable growth, enhances competitiveness, and ensures resilience against external shocks. Furthermore, an ongoing evaluation and refinement of existing regulations will be necessary to keep pace with the dynamic global landscape, ensuring that the EU remains at the forefront of both the digital and green transition.

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AMBITIONS FOR EU 2024-2029

CROSS-SECTOR

» AMBITION 1

Towards a new regulatory approach

Both the twin transition and the geo-political developments facing the EU require that the institutions adopt a novel way of working to better adapt to new challenges and issues arising out of new roles and competences. European institutions should maximise the synergies between the different policies and various legal and financial tools. The Commission, which has acquired important new regulatory powers in the last mandate, has much to learn from the ways of working of experienced actors who understand what makes markets and business models successful. Additionally, the many laws adopted between 2019 and 2024 should be evaluated in an independent and robust manner, and where necessary, purged from their unintended consequences. Finally, any new laws that are adopted in the next mandate should be evidence-based, have a long-term perspective, be risk-based and, ultimately, proportionate.

1.1 BETTER INTEGRATE POLICY TOOLS AND MAXIMISE SYNERGIES

The EU requires a better integration of its policies and tools in order to maximise the former's synergies and increase the latter's impact.

Dealing with challenges today requires much more than just laws or even markets. As shown in the Letta Report,[1] it requires a combination of laws (hard and soft), standards, finance, and external action. It is only with an alignment and an integration of all available tools that European policy can make a difference and achieve its goals. Relying on smart innovation and industrial policy, the EU should establish comprehensive Digital and Energy Unions, which are deeply rooted in the single market.

[1] *Letta, Much More than a Market: Empowering the Single Marker to deliver a sustainable future and prosperity for all EU Citizens, 2024.*

1.2 SMART ENFORCEMENT OF THE NEW LAWS

Many new laws have been adopted in the 2019-2024 legislature to make the EU fit for the twin transitions.

These laws have considerably strengthened the role and the powers of the European Commission, which has become a fully-fledged European Regulatory Authority, as is notably the case in the digital sector. This is new for the Commission and may generate a tension with its increased aspiration to be more geopolitical.

> *"It is of the utmost importance that the Commission apply the new laws in full independence from political pressure and influence in order to ensure both the effectiveness and the long-term credibility of its intervention."*

Therefore, it is of the utmost importance that the Commission apply the new laws in full independence from political pressure and influence in order to ensure both the effectiveness and the long-term credibility of its intervention. Thus, the same principles that EU law imposes on NRAs should also apply to the Commission in its regulatory role. In the long-term, regulatory functions may be transferred from the Commission to an EU independent agency which could be the cornerstone of a new, integrated European System of Digital Regulators, composed of this new EU agency and the various national authorities, similar to the European System of Central Banks regarding monetary policy.

Moreover, given its limited resources and knowledge, the Commission should leverage the expertise of the various stakeholders and become the orchestrator of an ecosystem of compliance and enforcement. The Commission should encourage the regulated firms (in particular, their respective compliance officers), the beneficiaries of regulation, civil society, and academic think tanks to contribute to an effective and proportionate enforcement of the new laws in a participatory manner.

Moreover, the Commission should follow an "adapt and learn" approach, by comparing the effects of different regulatory remedies ex ante through A/B testing, by allowing the launch of innovative products within regulatory sandboxes, and by adapting remedies on the basis of their effects.[2] Finally, the Commission should rely on big data and AI in its regulatory role. As shown with the use of SupTech by financial supervisors, it can be helpful for data collection and significantly improving reporting, virtual assistance and data management. In terms of data analytics and enhancing market surveillance, it can improve misconduct analysis and prudential supervision.[3] In other words, the Commission has a lot to learn from the ways of working that have made digital platforms so successful (participation and orchestration, experimentation and use of AI); to paraphrase O'Reily, the Commission should behave as a platform.[4]

[2] *World Economic Forum, Agile Regulation for the Fourth Industrial Revolution: A Toolkit for Regulators (2020); OECD Recommendation of 6 October 2021 of the Council for Agile Regulatory Governance to Harness Innovation.*

[3] *S. di Castri, Hohl S, Kulenkampff A and J Prenio, The suptech generations, Financial Stability Institute Insights 19 (2019).*

[4] *Tim O'Reilly 'Government as a Platform' in Lathrop and Ruma (eds) Open Government: Collaboration, Transparency, and Participation in Practice (O'Reilly Media, 2010), 11–40*

1.3 INDEPENDENT AND ROBUST EX POST EVALUATION

Each EU law usefully foresees an *ex post* evaluation after a few years of implementation. These evaluations are essential to correct the inevitable flaws and unintended consequences of the laws, especially with new regulatory regimes which often have been adopted quickly, leaving several trade-offs to be appraised and decided on during the implementation phase. In general, these evaluations are done by the European Commission – often with the support of external contractors - for the European Parliament and the Council. There is however a risk of conflict of interest when the Commission evaluates the laws it must enforce itself. In these cases, the evaluation should be done by an independent EU body, for instance, the European Court of Auditors. Moreover, to be robust, the evaluation should be based on strong and comprehensive evidence, which should be collected as soon as a new law is implemented. Therefore, the collection of the necessary evidence should start immediately and without delay.

As explained in the Commission Better Regulation Guidelines,[5] *ex post* evaluation should examine five main dimensions: (i) the *effectiveness* of the laws in meeting their objectives, (ii) the *efficiency* in terms of cost-effectiveness and proportionality of actual costs to benefits, (iii) the *relevance* to current and emerging needs, (iv) the *coherence* (internally and externally with other EU interventions or international agreements) and (v) the *EU added value*. Each of these dimensions is important and given the inflation in laws which are very much interconnected, the coherence dimension is particularly key. Each evaluation should also mention the positive as well as the negative and unintended effects of the evaluated law. This will facilitate the legislative revision to eliminate, or at least reduce negative effects.

1.4 ADHERE TO BETTER REGULATION PRINCIPLES TO ENHANCE PUBLIC INTEREST AND INNOVATION

Although the legislative agenda will probably be less dense than in 2019-2024, because the foundations for the regulatory framework to mitigate risks and seize the opportunities of the twin transition are now in place, new legislation will continue to be passed.

> *“Regulation should be simple and easy to comply with and enforce. The answer to an increasingly complex economy and society should not be increased regulatory complexity but, on the contrary, regulatory simplicity. ”*

Given the complexity of today’s world and the erosion of EU competitiveness over the last few years, it is of the utmost importance that new laws fully meet the Commission principles of Better Regulation.[6]

These may be more difficult to apply in crisis situations than in more stable times because lawmakers are under pressure to act quickly without having time to perform robust impact assessments. However, as crises may become the ‘new normal’, EU legislators should develop methods allowing speedy impact assessments, which are quick but not dirty. New regulation should always be based on evidence and not on intuition.

[5] *Commission Staff Working Document of 3 November 2021, Better Regulation Guidelines, SWD(2021) 305, Chapter III.*

[6] *Idem, Chapter IV.*

New laws should also nudge the economy and society towards enhancing public interest and not replace the behaviour of markets in the pursuit of achieving a specific outcome. Moreover, regulation should favour long-term perspectives and objectives over a short-term approach.

More than ever, regulation should be simple and easy to comply with and enforce. The answer to an increasingly complex economy and society should not be increased regulatory complexity but, on the contrary, regulatory simplicity. Moreover, to deal with rising unpredictability in the world, new regulation should be resilient and principles-based, allowing for experimentation.

Finally, regulation should be well-targeted and risk-based. This is why asymmetric regulation focusing on those firms presenting the highest risks to public interest concerns should in general be preferred to symmetric regulation which applies across the board and may increase the barriers to entry for small and innovative firms.

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AMBITIONS FOR EU 2024-2029

TECH, MEDIA & TELECOMMUNICATIONS

» AMBITION 2

Build robust, resilient, and future-proof digital infrastructures and foundational technologies

Digital infrastructures provide the foundation upon which the digital economy is built. Today and in the future, 'infrastructure' (or the inputs into digital services), includes not only traditional telecommunications networks but also cloud infrastructure (on which telecommunications network functions will rely), satellite services, and the data required to train artificial intelligence (AI) models or other digital services (which is discussed further in Ambition 4 below).

2.1 A NEW DIGITAL NETWORKS REGULATORY FRAMEWORK

The existing European telecommunications regulatory framework is now over 20 years old and needs to be modernised. CERRE will soon publish a study which involves a radical rethinking of telecommunications regulation, and includes the following conclusions and recommendations:

- Existing policies have achieved or will achieve higher levels of competition and new sources of investment in fixed fibre networks than in many other parts of the world and similar levels of competition in mobile networks. These outcomes should not now be compromised in the pursuit of other objectives or by Europe seeking to mimic outcomes (including ownership structures) that we see in other regions.

- The financial performance of European telecommunications operators is mixed but policy should not be motivated by the position of individual firms. Policymakers should, however, avoid imposing further unbudgeted costs on the telecommunications industry, as has been done in the past with respect to international roaming and calling or security measures.

- Spectrum policy requires reform to improve the efficiency of allocation and use of spectrum resources and to reduce the risks of unbudgeted but unavoidable costs to retain spectrum.

- The Open Internet Regulation should be interpreted (or changed) so it does not inhibit the ability of operators to fully exploit the technical capabilities of new technologies, including optimising network quality for specific services.

"A greater focus on security and resilience is required, including in the assessment of cooperative agreements and mergers, but also national roaming arrangements between mobile networks."

- Economic regulation should be refocussed to capture bottlenecks in oligopolistic markets rather than the exercise of monopoly power by former State-owned monopoly networks. As digital networks are virtualised, regulatory remedies in telecommunications are more likely to involve access to application programming interfaces (APIs) and software interfaces than traditional access to physical components (see CERRE study on Open Interfaces and Innovation for more details on this).
- The uneasy relationship between the Commission, BEREC, and national regulators in applying regulation must be resolved in favour of a more centralised approach, likely with a new BEREC or successor body as a fully functioning European telecoms regulator.
- A greater focus on security and resilience is required, including in the assessment of cooperative agreements and mergers, but also national roaming arrangements between mobile networks.

2.2 RETHINK THE ROLE AND ORGANISATION OF PUBLIC FUNDING FOR DIGITAL INFRASTRUCTURE

The first 10 years of privatisation and liberalisation of telecommunications markets involved removing public finance and influence from the sector. The last 10 years have seen the reintroduction of public funds to support the accelerated rollout of new fixed fibre networks and their extension to uneconomic rural areas.

Aside from coverage objectives, telecommunications operators are increasingly being required to pursue other objectives and to meet other targets, including in relation to the take-up of innovative technologies, the resilience and security of networks, and sustainability objectives (whilst the need for subsidy to extend coverage may recede once new networks are completed). Competitive markets will contribute towards - but will not achieve all these objectives - not because the industry lacks the financial capacity but because private firms in competitive markets are - and should not be - incentivised to achieve non-commercial outcomes.

The resulting gap must be addressed with the use of public funds but in a more strategic and coordinated manner. It should not be addressed by seeking subsidies from within or outside the industry itself (as occurred for the switch out of Chinese network equipment in some Member States or in the recent 'fair share' debate), nor by actions that distort or weaken competition within the sector or encourage firms to focus on regulatory bargaining rather than competing. The telecommunications industry itself will also need to be prepared to engage positively with public finance initiatives (this has not always been the case in the past).

2.3 ACCELERATE THE RETIREMENT OF OLD DIGITAL TECHNOLOGIES

Markets work well when resources can be quickly reallocated or repurposed. Europe's old copper telecommunications networks need to be retired as soon as possible for economic, security, and sustainability reasons and in most cases, during the term of the new Commission. Regulatory assistance and public subsidies may be required to achieve this, and the Commission should adopt a more proactive role than it has to date. The same may apply to the retirement of 2G, 3G and, in the future, 4G mobile technologies. Interventions may be required to remove obstacles presented by end-users who refuse to migrate, but also potentially by the labour force in the industry who are likely to be significantly affected.

> *"Markets work well when resources can be quickly reallocated or repurposed. Europe's old copper telecommunications networks need to be retired as soon as possible for economic, security, and sustainability reasons."*

Changes to spectrum policy (referred to above) should increase the level of reassignment and overall utilisation of spectrum resources in Europe by enforcing a 'use it or lose it' approach. The new European Commission should also begin the planning process for the retirement of terrestrial television in Europe and the transfer of the spectrum resources to other users sometime after 2030.

