SYSTEMS TRANSFORMATION HUB
POLICY BRIEF 2

BUILDING A SECURE AND THRIVING EUROPE: A SYSTEMS APPROACH TO THE 2024-2029 EU STRATEGIC AGENDA

Systems Transformation Hub

Colophon

This publication was produced and published by the Systems Transformation Hub, a pioneering venture designed to enable systemic thinking and policymaking in Europe. Our motto is: “Think systems, provide solutions”

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About the Systems Transformation Hub

The Systems Transformation Hub is a non-profit consortium of five organisations, including The Club of Rome, EIT Climate KIC, Metabolic, Systemiq, and The World Resources Institute. The Hub aims to provide strategic and systematic guidance, supporting the European institutions and Member States in policy analysis, development, policy learning, and agile decision support. The Hub will focus on European policy, yet also on Europe's relationship with the rest of the world. Specifically, we:

1. Facilitate multi-stakeholder dialogic processes for change
2. Pilot systems-based approaches in policymaking
3. Envision and create knowledge
4. Provide rapid-response intelligence and advice
5. Coordinate the partnership and partners' EU activities.

The partners of the Hub are:

The Club of Rome:
A platform of diverse thought leaders who identify holistic solutions to complex global issues and promote policy initiatives and action to enable humanity to emerge from multiple planetary emergencies.

EIT Climate-KIC:
A climate innovation agency and community working to catalyze decarbonization and resilience transformations through systems innovation.

Metabolic:
A systems change agency striving to transition the global economy to a fundamentally sustainable state where people and nature thrive. We guide decision-makers and implement real-world projects that bring ambitious ideas to life.

Systemiq:
A B Corp that combines strategic advisory with on-the-ground work, and partners with business, finance, policymakers and civil society to deliver system change. We also bring the connection to the transformative science-policy work of the International Resource Panel.

World Resources Institute:
A global research organisation, focussing on system change to build more resilient communities and meeting people's basic needs, while protecting climate and restoring nature.

The content of this policy brief does not necessarily reflect the views of the partner organisations.

Executive summary

Europe faces a clear choice. The announced 2024