2.4 APPLY CLOUD SERVICES REGULATION TO VERTICAL RELATIONSHIPS

The strategic role of cloud computing infrastructure in the wider digital economy has already been recognised by European policymakers and has resulted in the adoption of measures under the Data Act (DA) and Digital Markets Act (DMA). These were discussed and analysed in the CERRE Study on Competition and Regulation of Cloud Computing Services: Economic Analysis and Review of EU Policies.

Measures to facilitate switching and multi-homing may be sufficient to ensure that cloud services markets are competitive and concerns about cloud providers leveraging their market power into downstream markets, including Platform as a Service (PaaS), Software as a Service (SaaS), or telecommunications markets do not arise. This could occur if European telecommunications operators become increasingly dependent upon cloud computing infrastructure for key inputs whilst providers of cloud services aim to extend their reach into telecommunications services.

The above-mentioned CERRE Study identifies several challenges in implementing the DA (and in applying the DMA specifically to cloud services), with the focus of the legislation being on horizontal competition and interoperability between rival cloud service providers, rather than vertical relationships with competitors (as opposed to customers) in downstream markets. The implications for vertical relationships should be closely monitored by the new Commission.

» AMBITION 3

Ensure a safe, positive, and fair online platform ecosystem

Digital services are pervasive with well over half of the EU's population being regular users of some of the largest social media and video-sharing platforms, online retail platforms, and search engines. In some Member States, usage of certain very large services nears ninety percent. Under the last Commission, landmark legislation was passed to improve contestability in these markets and prevent harm to consumers and wider society. This Ambition suggests priorities for the implementation and evaluation of these legislative developments.

3.1 PROTECT MARKET CONTESTABILITY BY PRESERVING MULTI-HOMING AND IMPROVING MERGER CONTROL

Entry barriers in digital markets are significant due to the presence of strong network effects and the competitive advantage that data can confer.

"Competition authorities should focus more on potential competition and the control of innovative capacity instead of existing competition when considering theories of harm."

However, for digital markets to function well, an efficient entrant should be able to enter and potentially displace established incumbents. Such market contestability can also discipline incumbent digital platforms, which will be reluctant to exploit their market power for fear of being replaced by a more efficient entrant.

Multi-homing plays an important role for new entrants. It allows consumers to experiment with new services and for new players to emerge and grow gradually. It is therefore crucial to preserve multi-homing and to limit the exclusivity requirements that dominant platforms may be tempted to impose.

Improving merger control is also important to prevent defensive acquisitions, where dominant platforms buy up emerging competitors that they see as a threat. Competition authorities should focus more on potential competition and the control of innovative capacity instead of existing competition when considering theories of harm.

3.2 ENHANCE COMPETITION ON DOMINANT PLATFORMS THROUGH THE DEVELOPMENT OF OPEN STANDARDS FOR APPLICATION PROGRAMMING INTERFACES

Competition on a dominant platform should be fair and transparent for third parties so that new or existing market players can develop their services.

The DMA introduced vertical interoperability obligations for gatekeepers under Article 6(7). This provision ensures that third parties have access to hardware and software features controlled by dominant platforms that are essential for the provision of services to users.

Policymakers should promote the creation of open standards for access to these features through standardised APIs. Establishing open standards for access interfaces will not only improve transparency but also reduce the cost of access for third parties and reduce the risk of discriminatory practices.

3.3 EMPOWER USERS IN DIGITAL ECOSYSTEMS

Competition in digital ecosystems can only develop and be sustainable to the extent that users are able to make informed decisions.

> *"It is also essential to facilitate easy switching between digital services. This is particularly true when moving from one device or operating system to another, which should be a seamless experience for users."*

While digital markets provide a wealth of information to users (through search results, quoted prices, consumer reviews, etc.), digital platforms, especially those with market power, have the ability to reduce transparency and influence consumer choices to their advantage. It is therefore imperative that continuous efforts are made to increase the transparency of digital services and algorithms.

It is also essential to facilitate easy switching between digital services. This is particularly true when moving from one device or operating system to another, which should be a seamless experience for users.

Finally, it is important to improve the digital literacy of EU citizens to enable them to navigate safely in digital markets and make informed choices.

3.4 BUILD COHERENCE IN THE VARIOUS INSTRUMENTS THAT ADDRESS PREVENTING HARM FROM ONLINE SERVICES

The last few years have seen a flurry of EU activity aimed at preventing consumer and societal harm from online services.

The 2018 revision of the Audiovisual Media Services Directive (AVMSD) addressed a specific type of service by requiring Member States to hold video-sharing platforms responsible for taking measures on illegal content and the protection of minors. The Terrorist Content Online Regulation (TERREG) dealt with a specific type of harm while the 2022 Digital Services Act (DSA) instituted ground-breaking horizontal rules for digital services. In this same period the Commission lead the creation of the Code of Conduct on Countering Illegal Hate Speech and the Code of Practice on Disinformation. Two CERRE reports, one on the respective scopes of the DSA, the AVMSD, and TERREG and another on the ways multiple legislative acts address prominence of online media content demonstrated that there are significant overlaps.

There is likely not a need for new legislation to bring them together, but more coherence and clarity of the synergies would likely make for better protection of consumers and prevention of harm in societies, as well as improved conditions for market players. Roles for civil society, academics, and other stakeholders are envisioned in the implementation of some of these instruments, in particular the DSA and the above-mentioned Codes. The actors concerned often have limited resources and need to be strategic about their engagement, as to better be able to tailor their contributions. Commission guidance that maps how the various instruments relate and sets out the hierarchies of obligations would be a useful first step.

There may also be gaps and, as a result, necessary updates could be identified through a mapping and coherence-building exercise. For example, both audiovisual and online commercial communication have evolved considerably since the last revision of the AVMSD, so revisiting that aspect of the Directive is likely necessary, and additional codes of conduct may be imperative.

3.5 ESTABLISH ROBUST EVALUATION SYSTEMS FOR ASSESSING THE IMPLEMENTATION OF THE DIGITAL SERVICES ACT

Evaluation of the implementation of the DSA is not the same as assessing the compliance of individual services with the Act.

Checking and enforcing individual compliance with the requirements of the DSA is an important step in evaluating the effectiveness of implementation. However, as the CERRE report Elements for Effective Systemic Risk Assessment under the DSA pointed out, there are many interlinkages among digital services. Some may be common vulnerabilities, while others may be shared assets. For the very large services that are required to produce systemic risk assessments, meta-analysis across these assessments and the services' experience with mitigation can produce valuable insight into the overall effectiveness, and limits, of the risk management approach. While smaller services do not have to produce systemic risk assessments, they are subject to the DSA's transparency reporting obligations and evaluation should also use this data to examine the interactions between measures taken by very large ser-

vices and those not meeting the threshold for this designation. Whether harmful behaviour, content, and products shift to peripheral services would be an important question to answer.

"The systemic risk management provisions in the DSA set up an iterative process of annual assessment and continual learning and improvement, so there is likely a need for an institutional framework to ensure that it is done in an open and inclusive manner."

The CERRE report on elements for systemic risk assessment also pointed out the lack of benchmarks for what needs to be achieved by very large services in the systemic risk areas defined in the DSA. A CERRE report on systemic risks to electoral processes presented the results of an inclusive process conducted by the CERRE academic team, aimed at setting such benchmarks and definitions for the negative effects that should be prevented through risk mitigation for electoral processes. However, the DSA contains many more risk areas that need these important tools for evaluating the Act's implementation. It may be that the DSA's approach is not enough even if complied with, or it may be that as services change and the behaviour or users, especially malign users, change, adaptations will be needed. The systemic risk management provisions in the DSA set up an iterative process of annual assessment and continual learning and improvement, so there is likely a need for an institutional framework to ensure that it is done in an open and inclusive manner.

The DSA gives the Commission unprecedented regulatory authority over designated very large services and establishes a system for cooperation among and with Digital Services Coordinators from each Member State through the Digital Services Board. The Act also sets expectations for the involvement of experts and various stakeholders in the implementation process. The DSA lays the foundations for this, but now the specific channels for operationalising this are needed.

The Commission, in cooperation with the Digital Services Board, is charged with developing "Union expertise and capabilities" (Recital 137 and Article 64). Both the Commission and the Board are empowered to convene researchers, industry stakeholders, civil society groups, and others. In its advisory role, the Board is expected to draw on this kind of wide engagement to support the development of guidelines and standards, coordinate analysis of emerging issues, and assist with the supervision of the very large services. This arrangement provides a much-needed opportunity to invest in networks of vetted researchers and civil society organisations, with specialised knowledge on harms and risks that should be taken up by the Commission and the Board.

Finally, both entities should lead a coordinated and strategic use of the regulator's investigatory powers, the data access mechanism for vetted researchers, the information now available thanks to the DSA's transparency requirements, and the input of diverse groups of stakeholders.

» AMBITION 4

Create a thriving, vibrant, and competitive data and innovation economy

Data is the central resource of the digital economy and the key driver of digital innovation. Consequently, it has become the focal point of European regulation to aim to mitigate data concentration, resolve data fragmentation, and ensure the protection of personal data. Data is also powering the rise of AI leading to the rapid growth of new AI-based services and the invention of generative AI tools that seemed impossible only five years ago. This raises new regulatory challenges and calls for ambitious policy approaches to ensure that Europeans can reap the benefits of these digital innovations.

4.1 HARMONISE DATA REGULATION

The previous Commission has pursued a comprehensive data strategy with the goal of unlocking data troves to foster competition and innovation. Among these new regulations are most prominently the DA and the Data Governance Act (DGA), but important data-related regulation is also found in the DMA and the DSA.

While it is laudable that the previous Commission has brought these regulations to life within a single legislative period, this has also required working in parallel and tasking different Directorate Generals in leading the legislative process for the various regulations. While each of these regulations pursues important goals and has put Europe at the regulatory forefront for the regulation of data, many commentators agree that there is yet a lack of coherence between these regulations. This creates legal uncertainty, raises compliance costs – especially for SMEs – and may therefore ultimately even raise, rather than lower, barriers to the free flow of data, reinforce size advantages, and undermine the potential of the European economy to harness data.

> *“This creates legal uncertainty, raises compliance costs – especially for SMEs – and may therefore ultimately even raise, rather than lower, barriers to the free flow of data, reinforce size advantages, and undermine the potential of the European economy to harness data.”*

CERRE has accompanied the Commission’s data strategy, and ensuing regulations, with a number of comprehensive reports, especially on the DA,[7] the data-related remedies in the DMA[8] and DSA, but also on issues of data access,[9] data portability, and interoperability more generally, in

the advent to these regulations. We have also provided a comprehensive analysis of the challenges and prospects of harmonisation of international data laws in order to facilitate cross-border data flows. These reports, among other commentators, provide pointers and specific recommendations for how the mentioned laws can be made more effective, where they still lack clarity and cohesion, and how challenges in their implementation are to be addressed.

"The new data laws mentioned above have also – rightly so – blurred the lines between privacy law, consumer protection law, and competition law, as is especially prominent in the DMA and the DA. This integration is welcomed, as these previously separate areas of legislation need to converge in the digital age."

While these reports display some scepticism about whether a harmonised global data regulation is achievable or even desirable,[4] they express a strong call for a better harmonised data regulation within the EU single (digital) market. At first glance, it may not sound ambitious enough to call for the new Commission to take a step back and to guide the effective implementation of the new provisions, as well as to pursue an earnest evaluation of the effectiveness and cohesion of the newly founded data laws, in order to then devise a better harmonised and more effective data regulation that navigates the trade-off between benefits and costs to European companies. However, this ambition is indeed significant, and as challenging (also politically) as it was to devise these regulations for the previous Commission.

The new data laws mentioned above have also – rightly so – blurred the lines between privacy law, consumer protection law, and competition law, as is especially prominent in the DMA and the DA. This integration is welcomed, as these previously separate areas of legislation need to converge in the digital age. Nevertheless, the calls for (even) more harmonisation between these areas remain.

Data is the fuel on which the European economy thrives in the age of AI and the Internet of Things (IoT), and therefore, we consider it of utmost importance for the next Commission not to rest on what has been achieved, but to remain vigilant and to quickly reassess, harmonise, and streamline EU data laws in order to remain at the forefront, as other jurisdictions, particularly in China and the US, lead in the area of platforms and AI.

[7] *Krämer, Colangelo, Richter & Schnurr (2023). Towards a Balanced EU Data Regulation. Available at this link; Schnurr & Manganelli (2024). Competition and Regulation of Cloud Computing Services: Economic Analysis and Review of EU Policies. Available at this link*

[8] *De Streel, Bourreau, Feasey, Fletcher, Krämer & Monti (2024). Implementing the DMA: substantive and procedural principles. Available at this link; De Streel et al (2023). Effective and Proportionate Implementation of the DMA. Available at this link ; De Streel, Feasey, Krämer & Monti (2021). Making the Digital Markets Act more resilient and effective. Available at this link; De Streel et al (2021). The European proposal for a Digital Markets Act: A first assessment. Available at this link ; De Streel et al. (2020). Digital Markets Act: Making economic regulation of platforms fit for the digital age. Available at this link.*

[9] *Krämer, Schnurr & Broughton Micova (2020). The role of data for digital markets contestability: case studies and data access remedies. Available at this link; Feasey & de Streel (2020). Data sharing for digital markets contestability: towards a governance framework. Available at this link; Krämer (2020). Digital markets and online platforms: new perspectives on regulation and competition law. Available at this link.*

[10] *Lamy, Liebhaberg et al. (2022). Global Governance for the Digital Ecosystems. Available at this link.*

4.2 MAKE THE GENERAL DATA PROTECTION REGULATION FIT FOR THE AGE OF AI AND THE INTERNET OF THINGS

The EU's General Data Protection Regulation (GDPR) is an embodiment of European privacy values and a landmark within the EU's data laws. Due to its importance and the increasing importance of (personal) data for the economy, it is not surprising that GDPR is deeply welded into the new data laws, such as the DA, DMA, and DSA. However, the central role of GDPR is also becoming increasingly problematic as the underlying logic on which the GDPR was built, such as the clear distinction between personal and non-personal data, informed consent, data minimisation, and purpose limitation, seems not fit for the age of datafication and AI. A rehaul of GDPR, in concert with the data laws into which it has been welded (see Ambition 4.1), and the ePrivacy Directive (which seems to become increasingly obsolete) is the biggest 'elephant in the room' that needs to be addressed by the new Commission in order to lead the EU into the age of AI and IoT.

> *"The reality is that data is often co-created either with connected devices in the IoT, or through interaction with others (e.g., in social networks) and thus personal data can no longer be attributed to a single owner."*

A GDPR 2.0 should address the issue of consent fatigue and how consent can be given by automated means (such as through personal AI assistants). The reality is that today consumers do not have real choices and provide blanket consent to vaguely formulated and far-reaching data processing purposes. Instead, what many data subjects seem really worried about is not the collection of personal data per se, but the use of data, and what ramifications this may have for them. Explainability of data processing outcomes (see CERRE study on Explainable AI) and an effective right to restrict certain uses of data (after it has been collected) will therefore be key. By contrast, both data minimisation and general-purpose limitation at the point of data collection (rather than at the point of use) can no longer be guiding principles in a world where a consumer's every transaction and click are increasingly becoming recorded, objects are digitally connected, and innovations in AI often come from the (re-)use of data that was initially collected for other purposes. This will be further reinforced by the IoT, with data collection becoming ubiquitous in physical spaces.

Further, GDPR 2.0 should focus not only on individual harms but also on collective harms of the use of personal data, which arise, for example, as inferences that are made based on others' data have negative consequences for data subjects that share certain characteristics (e.g., ethnicity or socioeconomic status).

A new GDPR needs to acknowledge and provide solutions for the fact that a clear, meaningful distinction between personal and non-personal data is often no longer feasible.[11] The reality is that data is often co-created either with connected devices in the IoT, or through interaction with others (e.g., in social networks) and thus personal data can no longer be attributed to a single owner. This has implications for the mobility of (co-created) personal data, and the functioning of data markets (see Ambition 4.3). Data portability should be further strengthened by mandating more real-time access and more standardised data formats.

This ambition is clearly very 'ambitious' given the list of issues that need to be

[11] *See, e.g., De Montjoye, Y. A., Radaelli, L., Singh, V. K., & Pentland, A. S. (2015). Unique in the shopping mall: On the reidentifiability of credit card metadata. Science, 347(6221), 536-539.*

addressed and the centrality of the GDPR in EU law. However, it is an ambition long overdue to make the EU fit for the age of AI, and one that may come at the right time for the incoming Commission, which is confronted with a bouquet of newly devised data laws that require harmonisation (cf. Ambition 4.1).

4.3 PROMOTE INSTITUTIONS AND TECHNOLOGIES THAT FACILITATE DATA SHARING, DATA TRANSACTION, AND DATA VALUE CREATION

Data sharing and the free flow of data were among the main goals of the previous Commission's data strategy, and several important legislative initiatives and regulations have been initiated to make these goals become reality. However, especially the sharing and trading of non-personal data for value creation in a variety of different application contexts remains a challenge that requires further policy efforts from the incoming Commission. Furthermore, there is a trove of data in the hands of public sector bodies that is currently underused but could create large benefits to society and make the public sector more effective. Innovations in AI promise to deliver these benefits but their applications face legal and technological barriers that need to be addressed.[12]

> *"Tailoring data policies to specific application areas further allows for developing policy agendas with measurable objectives and pre-defined evaluation procedures that can inform policymakers about which data policies were indeed effective in achieving the intended goals."*

Whereas the DGA aimed at increasing trust in data intermediaries, and the DA aimed to facilitate access to non-personal data, these regulations have fallen short in addressing barriers to the trading of data and have largely neglected the economic incentives for viable business models of data intermediaries.[13] Moreover, there remain many uncertainties arising from the interactions of new and established data regulations (cf. Ambition 4.1) with respect to data protection and privacy requirements (cf. Ambition 4.2) that present barriers to data sharing and business-to-business data transactions.[14] The incoming Commission should thus make it a priority to identify and resolve the main barriers to the emergence of data intermediaries and data marketplaces that can facilitate data transactions and the free flow of data.

To establish and promote institutions that facilitate data sharing, data transactions, and value creation, legislation is only one instrument of the policy toolbox. Therefore, new ways of working in EU policymaking (cf. Ambition 1) should be leveraged. The Common European Data Spaces initiative of the previous Commission highlights that data sharing and data value creation can benefit from more targeted policy approaches and co-regulation that can adapt to the specific requirements, data properties, and industry characteristics in specific application contexts.[15] The next Commission should build on these initial activities to promote the use and sharing of data. Tailoring data policies to specific application areas further allows for developing policy agendas with measurable objectives and pre-defined evaluation procedures that can inform policymakers about which data policies were indeed effective in achieving the intended goals. This would allow for a process of continuous regulatory learning, to establish a flourishing European data economy. In this context, establishing and acting upon metrics that

can measure the success of various data policies (e.g., by verifying that more useful data becomes available for secondary use) will be key.

Further policy action should be aimed at stimulating the research, transfer, and application of privacy-preserving technologies that can facilitate the sharing, trading, and use of data. As data is becoming more granular and recombination and data analytics techniques may reveal personal identities even from non-personal data (cf. Ambition 4.2), computational methods (such as secure multi-party computation, homomorphic encryption, or zero-knowledge proofs) become vital to ensure data protection, while still allowing for data to be shared and leveraged beyond the original collecting party of the data. Although these technologies have been shown to work in principle and for research prototypes, their widespread adoption in practice is still in its infancy. Promoting the adoption of these technologies and evaluating their large-scale viability should thus be a particular ambition of a European data policy agenda.

Finally, similar technologies but also new public-private partnerships should be explored, in order to make better use of data in the hands of public sector bodies through innovative AI applications. Because of the particular sensitivity of many of these data sets, public agencies cannot rely on publicly available commercial offers to make use of these data. Therefore, there is the risk that European societies miss out on the social benefits that can be achieved from leveraging these data sources. In this context, there is also great potential for learning across European Member States, which calls for facilitating institutions at the EU level to support the exchange and transfer of ideas.

[12] *Cf. the joint report on "Data Analytics and AI in Government Project Delivery" by several authorities in the UK, including the Infrastructure and Projects Authority (IPA), the Central Digital & Data Office (CDDO), the Association for Project Management (APM) and the Major Projects Association (MPA).*

[13] *Schnurr, D. (2023). Global Data Economics: Principles, Strategies and Policies. In M. Hennemann (Ed.), Global Data Strategies - A Handbook, C.H.BECK..*

[14] *Krämer, Colangelo, Richter & Schnurr (2023). Towards a Balanced EU Data Regulation. Available at this link ; Schauer, A., & Schnurr, D. (2023). Data Brokers: Intermediaries for More Efficient Data Markets? TechREG Chronicle, October 2023, 1-9 ; Schnurr, D. (2024). Data Access Remedies : Economic Trade-offs, Data Privacy and Regulatory Implementation. In M. Ioannidou & D. Mantzari, (Eds.), Research Handbook in Competition Law and Data Privacy. Edward Elgar Publishing.*

[15] *Cf. Feasey & de Streel (2020). Data sharing for digital markets contestability: towards a governance framework. Available at this link.*

4.4 AI NEUTRALITY: PROTECT COMPETITION AND INNOVATION BENEFITS FROM AI IN COMPLEMENTARY MARKETS

AI as a general-purpose technology promises productivity gains and new business opportunities across industries and application domains.[16] Thus, the recent advances in machine learning and generative AI are expected to be key drivers for competition and innovation and, hence, AI is viewed as a significant factor for economic growth in Europe. However, the rise of digital platforms has demonstrated that disruptive digital technologies can promote winner-takes-all dynamics and lead to the emergence of integrated Big Tech conglomerates spanning across a wide range of markets.

Therefore, it will be crucial to monitor and ensure that the race for developing foundational AI models and other upstream AI models is not unduly decided by preferential relationships between some firms or by their integration with incumbents from other digital markets, thereby solidifying their access to customers, data, computing power, and financial resources.[17] In particular, any coupling of AI and cloud services, as well as AI and devices or operating systems, should be scrutinised (especially if this involves exclusive arrangements) concerning their impact on a competitive and level playing field. This cuts both ways, as integration with complementary services could convey an undue advantage in developing upstream AI models for firms, but also may allow these firms to leverage competitive advantages for AI services in markets for complementary goods. In this context, open-source models can play a particularly important role and should accordingly be considered from a policy perspective. Here, the trade-off between openness and potential concerns about AI safety needs further evaluation and targeted policy initiatives.

"There is the imminent risk that any regulatory action on AI and competition in the European Union will prove ineffective, as the AI technology landscape is global and AI providers may evade rules by acting outside of the EU."

In this context, global coordination with other jurisdictions and vigilant evaluation of external regulatory conditions will be key for successfully addressing the outlined fundamental economic challenges concerning AI.[18] Otherwise, there is the imminent risk that any regulatory action on AI and competition in the European Union will prove ineffective, as the AI technology landscape is global and AI providers may evade rules by acting outside of the EU. Such risks should thus be addressed by proactive policy efforts to establish com-

[16] *Bresnahan, T. F., & Trajtenberg, M. (1995). General purpose technologies 'Engines of growth'?. Journal of econometrics, 65(1), 83-108 ; Bresnahan, T. (2024). What innovation paths for AI to become a GPT?. Journal of Economics & Management Strategy, 33(2), 305-316 ; Brynjolfsson, E., Rock, D., & Syverson, C. (2019). Artificial Intelligence and the Modern Productivity Paradox. In A. Agrawal, J. Gans, and A. Goldfarb (Eds.), The Economics of Artificial Intelligence: An Agenda (pp. 23-57). University of Chicago Press.*

[17] *Cf. Winner-takes-all dynamics in data-driven markets as analysed in Krämer, J., Schnurr, D., & Micova, S. B. (2020). The role of data for digital markets contestability: case studies and data access remedies. CERRE Report. Available at this link; see also the importance of cloud computing infrastructure as inputs for complementary digital and AI services as discussed in Schnurr & Manganelli. (2024). Competition and Regulation of Cloud Computing Services: Economic Analysis and Review of EU Policies. CERRE report. Available at this link*

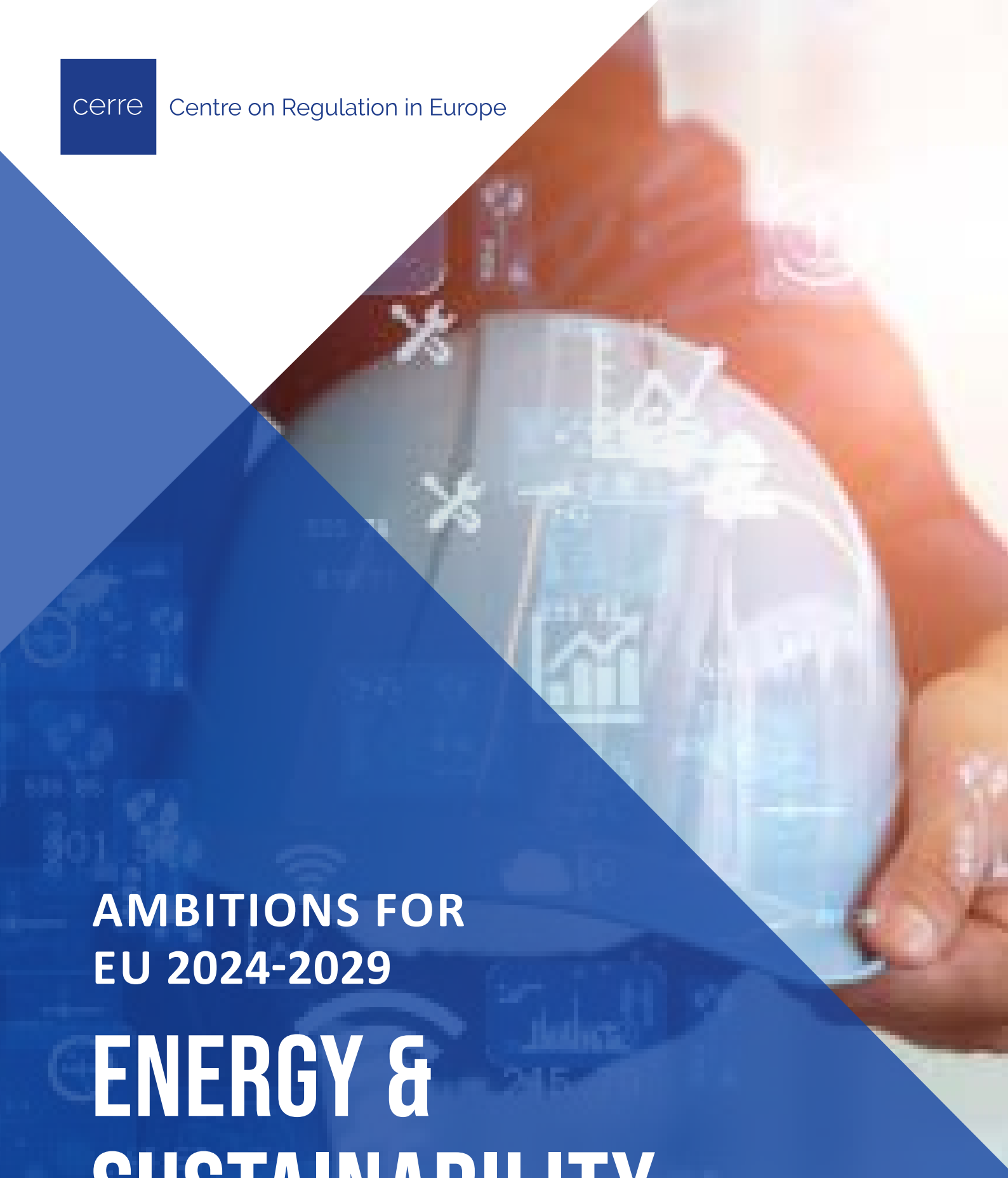
[18] *Malgieri & Kamath (2023). Generative AI: Global Governance and the risk-based approach. Available at this link ; Lamy, Liebhaberg et al. (2022). Global Governance for the Digital Ecosystems. Available at this link.*

mon ground on principles and safeguards on an international level that can protect competition and the well-functioning digital markets in an AI-driven world.

With the AI Act, the previous Commission has established a landmark legislation on AI. Making this legislation achieve its intended success will require major efforts from the incoming Commission in providing guidance and clarification for the implementation and operationalisation of many of the rules and concepts introduced by the AI Act. Furthermore, a set of open questions raised by the rapid evolution and success of generative AI remains, which requires further policy attention and possibly new rules. Most notably, the questions of what data can be legally used by such models and how the interests of creators of such data will be protected by intellectual property rights and related rights are critical for achieving a regulatory framework for generative AI that can balance legitimate interests and innovation incentives.[19]

[19] *See Buiten, de Streel & Peitz (2021). EU liability rules for the age of Artificial Intelligence. Available at this link*

cerre Centre on Regulation in Europe



AMBITIONS FOR EU 2024-2029

ENERGY & SUSTAINABILITY

» AMBITION 5

Developing fair and efficient energy and carbon markets

As highlighted in CERRE's Recommendations for a future-proof electricity market design Report, electricity markets' resilience and adaptability to stress tests have proven robust. While individual countries have encountered challenges and made mistakes in their adaptation strategies, these experiences provide valuable insights for refining market designs and regulatory frameworks.

Continued monitoring of the effects of the energy transition on various demographic groups remains crucial. Lessons from past crises highlight the importance of targeted support to prevent the misallocation of resources, particularly in instances where subsidies inadvertently prop up fossil fuel industries. Establishing a European Energy Transition Observatory, as proposed in CERRE's previous papers, would facilitate the systematic assessment of distributional impacts, guiding policy decisions towards equitable outcomes.

While the commodity markets were heavily impacted – especially in 2022 and 2023 – carbon markets proved essential to once more nudge EU decision-makers to accelerate the transition to clean alternatives in power markets. The crisis facilitated a step change in the carbon price, suggesting the increasingly significant role that carbon price might play on the path to net zero. This brought carbon prices to levels long dreamed about by economists and, for a time, to levels consistent with what CERRE modelling has suggested will be necessary to deliver net zero in 2050.

Despite these positive tests of the single market in energy and carbon, more steps are needed in developing fair and efficient energy and carbon markets that can keep Europe on track to meet net zero by 2050.

5.1 EXTEND THE EU EMISSIONS TRADING SYSTEM IN SECTOR SCOPE, COUNTRY COVERAGE, AND OPENNESS TO CERTIFIED EMISSIONS REDUCTIONS

Over the next Commission mandate, the EU needs to go further and plan the merging of ETS I (Emission Trading Systems - the current ETS) and ETS II (the separate market for heating and transport). Having two separate carbon markets is economically unsustainable and will likely prove unworkable. The current proposed carbon price cap on ETS II also stands in the way of tax harmonisation across electricity and gas, which continues to see gas effectively subsidised in consumption due to its under-taxation relative to electricity.

However, the Carbon Border Adjustment Mechanism (CBAM) is a work in progress: it does not address the issue of unfair competition in foreign markets, where some form of export subsidy may be required. It also raises

"Having two separate carbon markets is economically unsustainable and will likely prove unworkable. The current proposed carbon price cap on ETS II also stands in the way of tax harmonisation across electricity and gas, which continues to see gas effectively subsidised."

issues of how exactly it will operate in practice in calculating CBAM liability for imports when foreign competitors inevitably attempt to get around CBAM via resource shuffling. One clear implication of CBAM that the next Commission needs to address is that Morocco, the UK, Turkey, and other heavily trade-integrated countries should be able to tightly couple their carbon prices to the EU ETS and operate a trusted external carbon price border to avoid their own CBAM liability and to promote a single carbon price across a wider area.

A notable failure at COP28 was the failure of the EU to promote a global carbon market when it offered no route to developing countries to have their carbon credits introduced into the EU ETS. This was unfortunate given that the EU ETS was significant between 2005 and 2012 in the promotion of the global Carbon Emissions Reduction (CER) credit market. Since 2013 no outside permits have been admitted into the EU ETS (except for the coupling to the Swiss ETS). The EU needs to work on the conditions under which some CERs might be readmitted into the EU ETS.

Finally, incorporating negative emissions and preparing the ground for the two-way trading of permits between creators and removers of permits should also be a priority. This is because even in net zero, there will be significant positive and negative emissions (+/-400 m tonnes CO2e in CERRE modelling in 2050 even at 2018 levels of economic activity). Thus, the 2050 carbon market might be similarly sized in terms of CO2e tonnes, but with higher prices, it will be much more valuable. Negative emissions technologies such as Carbon Capture and Storage (CCS) and Direct Air Capture (DAC) will be key technologies in such a two-way carbon market. The EU should work on appropriate rules to encourage the participation of such investments – and other innovative negative emissions technologies - in the EU ETS.

5.2 PROMOTE FURTHER IMPROVEMENTS IN ENERGY EFFICIENCY

The EU's long-standing 'energy efficiency first' policy was very much at the forefront of the recent energy crisis. There needs to be continued emphasis on energy efficiency investments, as the low energy intensity of GDP protects European businesses and households from energy price shocks.

"The EU must reduce the overall demand for gas, a measure that would not only accelerate the carbon reduction process but would also decrease its energy market's exposure to external shocks and commodity shortages. To achieve this, a common EU strategy must be given priority."

This would suggest that stringent monitoring of progress on energy efficiency and pressure to encourage building energy efficiency via appropriate incentives and investments is something that the EU should provide.

In the long run, the EU must reduce the overall demand for gas, a measure that would not only accelerate the carbon reduction process but would also decrease its energy market's exposure to external shocks and commodity shortages. To achieve this, a common EU strategy must be given priority, despite the challenge of achieving a consensus at the EU level. The strategy may include specific recommendations to accelerate the implementation of distributed assets (such as solar pho-

tovoltaics - PV), as well as developing and supporting clean alternatives to fossil heating sources.

Apart from top-down policies, Member States should continue to engage in public campaigns to reduce demand, while ensuring tariff settings that encourage large reductions among non-vulnerable consumers. Moreover, fostering new regulatory frameworks aimed to ensure dynamic contracts and the utilisation of smart appliances would contribute to the overall demand reduction.

5.3 EXTEND AND DEEPEN THE INTEGRATION OF THE SINGLE ENERGY MARKET

The market for single energy has proven resilient, but further integration is essential to meet the security of supply and climate change goals at the lowest possible cost. To this end, steps should be taken to guarantee a wider range of energy cooperation between the EU and its neighbours, as well as to remove any remaining trade barriers in the energy sector with friendly, physically interconnected near neighbours.

Even more so, considering the EU's ambition to integrate additional members – with Ukraine, Moldova, and Georgia figuring among the current prospective countries, followed by Western Balkan countries - further consideration needs to be given to their energy and climate market integration. This complex process will have implications for the EU's 2040 and 2050 targets.[20]

The set of challenges for new accession members to address are numerous - ranging from technological differences or regulatory and governance aspects - given the very different starting points of these countries' energy systems.

The extension of integration and coordination of capacity markets, balancing markets, and other ancillary energy markets should be promoted. The crisis revealed the benefit of wide area market integration and single platforms for price determination.

5.4 FAST-TRACK THE ROLLOUT OF LOW-CARBON INVESTMENTS

To keep the high pace needed for its ambitious targets, the EU needs to invest in clean energy technologies, such as nuclear and renewables, at household and at utility scale.

> *"When allowing new low-carbon generation capacity under emergency measures, ensuring coordination with grid development and consumption scenarios is paramount."*

This should encompass the largely untapped offshore wind potential. To further integrate the latter, proper support policies are needed for battery facilities and other large-scale flexibility options. A prerequisite to all these developments is the timely delivery of the physical backbone – distribution and transmission grids. Currently, grid constraints pose significant challenges to the EU's renewable generation rollout and reveal the need for innovative solutions in cross-border procurement and infrastructure investment.

[20] *Source linked here*

Given the complexity of European permitting processes for both low-carbon generation and its related network capacity, a revision of these bureaucratic steps ought to be prioritised. To this end, when allowing new low-carbon generation capacity under emergency measures, ensuring coordination with grid development and consumption scenarios is paramount.

A priority for the Commission is to promote international interconnection, especially where this has EU-wide benefits. Higher regulatory certainty is required for well-integrated planning, financing, and deployment of cross-country connections and hybrid projects.

5.5 NO DRAMATIC MARKET CHANGES: STICK TO A MARKET DESIGN THAT WORKS

Starting from the lessons learned over the past years – both at the EU level, as well as considering some of the policies adopted at the national level – separate energy prices for power, heating, and transport should not be implemented at the wholesale level, as that would become more challenging at the retail level.

“Efforts to integrate energy markets further are imperative to enhance efficiency and mitigate regional disparities. This involves expanding interconnections, harmonising pricing mechanisms, and coordinating capacity and ancillary services markets across borders.”

The EU did benefit from wide area market integration in the 2022 energy crisis, despite some significant efforts to interfere with marginal pricing. While nodal pricing of electricity would likely have not survived the crisis due to the even more extreme price volatility it would have given rise to, better locational signals are required. It is necessary to provide long-term incentives to invest in the right places, with large benefits from an increase in the number of wholesale electricity pricing zones within large countries. Standardisation on the basis of which pricing zones are determined across the EU would be beneficial.

Efforts to integrate energy markets further are imperative to enhance efficiency and mitigate regional disparities. This involves expanding interconnections, harmonising pricing mechanisms, and coordinating capacity and ancillary services markets across borders. Addressing existing inequalities requires a concerted effort towards standardisation and improved pricing practices.

The energy market requires stability and predictable policies, to ensure long-term visibility to customers and investors alike. In that sense, long-term power purchase agreements (PPAs) – between new low-carbon generation projects and corporate, retailer, or government actors, typically in the form of fixed-price two-way contracts for differences (CfDs), awarded via an auction process, can serve as effective financial tools to offer price stability to consumers and reduce the cost of capital for investors.

The EU has recommended the use of PPAs as part of its electricity market design package. While it can make observations on which types of PPAs have worked well, it should not impose a standard contract to cover a fixed proportion of all national output, as this would violate the subsidiarity principle and increase systemic risk. The Commission can provide guidance on best practices and favoured approaches, but Member States should decide on whether and the extent to which they want to enter into government-backed financial PPAs.

Additionally, where government PPAs are used, they should be designed in a way that electricity consumers save costs when strike prices are below market prices.

Finally, well-designed government PPAs can also be advantageous to older support schemes.

5.6 BETTER LINK THE WHOLESALE AND RETAIL MARKETS

A key objective for the next years ought to be for wholesale prices to be reflected in marginal retail prices, which will also improve customer's perception and public awareness of the energy transition process. This was a major lesson from energy price interventions during the crisis.

Prices should incentivise the reduction of energy consumption, while also protecting vulnerable consumers. To ensure this, longer-term consumer contracting should be encouraged, while end-users must be responsible for their choice of contract, within affordability limits, and considering their vulnerability status.

Further development of policies to promote competition in retail energy markets would also support a proper integration between wholesale and retail dynamics. This could include measures to streamline market entry for new suppliers, enhance transparency in pricing, and empower consumers to make informed decisions about their energy providers.

At the same time, financial regulation of suppliers should be reinforced, via stress-testing and minimum forward-hedging requirements. Mitigation measures need to be developed, allowing the Commission to intervene where, for instance, government interventions in the retail market are increasing regional or European wholesale market demand or have adverse cross-border effects.

» AMBITION 6

Building resilient and sufficient energy infrastructure

The past few years – with their overlapping Covid-19 and energy price crises – have demonstrated the resilience limitations of the EU's energy systems and critical infrastructure. While consistent efforts have been made to reinforce it, additional steps must be taken. Despite commendable progress in deploying renewable energy sources, the infrastructure supporting their transmission and distribution is reaching its capacity limits, with the International Energy Agency (IEA) estimating that at least 3000 GW of renewable projects are stuck in grid connection queues in IEA countries.[21] While much of the queue is speculative, a significant part of it needs to be connected to meet energy and climate targets.[22] A 2023 BNEF estimation shows that Europe and the US alone have over 1500 GW waiting to be connected to the grid.[23]

This inefficiency not only hampers the scaling up of renewable energy but also jeopardises the achievement of net zero targets.

Therefore, reaching a high resilience level of the European energy system calls for significant upgrades and expansion of the energy infrastructure, that would allow an increased integration of the intermittent generation, while also ensuring flexibility of generation, transmission, and distribution.

Moreover, achieving net zero necessitates an increased pace of electrification and requires additional grids, as bottlenecks are already causing disruptions in several regions.

[21] *Electricity Grids and Secure Energy Transitions PDF*

[22] *Source linked here*

[23] *Source linked here*

6.1 RESILIENCE NEEDS TO BE DEFINED IN REGULATION

There is no consensus today on the need for EU intervention in resilience-building. However, a targeted regulatory approach at the EU level, focusing on resilience principles and measures, would be highly beneficial.

> *"EU energy legislation often focuses on specific aspects of energy supply, such as adequacy, security of supply, reliability, frequency and pressure stability, and operational security. A more comprehensive and integrated approach with a clear definition of resilience and the inclusion of resilience as an overall objective is needed."*

EU energy legislation often focuses on specific aspects of energy supply, such as adequacy, security of supply, reliability, frequency and pressure stability, and operational security. A more comprehensive and integrated approach with a clear definition of resilience and the inclusion of resilience as an overall objective is needed.

CERRE's study Building Resilience in Europe's Energy System advocates for a specific regulatory strategy at the EU level that emphasises principles and actions aimed at enhancing resilience.

Building resilience is a continuous process, and operators, as regulated entities, need to receive the right signals to invest in its realisation. Resilience is a steering objective that is currently only partially reflected in the operator regulatory model. In this context, one key instrument in risk avoidance has been the definition of clear and adequate incentives for operators to invest in grid upgrades and reliability measures.

Dynamic transmission systems, resilient infrastructure, and robust investment signals are essential pillars in the energy transition towards 2050. There may be opportunities for collaboration and coordination in building infrastructure across Europe, in order to harmonise efforts and maximise efficiencies across borders.

However, bridging the gap between policy objectives and implementation requires concerted action, with a focus on ensuring coherence, transparency, and alignment with broader sustainability goals.

6.2 INCREASE INVESTMENT IN ENERGY GRIDS AND EXPAND CROSS-BORDER INTERCONNECTIONS

As highlighted in CERRE's recent work, Towards a more dynamic regulation for energy networks, achieving net zero targets involves substantial upgrades and transformations in infrastructure, necessitating significant financial commitments.

Although there has been an increase in funding for renewable energy capacities, investments in grid development and expansion have not kept pace. Furthermore, these expansion efforts should be coordinated with the development of generation capacities and the process of electrification. Despite a consistent rise in network investments within OECD nations, the rate of investment needs to quicken. The IEA estimated in 2023 that annual investments in the grid must nearly double by 2030 to $600 billion p.a., to align with national climate objectives.[24]

[24] Electricity Grids and Secure Energy Transitions PDF

"Realising the full potential of interconnections requires overcoming regulatory, technical, and financial barriers. Collaborative frameworks and innovative financing mechanisms and instruments can incentivise investment in cross-border infrastructure, thereby fostering energy cooperation and regional integration."

At the same time, the energy system has become more decentralised, with a higher share of intermittent renewable energy sources, which puts an additional burden on grid operators. In this context, flexibility is crucial for energy system resilience, and it must be promoted and considered in resilience planning, particularly at the grid level. Hence, operators should be encouraged to map potential flexibility options that would increase grid adequacy and resilience.

Strengthening interconnections between countries is vital to bolstering the resilience and efficiency of electricity infrastructure. Cross-border expansion not only facilitates the integration of renewable energy sources but also enhances grid stability and security of supply. However, realising the full potential of interconnections requires overcoming regulatory, technical, and financial barriers. Collaborative frameworks and innovative financing mechanisms and instruments can incentivise investment in cross-border infrastructure, thereby fostering energy cooperation and regional integration.[25]

6.3 COORDINATE CLEAN INVESTMENTS ACROSS GAS, ELECTRICITY, AND HYDROGEN NETWORKS AND ENSURE EQUITABLE COST ALLOCATION

Enhancing synergies between gas and electricity infrastructure at the operational level is crucial, necessitating innovative approaches to infrastructure planning, investment, and regulation.

The challenges posed by financing mechanisms and equitable cost allocation underscore the need for innovative solutions. Balancing customer-funded infrastructure with taxpayer-funded alternatives requires rethinking regulatory frameworks and incentivising investments that align with broader societal objectives. Moreover, exploring alternative financing models and fostering public-private partnerships can unlock new avenues for infrastructure development while ensuring affordability and sustainability.

Additionally, a consideration of the energy transition's equity implications is paramount to ensure a just and inclusive energy transition for all stakeholders.

Addressing both fixed cost allocation and recovery is essential for fostering a fair and efficient energy transition. A joint allocation of fixed costs for network infrastructure across energy vectors acknowledges the collective benefits it provides while mitigating the burden on individual consumers. This will likely involve putting some of the costs of new hydrogen or declining gas infrastructure on electricity consumers or general taxpayers. This approach not only promotes equity but also enhances the resilience and reliability of energy systems.

Furthermore, integrating energy communities and revisiting energy taxation frameworks can promote grassroots engagement and facilitate the transition to a more decentralised, fair, and participatory energy landscape.

[25] *CERRE Publication on Electricity Market Design*

6.4 DEPLOY SMART INFRASTRUCTURE AT A FAST PACE, FACILITATING A HIGHER CONSUMER ENGAGEMENT

Embracing smarter infrastructure holds the key to unlocking a more agile and responsive energy system. Beyond enabling better retail business models, smart infrastructure offers opportunities for personalised customer support and feedback mechanisms.

Experimentation with innovative billing and payment models can yield insights into consumer preferences and behaviours, enabling tailored interventions that address diverse needs.

Moreover, empowering consumers with greater control over their energy usage fosters a culture of energy conservation and sustainability, laying the groundwork for a more resilient and equitable energy future.

Smart technologies and platforms are also empowering consumers with information and tools to manage their energy usage effectively. Moreover, they also provide targeted support for vulnerable consumers, including assistance programs and energy efficiency measures, based on consumption patterns and affordability metrics.

» AMBITION 7

Creating appropriate institutional and governance frameworks to reach net zero

The quest for net zero is an ambitious policy endeavour that requires a transformative approach to the sector's governance. As we progress to net zero regulation, its impacts will come under more, not less, scrutiny. At the moment, the international regulatory landscape is a patchwork, with some jurisdictions charging ahead with innovative low-carbon technologies and others struggling to break free from the inertia of fossil fuel dependence.

The current institutional frameworks are also being tested as the transition progresses. Issues that regulators are struggling with are the integration of renewable energy into existing grids, the volatility of energy markets, and the social and economic implications of transitioning away from carbon-intensive industries.

The future may give rise to a changing regulatory landscape, where current imbalances may become exacerbated by the uneven pace of technological adoption or regulatory disparities. The risk of stranded assets, the need for massive infrastructural investments, and the urgency of addressing energy poverty and equity issues are also important issues to be considered.

Current governance structures are often mired in traditional regulatory approaches, such as ex post regulation, which may not be agile enough to deal with the rapid changes in energy technologies and markets. Moreover, the coordination of network planning is also challenged by regional disparities, requiring a more localised approach to manage the transition effectively.

In this context, the existing asset ownership and operational models do not always incentivise the necessary investment in new technologies and infrastructure upgrades.

The future presents the dual challenge of maintaining momentum towards net zero while ensuring the reliability and affordability of energy. This will involve integrating intermittent renewable energy sources, retrofitting infrastructure, fostering innovation, and addressing the socio-economic impacts of decarbonisation.

Policymakers are tasked with the complex job of overhauling existing arrangements to meet the net zero challenge head-on. This requires a multi-layered strategy focusing on structural, regulatory, and market reforms.

7.1 AUDIT AND INCENTIVISE NATIONAL ENERGY AND CLIMATE PLANS

The 2021-2023 energy crisis has emphasised the shared energy security of Europe and the need for much closer attention to be paid to both the fulfilment of National Energy and Climate Plans (NECPs) and the extent to which they contribute to European energy and climate goals.

> *"EU bodies need to further encourage best practices learning between Member States and stakeholders, which include prospective EU members and main partners outside of the European Union bloc."*

Germany's failure to hedge its Russian gas supply risk with sufficient Liquefied Natural Gas (LNG) import capacity led it to free ride on the LNG capacity of other European countries. What needs to happen in future is that the sum of NECPs is stress tested against shocks that might have pan-European effects.

To monitor the timely implementation of the NECPs, EU institutions ought to be given new responsibilities and powers. Auditing the pace of NECP execution, on the one hand, and developing the right incentives for keeping the fast transformation envisaged in these official national roadmaps, on the other hand, are equally important especially given that only one political cycle separates us from the 2030 targets. Consideration might be given to whether failure to implement an agreed plan would come with some sort of agreed sanction.

Moreover, a granular monitoring process of individual and collective NECP objectives would reveal best practices across Member States, as well as identify geography-specific challenges, before becoming systemic, pan-European ones.

To this end, EU bodies need to further encourage best practices learning between Member States and stakeholders, which include prospective EU members and main partners outside of the European Union bloc.

7.2 ESTABLISH THE EUROPEAN ENERGY TRANSITION OBSERVATORY

It is important that European citizens have confidence that the costs of European energy and climate policy are being adequately monitored.

We propose a new observatory to independently monitor the overall costs of the energy and climate transition and the distribution of the impact of those costs.[26]

A policy instrument to ensure these complex processes – which would systematically monitor the aggregate and distributional impacts of the overall energy transition process – is a European Energy Transition Observatory. This would help identify disparities and ensure that support measures are targeted effectively and without delays to mitigate adverse effects on vulnerable groups and ensure that policy outcomes are achieving their intended objectives.

[26] *This is different from but related to Energy Poverty Advisory Hub*

7.3 ENERGY REGULATION NEEDS TO BECOME MORE DYNAMIC

One of the latest CERRE studies, Towards a more dynamic regulation for energy networks, indicates that regulation of energy operators needs to become – at the same time – more dynamic, responsive, and adaptive.

Dynamic regulation efficiently incorporates information gathered through repeated interactions, while also focusing on incentives, investment, and innovation to meet the future needs of the system, rather than optimising the existing system. Responsive regulation, on the other hand, is the attempt to find common ground between the conventional reward/punishment approach and self-regulation. Finally, adaptive regulation aims to balance the regulation that stays fixed for long periods of time with regulation that constantly changes, by establishing longer-term plans, indicators, and trigger points.

In order to achieve improvements in all these three dimensions there is a need for a "learning" regulator, who builds on lessons from the past and responds to the present struggles of stakeholders, while also anticipating key future trends and moments when specific strategic decisions have to be made.

7.4 SOCIAL AND TECHNOLOGICAL EQUITIES

Ensuring equitable access to green technologies is paramount in the energy transition process.

> *"Policymakers must implement strategies that prevent a technological divide at the right pace, particularly between more developed and developing energy sectors, and within societies where disparities may hinder the adoption of renewable energy solutions."*

Policymakers must implement strategies that prevent a technological divide at the right pace, particularly between more developed and developing energy sectors, and within societies where disparities may hinder the adoption of renewable energy solutions.

As the pace of net zero investment increases, the shift to a net zero economy must be inclusive and must take into consideration specific vulnerabilities – of both households and industries.

Also, in light of potential EU enlargement, policymakers need to make sure that the starting points of prospective members are factored in while developing large-scale decarbonisation plans which include clean technology.

7.5 OPENNESS TO ADJUSTING TARGETS

The outgoing mandate of the European Commission has faced unprecedented crises that have challenged the business-as-usual operations of Member States' energy systems.

At the beginning of this political cycle, in September 2019, the European Commission already had a dense list of priorities to address to bring the European Union closer to its neutrality goals. However, the Covid-19 pandemic and the Russia-Ukraine war derailed the initial plans.

While these elements challenged the European energy security condition and posed significant challenges to customer affordability and industrial competitiveness, they also provided the right context for decision-makers to make bold decisions to accelerate the energy transition agenda and increase the pace of transformation.

This led to new, highly ambitious targets for 2030, including renewable generation deployment, electrification, critical raw materials, clean manufacturing, and hydrogen production. However, some of the EU's 2030 energy targets now look increasingly unrealistic, as the EU faces major challenges to be addressed in such a short period.

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AMBITIONS FOR EU 2024-2029

MOBILITY

» AMBITION 8

Supporting an effective, efficient, and fair public transport in Europe

Since its conception, the European Union has prioritised its transport and mobility agenda, with the aim of making the transport system an effective backbone of the continent, both in support of the economy and in pursuit of strengthening a collective European identity.

Much has been done in the last decades, from fostering decarbonisation and the internalisation of externalities to the advancement of trans-European transport networks.

In pursuing a unified EU approach to mobility and transport, the aspiration to create a single transport market to benefit travellers and citizens has seen high levels of success.

Market deregulation and liberalisation, however, should not just be goals themselves, but rather a means to establish a better public transport system in Europe. In that regard, the public transport system must improve in at least three ways: become more effective in supporting the European economy and cities, more efficient in providing increased availability of services at lower public expenditure, and fairer – both in terms of accessibility for parts of the European population with limited mobility, and geographically, expanding the network to increase the availability of adequate transport to all territories within Europe.

In the future, European institutions are well advised to review their regulatory efforts and to ensure they become even more incisive in the reality on the ground. Regulators and planners must strengthen their interactions, and collaboration at all levels. Historically, decisions to increase investment in transport have been centralised, occurring with a significant delay in response to calls from the market. This pattern must be avoided, its cause reconsidered, and investments in regulated and deregulated markets must inform each other.

8.1 MAKE RAIL INTEROPERABILITY ACTUAL AND WIDESPREAD THROUGH HOMOGENISATION AND SIMPLIFICATION OF TECHNICAL REGULATIONS

Interoperability is not just a matter of facilitating international connections: it is the technical side of transforming European separate rail markets into one unique market, as successfully happened in the air and coach sector where any vehicle, any crew and any company can move across Europe.

Regulation alone, in fact, is not sufficient for the rise of competition if access to markets is too costly because of technical regulations. And rail is full of fragmented technical regulations, influencing not only the operation but also the manufacturing of rolling stock and signalling systems[27]. The result is a patchwork of national markets where the incumbent rules and is occasionally challenged by relatively small non-incumbent operators. Newcomers that, in turn, remain bound to the domestic market of origin because they can't afford the costs of entering a second market.

Interoperability makes actual many of the needed necessary conditions of a lively and open market: fewer barriers to entry and exit for rail companies in non-domestic markets, the existence of a substantial secondary market for rolling stock, more standardisation in rolling stock and operations, more safety, a common target-product for rail manufacturers.

The way to pursue growing interoperability does not arise only from the infrastructure – rather the opposite – but from a simplification and standardisation effort of company-specific regulations, both in operation and rolling stock characteristics. Non-standard operations (from language of operation to through-ticketing) force railway undertakings to duplicate the procedures and ultimately increase costs and reduce competition. Similarly, the lack of rolling stock standards raises costs and nullifies second-hand markets which would be extremely useful for a ladder of investment approach.

Finally, the presence of overcomplex and nationally fragmented regulations makes infrastructure excessively expensive and reduces the competition for the construction and maintenance of tracks. More expensive infrastructure ultimately means that fewer new/upgraded tracks are built for the same investment effort. On the contrary, a "lean" infrastructure design and regulation makes rail more competitive, which is the way to promote "modal shift policies".

8.2 STIMULATE COUNTRIES AND REGIONS TO EFFECTIVELY LIBERALISE LOCAL PUBLIC TRANSPORT

The experience of Sustainable Urban Mobility Plans (SUMPs) has shown how a sound guideline document can effectively shape the behaviour of local administrations and consultants, in the direction of better planning.

When talking about liberalisation and regulation of local transport markets, Europe cannot do much more than what has already been done at the Union's normative level, while respecting the subsidiarity principles. The missing step is, in many

[27] *See the CERRE report The promises of European Rail in the face of Climate and Financial Challenges.*

cases, a matter of governance and politics: slowness in tenders and their rigidity is due to the power of incumbents or the permanence of historical planning approaches.

The ambition in this field is to help States and Regions define a more appropriate governance for public transport intrinsically capable of promoting competition and innovation[28]. This may pass from overcoming the city-centred structures in favour of the metropolitan/regional scale ensuring more contestability and more demand-focussed planning. Sound and reputable guidelines are needed in this field to help transport agencies correctly design tenders, size the dimensions of the lots, manage the barriers of fare systems and promote intermodal tenders. Creating, like for SUMPs, networks of local regulators to exchange good practices is also useful.

A particular focus should be given to addressing the conflict between contestable tenders and the presence, widespread in some countries, of regular timetables. The use of "takt" (fixed interval scheduling), which is surely beneficial to the customers, should not become a barrier to the entry of competitors.

8.3 FROM TRANS-EUROPEAN NETWORKS TO TRANS-EUROPEAN SERVICES

The political attention and citizens' expectations on Trans-European Networks have been huge since they were launched.

The imaginary is that of a continent-wide metro network, directly connecting (main) cities and fostering trade and economic growth. This vision has, however, shown some flaws. Firstly, the design of the "network" has become a purely definitory and political exercise, with not much focus on real demand or transport conditions. Secondly, the concept of a "seamless transport systems across borders, without physical gaps, bottlenecks or missing links" has too often been interpreted as the construction of physical infrastructures more than on normative and operational interoperability (see Ambition 8.1) as it was at the beginning in the Nineties[29]. Thirdly, and connected to the previous ones, big and cross-border infrastructures are extremely expensive, politically complex (e.g. Turin-Lyon) and often marginal for current demand (e.g. Figueras-Perpignan). The consequence is that from the political decision to the first train on the tracks, decades are passing.

How to mitigate this downward spiral, giving timely and demand-stimulating responses? By adding an intermediate "layer" from today's situation to the ideal one of a completed TEN-T: a network of Trans-European Services, anticipating the "physical" TEN-T but also stimulating its demand. More precisely, it means to create, through tenders and subsidies, the missing intercity cross-border connections, using as best as possible the existing infrastructure. Many market initiatives, especially in the segment of night trains, have foreseen such a European network, but they struggle with financing, unfair competition from state-backed incumbents, low-performing networks, high unit costs, a fragmented normative situation and low demand. The short- and mid-term ambition for Europe should be to foresee a doable network of European frequent intercity connections, where territorial conditions exist (cities at 100-300 km distances, good networks, lack of air connections). These services should be helped by practically simplifying the network

[28] *See the CERRE Reports Mobility as a Service (MaaS) : Une feuille de route digitale pour les autorités organisatrices and Mobility as a Service (MaaS): A digital roadmap for public transport authorities*

[29] *Turró, M. (1997). Going trans-European. Planning and financing transport networks for Europe. Elsevier*

access and – where needed – providing start-up subsidies in coordination with Member States, of course in a fair and competitive way. A positive side-product of such a policy would be to simulate the movement of EU rail companies, either newcomers or incumbents, across the entire continental network.

8.4 THE RIGHT TRANSPORT SERVICES FOR EACH TERRITORY

Mobility needs are not equal for all territories. High-speed networks, very important for metropolitan areas, should not leave behind the second-tier cities or the sparse territories.

At the same time, high-speed lines with multiple intermediate stations are not a model viable for every part of Europe, because they reduce the performance of such already extremely expensive infrastructures[30].

A more complex but suited approach could be followed, made of a mix of:

- **Good (frequent and fast) intercity services**, including mixed high-speed (HS) services where a network is available, for second-tier cities. This model requires a clever capacity increase and selective infrastructure investments but avoids investments unlinked with real demand conditions.
- **Promotion of intermodality with coaches**, especially for remote areas. Support and stimulate coach stations and interchanges. Support intermodal and intercompany ticketing, both by incumbents and ticketing platforms.
- **Promotion of air-rail intermodality**, not only by building stations in airports but especially by guaranteeing long-distance services at those stations. Rail can be a substitute for air for short-haul flights (including connections) only if well integrated. But, at the same time, rail can extend the catchment area of airports without multiplying runways and without the need for unviable micro-airports. Dually, air transport integrated with rail can guarantee frequent and reliable connections from remote areas (e.g. islands) to most of the European continent and not just to main cities.

Europe should help Member States through the definition of common and shared accessibility and connectivity principles, not focusing only on TEN-T networks, but acknowledging the complexity of different European urban structures. In addition, direct support could be provided for intermodality coach-rail and air-rail in the three fields of coordination and ticketing, support to services and support to infrastructure.

[30] https://www.eca.europa.eu/en/publications/SR18_19

» AMBITION 9

Establish a leading-edge, smart, and sustainable European Mobility Data Space

The European Mobility Data Space (EMDS) is a concept proposed by the European Commission as part of its broader Digital Single Market strategy and Sustainable and Smart Mobility Strategy.

The EMDS aims to establish a unified framework for sharing and accessing a wide range of mobility-related data across the European Union.

This EMDS shall include, but is not limited to, traffic management and public transportation schedules, including usage, freight, and logistics information, as well as data from new mobility services like car-sharing and ride-hailing. While ensuring privacy, data from the private sector shall also be integrated into the EMDS to reduce emissions, stimulate economic growth, and establish safer, greener, and more accessible transportation solutions, benefiting both urban and rural areas across Europe.

The Commission should establish transparent and secure policies that reassure and motivate private entities to share critical mobility data generously and responsibly in its coming mandate. Additionally, high-capacity and secure digital platforms should be developed and implemented to facilitate an efficient, reliable exchange of mobility data across the EU. Uniform data formats and protocols should be formulated and enforced to ensure consistent data quality and comparability across different systems and regions. Finally, the EU should leverage a better availability and usability of mobility data to spur innovation in environmentally friendly transportation technologies and systems.

9.1 CREATE A ROBUST GOVERNANCE FRAMEWORK, INCENTIVISING THE PRIVATE SECTOR TO CONTRIBUTE ACTIVELY TO THE DEVELOPMENT OF THE EUROPEAN MOBILITY DATA SPACE

Establishing a robust governance framework for the EMDS is crucial for encouraging active contributions from the private sector.

This framework should lay out definitive legal and regulatory guidelines that define the responsibilities and rights of all parties involved in data sharing and usage while promoting innovation and efficiency. Such a framework should ensure that private sector data contributions are not only safe and secure but also recognized and rewarded.

This involves creating legal and operational structures that guarantee data privacy and security, thus alleviating concerns over data misuse. Moreover, the framework should provide clarity on the ownership of data and intellectual property rights, which is often a significant concern for private companies wary of losing competitive advantages. Incentives for the private sector could include tax breaks, subsidies, or preferential treatment in public contracts for contributors to the data space.

In addition, to maintain continuous engagement from the private sector, the governance framework must include mechanisms for ongoing dialogue between public authorities and private entities. This could be facilitated through regular consultations or partnership boards that help in adapting the governance strategies to technological advancements and changing market conditions.

Policymakers should mandate regular reporting and auditing of data practices to ensure compliance with agreed standards and to foster a culture of accountability. Implementing such measures will reassure the private sector that the data shared will be used ethically and responsibly, encouraging them to actively engage in and contribute to the EMDS.

9.2 ESTABLISH A ROBUST DATA-SHARING INFRASTRUCTURE FOR THE EUROPEAN MOBILITY DATA SPACE

For the EMDS to function effectively, a robust data-sharing infrastructure must be established.

This infrastructure should be capable of handling large volumes of data efficiently, ensuring timely and reliable data exchange across borders and sectors. It needs to incorporate advanced technological solutions like cloud computing, big data analytics, and perhaps blockchain for secure and transparent data transactions.

The infrastructure must also be scalable to adapt to increasing amounts of data and evolving technologies. This includes having the flexibility to integrate emerging data types and sources, such as those coming from IoT devices used in smart city applications or personal mobility devices. Robustness also implies strong cybersecurity measures to protect against data breaches and ensure that data integrity is maintained during transmission and storage.

9.3 CREATE A STANDARDISATION OF DATA IN THE MOBILITY SECTOR TO ENHANCE COMPARABILITY

Standardization of mobility data is essential for enhancing comparability and interoperability between different data systems across the EU.

By creating common data standards, the EMDS can ensure that data collected from various sources—whether public transport operators, private mobility services, or infrastructure sensors—is compatible and can be easily shared and analysed.

This ambition involves developing technical standards that dictate how data should be formatted, stored, and processed. These standards should cover data semantics, data quality, data timeliness as well as data accessibility.

The development of APIs and other data-sharing tools that adhere to these standards will be crucial for fostering an ecosystem where data can be easily and securely accessed and used.

Creating a standardized data environment also requires collaboration with international standards organizations to ensure that European standards align with global best practices, thereby facilitating international cooperation and global market access for European mobility solutions.

9.4 ENHANCE ACCESS TO DATA FOR SUSTAINABLE MOBILITY SOLUTIONS

Enhancing access to mobility data is key to developing sustainable mobility solutions that can significantly impact urban planning, traffic management, and environmental conservation.

By making diverse sets of mobility data available and accessible, stakeholders can leverage this information to design more effective transport systems that reduce congestion, lower emissions, and improve urban mobility.

To achieve this, European policymakers should focus on developing a regulatory framework that supports easy access to data by various users, including researchers, developers, and government agencies. This involves not only the technical aspects of data accessibility but also the legal and regulatory frameworks that govern data sharing and usage.

Moreover, fostering a culture of open data within the mobility sector can significantly enhance access. Open data initiatives stimulate collaboration across sectors, bringing together government bodies, private companies, and academic institutions to solve complex transportation challenges collaboratively.

Furthermore, European policymakers accompany this enhanced data access with measures to increase data literacy and analytical capabilities among stakeholders, including SMEs and NGOs. Training programs and collaborative projects can help stakeholders understand how to use and benefit from the data available, thereby accelerating the adoption of sustainable mobility solutions.

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LOOKING BACKWARDS: 2019-2024

LOOKING BACKWARDS: 2019-2024

CERRE's previous ambitions for Europe 2019-2024 were published in line with a larger goal of promoting "smarter regulation to bring Europe closer to its citizens". At that time, we outlined four overarching goals to guide the then-incoming European Parliament and Commission.

- Smart rules and institutions – our cross-sectoral ambition
- An innovative digital Europe
- A fair, efficient, and sustainable energy system
- A decarbonised, dependable mobility system for all

Since then, CERRE has been actively working towards advancing this goal. What follows is an evaluation of the progress made on our recommendations from 2019.

SMART RULES AND INSTITUTIONS

In 2019, CERRE recommended that rules and institutions should better adapt to an increasingly dynamic, unpredictable, and global world, to remain effective in delivering on core objectives, such as innovation, sustainability, and fairness.

In addition, it was recommended that the opportunities of emerging technologies such as big data and AI should be seized. As a result, CERRE proposed the following ambitions to adapt EU rules and institutions to the economy and society of the 21st century.

AMBITION 1: SMART RULES AND INSTITUTIONS

Develop flexible and principle-based regulation to adapt to changing technologies and markets.	**Medium Progress**
Make use of self or co-regulation reflecting the views and the interests of all stakeholders to deal with the high asymmetry of information between the regulated firms and the regulators, and to deal with the novelty of some regulatory issues.	**Low Progress**
Be more experimental when enforcing and designing rules, to gather evidence on what works best to achieve the desired outcomes, rather than immediately creating definitive remedies. For example, regulatory sandboxes allow for new business models to be tested in a 'safe environment'.	**Low Progress**
Make better use of data-driven regulation through greater data collection and big data analysis to improve the performance of regulators and enable users to make the market work better through well-informed choices.	**Low Progress**
Employ artificial intelligence techniques to improve regulators' operations such as compliance control or regulatory violation detection; and consider compliance by design where law and regulation are built into computer code.	**Low Progress**
Develop unique rules at the European level either through EU harmonisation or the mutual recognition of national rules, to make the internal market more credible and make regulation more effective when facing firms with global operations.	**Low Progress**
Analyse whether an EU regulator may be appropriate where services are inherently borderless, and firms are offering services in numerous EU Member States.	**Low Progress**

AN INNOVATIVE DIGITAL EUROPE

We recommended that policymakers address a variety of critical issues to enable Europe to deliver both innovation and fairness and to support this digital revolution while empowering citizens. Since then, the EU has seen a strong influx of digital regulation which now governs a wide range of aspects related to digital ecosystems.

In terms of fairness, the EU has adopted a revolutionary legislative framework, drawing from past experiences in antitrust. The DMA has arisen out of challenges that policymakers have observed in digital ecosystems, where market dominance has allowed certain players to engage in anti-competitive behaviour. In line with this experience, the DMA was established to promote competitiveness and contestability in digital markets, intending to facilitate access to EU markets for a wider range of players. However, in terms of promoting innovation and stimulating the economy, the EU remains behind, and since 2019 progress has been low.

AMBITION 2: STIMULATE DIGITAL PLATFORMS' START-UP AND SCALE-UP

Stimulate the development of digital start-ups in Europe by ensuring an 'innovation level-playing field' and equal access to key digital innovation capabilities such as data, computing power, digital skills and risky capital.	**Medium Progress**
Stimulate the scale-up of digital platforms in Europe with one set of rules as well as one enforcement for the whole single market, possibly with the establishment of a single EU regulator for digital platforms.	**Low Progress**
Empower digital users and ensure that they are well-informed about the characteristics, as well as the monetary and non-monetary prices, of digital services. Ensure that they can switch between digital services through the development of service interoperability.	**Low Progress**
Ensure a safe Internet for all by giving digital platforms appropriate incentives to detect and remove illegal and harmful content, while respecting fundamental rights.	**Medium Progress**

It is clear that the role of data and AI has become much more prominent since 2019.

In response, the EU has adopted the AI Act and the DA, aiming to create the legislative framework for future innovation, allowing for a quicker reaction by regulators to novel challenges brought about by innovation. That being said, in terms of AI, various questions, i.e., on generative AI, privacy, and intellectual property, remain unanswered in the new rulebook. Additionally, existing regulation has faced strong critique in the last years - the GPDR and its effectiveness in achieving its intended goals has been questioned more explicitly.

AMBITION 3: ENSURE A DYNAMIC DATA AND AI SOCIETY THAT RESPECTS EU VALUES

Stimulate data portability by encouraging industry-led data mobility schemes and data sharing standards while preserving incentives to collect and store data.	**Medium Progress**
Make data protection law fit for AI by revisiting some of the fundamentals of privacy protection in light of the main characteristics of AI.	**Low Progress**
Support the algorithmic explainability of AI to inspire trust and the adoption of new technologies.	**Medium Progress**

In recent years, the European Commission has been highly active in preventing consumer and societal harm from online services through a series of legislative actions and strategic initiatives. The 2018 revision of the AVMSD required Member States to ensure video-sharing platforms take measures against illegal content and protect minors. The TERREG targeted specific harmful content, while the DSA introduced comprehensive rules for digital services to ensure a safer online environment. Additionally, the Commission created the Code of Conduct on Countering Illegal Hate Speech and the Code of Practice on Disinformation.

AMBITION 4: GRASP OPPORTUNITIES FOR NEW CONTENT CREATION AND DISSEMINATION FOR EUROPE'S CITIZENS

Be more active in protecting freedom of expression in Europe and hold to account those Member States that fail to do so by making full use of early warning mechanisms.	**Low Progress**
Safeguard the production and dissemination of high-quality European content through a coordinated European policy.	**Low Progress**
Take a holistic approach to assess the balance of power between those investing in content production and those aggregating and distributing it and consider the extent to which EU law is contributing to a healthy balance.	**Low Progress**
Discourage the economic or political profitability of harmful and illegal content through transparent and accountable *ex post* measures.	**Good Progress**
Enforce transparency of ownership structures to help safeguard media pluralism.	**Low Progress**

The European telecommunications industry has generally performed well by international standards over the past 20 years, but there are significant variations in performance among Member States and individual firms. As a result, Europe is home to some of the world's best-performing telecommunications markets, as well as some that have lagged behind. The EU has set ambitious connectivity targets for 2030 to ensure a future-ready digital infrastructure. Nonetheless, EU's digital infrastructure is still far from world-leading: The EU has low rates of broadband take-up (13.5%) compared to other OECD countries.

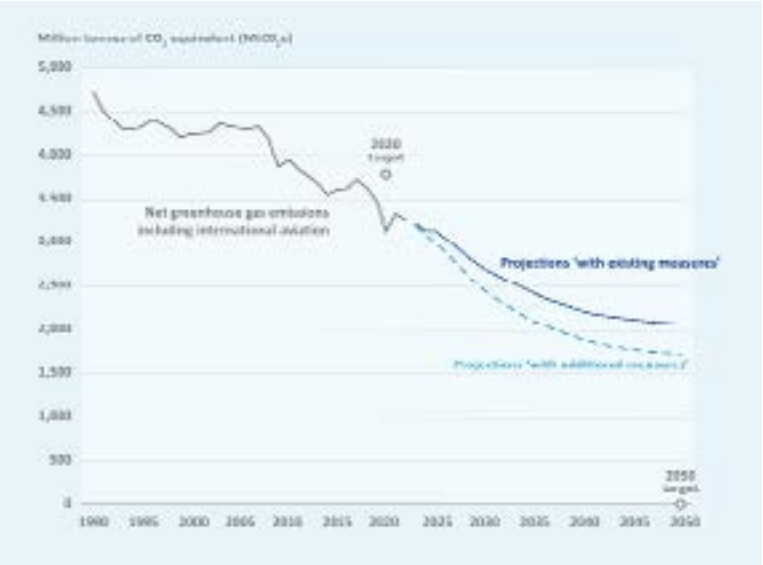
AMBITION 5: INVEST IN VERY HIGH-CAPACITY DIGITAL INFRASTRUCTURE

Unlock private investment through the effective implementation of the new rules. Upgrade public investment and resolve the misalignment between broadband ambitions and public funding commitments by revising the Broadband State Aid Guidelines to meet the 2025 connectivity targets.	**Low Progress**
Provide the conditions for investment and development of 5G infrastructure while maintaining a competitive marketplace, in particular with speedy and efficient spectrum allocation and leverage the virtualisation of networks to maintain vibrant competition at the retail level despite fewer infrastructure players.	**Low Progress**
Ensure the implementation of the net neutrality principle does not prevent the configuration of networks to match user needs and the facilitation of cooperation with non-telecoms actors, such as the automotive and healthcare industries.	**Low Progress**
Increase the role of demand-side policies to deliver a faster adoption rate for digital technologies and promote the use of collective purchasing schemes.	**Low Progress**
Realise the Next Generation Internet by fixing the old and accommodating the new with a more open and dependable Internet while addressing growing cybersecurity issues.	**Low Progress**

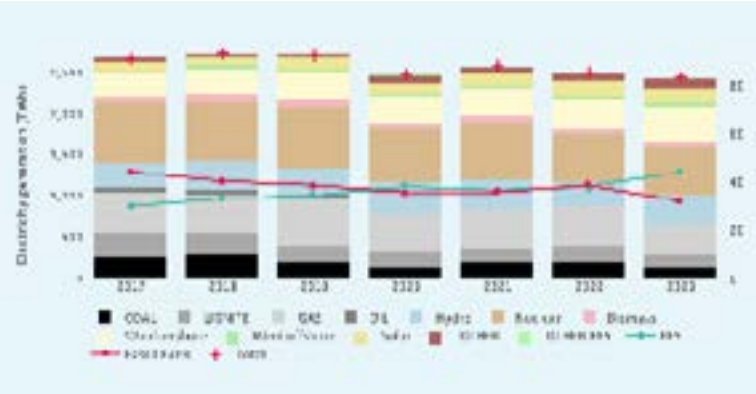
A FAIR, EFFICIENT, AND SUSTAINABLE ENERGY SYSTEM

The high-level energy and climate targets for 2030 are around total greenhouse gas (GHG) emissions, renewable energy and energy efficiency.

The European Union's climate policies have had a significant positive impact on the level of net GHG emissions, with the latest numbers showing a 36% decrease in 2023 compared to 1990[31], compared to a 2030 target of a 55% reduction.



▲ *Progress toward achieving emission targets in the EU* [32]



▲ *Yearly electricity generation mix in the EU* [35]

Nevertheless, the current policy framework is not sufficient to meet the 2030 targets, even with this ongoing trend of reductions.

Over the last five years, significant progress has been made on renewable generation expansions, especially after the 2022 energy crisis. In 2023 alone, 73 GW of renewable capacity was deployed in the EU Member States. While the share of renewable energy in the overall energy mix is still low (23% in 2022,[33] against a target of 42.5% by 2030) the share in electricity production is impressive, reaching 44%, in 2023.[34] Renewables plus nuclear represented 67% of total electricity production in 2023.

Additionally, significant progress has been made in phasing out fossil fuels, also influenced by the 2022 energy price crisis. Mixed progress has been made on the energy efficiency front, as a significant portion of the 2022-2023 energy demand decrease was due to lower industrial activity in some Member States.

In this context, the EU is on track for the previously established level of targets (2018), while the new determined objectives for 2030 (set in 2023) are very ambitious and call for an acceleration which seems unlikely in the current timeframe.

The 2019 CERRE set of recommendations on energy and climate were clustered into three sections – energy and carbon markets, energy infrastructure, and energy governance. In the following we review the progress which we observe with our 2019 recommendations.

While dealing with unforeseen circumstances in the last five years, EU energy markets proved resilient in the

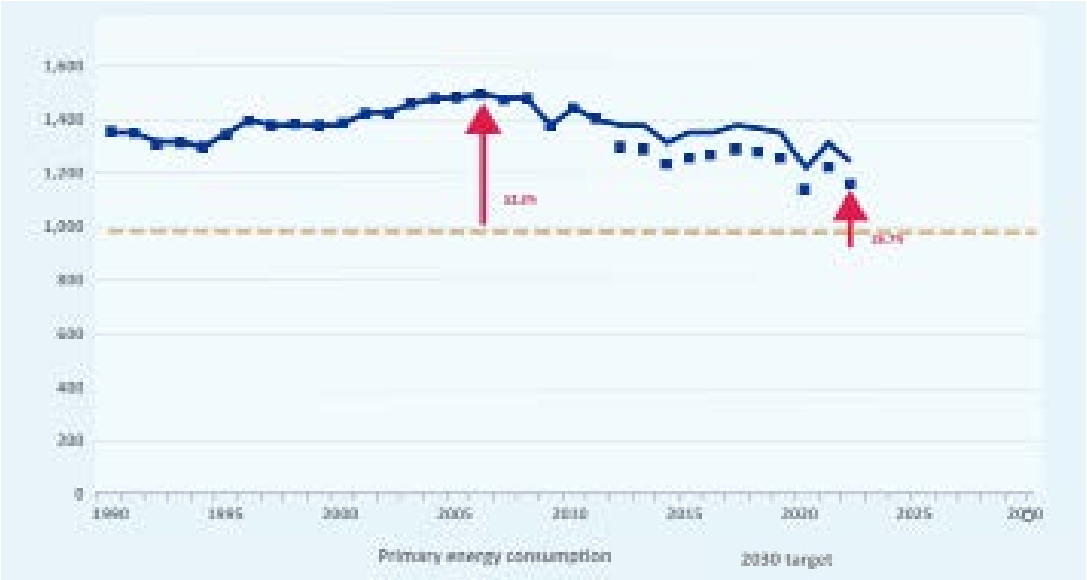
[31] *Emissions fell 5.1% in 2023 relative to 2022 according to quarterly estimates link here*

[32] *Graphic source here*

[33] *Source linked here*

[34] *Source linked here*

[35] *Source linked here*



▲ *Distance to 2030 primary energy consumption target (mtoe)* [36]

face of exogenous shocks. While not being able to significantly address the initial challenges of these markets, the EU has opted for various adaptation measures during the energy crisis. It also resisted the pressure to structurally change energy markets, as some of the stakeholders proposed, although some Members States opted for less inspired actions for both wholesale and retail domestic markets, such as windfall taxes and price caps.

AMBITION 6: ELECTRICITY AND GAS MARKETS

Expand the scope of the ETS to include more sectors and countries	**Good Progress**
Strengthen demand-side policies to improve the flexibility of the electricity system	**Medium Pogress**
Build a coherent and long-term EU regulatory framework for green gases and hydrogen	**Good Progress**
Strengthen the consumer agenda and clarify the role of new actors	**Good Progress**

Low to medium progress has been recorded on the energy infrastructure side, as the need for investment has only increased. The examples of jurisdictions such as the Netherlands – where the ambitions for electrification and generation decentralisation have not been met by the necessary expansion and reinforcement of energy networks – underscore the ongoing urgency to encourage the optimal use of monopoly energy networks, to boost energy network interconnection and enhance cooperation between transmission system operators (TSOs) and distribution system operators (DSOs) across the EU.

[36] *Source linked here*

AMBITION 7: ENERGY INFRASTRUCTURE

Foster optimal use of monopoly energy networks	Medium Pogress
Encourage transmission owners to take greater risks	Low Progress
Implement fixed cost recovery that is fair to existing network users and encourages the efficient use of the network	Low Progress
Stimulate joint charging for electricity and gas networks	Low Progress
Encourage greater energy network interconnection	Medium Pogress
Boost coordination between transmission and distribution system operators	Low Progress

Finally, most of the 2019 CERRE recommendations concerning regulatory and governance aspects remain valid today. Although there have been some advancements in implementing the 2019 Clean Energy Package, progress has been limited in strengthening the capacity of NRAs to support net zero ambitions in monitoring of the energy transition distribution effects, or in improving data governance and transparency.

AMBITION 8: REGULATORY AND INSTITUTIONAL DEVELOPMENTS

Review energy governance structures & responsibilities to secure the implementation of the Clean Energy Package	Medium Progress
Systematically monitor the distributional effects of energy transition policies by creating the European Energy Transition Observatory	Low Progress
Set a framework for energy data governance that promotes energy policy goals through data transparency	Low Progress
Promote sharing of good practice in regulation and innovation by NRAs in energy	Low Progress
Promote innovation by NRAs to stimulate regulatory innovation and align better with citizen preferences	Medium Pogress

A DECARBONISED, DEPENDABLE MOBILITY SYSTEM FOR ALL

The 2019 CERRE set of recommendations on mobility were clustered into three sections – regulation to achieve a decarbonised transport system, long-distance mobility, and urban mobility. In the following, we review progress made on our 2019 recommendations.

AMBITION 9: REGULATION TO ACHIEVE A DECARBONISED TRANSPORT SYSTEM

Achieve a successful modal shift	Medium Progress
Develop mobility policies that adequately, fairly and efficiently internalise external costs	Good Progress
Provide a regulatory framework that allows for technological change	Low Progress

Despite some interesting evolutions, for example in the leisure long-distance markets, or in some regional markets thanks to fare reductions and increased biking within cities, the **modal split** is still dominated by private transport and air transport is not declining. However, the effort in the direction of internalisation has been good. On top of fuel duties, more and more carbon emissions regulation has been put in place or is expected. Road pricing is scarcely applied, but other limitations to urban traffic are more and more prevalent in cities.

AMBITION 10: LONG-DISTANCE MOBILITY

Complete the introduction of competition in all modes of transport, including rail	Good Progress
Support smarter, economically viable investment	Low Progress
Fully internalise the external costs of mobility	Medium Progress

EU deregulation has produced the best results in long-distance mobility – originally in aviation, and later in coach and rail transport. Despite some - even large - markets still being monopolistic, competition is finally becoming a reality in main rail markets. In the field of investments, the post-pandemic EU effort has been huge, however, the positive impact of new investments for the economy has been somewhat sacrificed in the name of a comprehensive European vision.

AMBITION 11: URBAN MOBILITY

Support the introduction of sustained, ambitious efforts to reduce the external costs of road traffic	**Medium Progress**
Embrace the opportunities of new mobility services and shared mobility, without being blind to their challenges	**Medium Progress**
Empower mobility authorities to deliver Mobility 2.0	**Low Progress**

Sustainability efforts are often most practised in the urban context, taking into account where externalities are the highest and alternative mobility is most available. Mobility as a Service (MaaS) and shared mobility has grown, with largely private sector driven initiatives, but they remain niche even in more densely populated areas. The market for urban mobility is still evolving, facing high rates of withdrawal, but benefitting from low barriers to entry and exit.

AMBITION 10: LONG-DISTANCE MOBILITY

Complete the introduction of competition in all modes of transport, including rail	**Good Progress**
Support smarter, economically viable investment	**Low Progress**
Fully internalise the external costs of mobility	**Medium Progress**

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» ABOUT CERRE

Providing high quality studies and dissemination activities, the Centre on Regulation in Europe (CERRE) is a not-for-profit think tank.

It promotes robust and consistent regulation in Europe's network, digital industry, and service sectors. CERRE's members are regulatory authorities and companies operating in these sectors, as well as universities. CERRE's added value is based on:

- its original, multidisciplinary and cross-sector approach covering a variety of markets, e.g., energy, mobility, sustainability, tech, media, telecom, etc.;
- the widely acknowledged academic credentials and policy experience of its research team and associated staff members;
- its scientific independence and impartiality; and,
- the direct relevance and timeliness of its contributions to the policy and regulatory development process impacting network industry players and the markets for their goods and services.

CERRE's activities include contributions to the development of norms, standards, and policy recommendations related to the regulation of service providers, to the specification of market rules and to improvements in the management of infrastructure in a changing political, economic, technological, and social environment. CERRE's work also aims to clarify the respective roles of market operators, governments, and regulatory authorities, as well as contribute to the enhancement of those organisations' expertise in addressing regulatory issues of relevance to their activities.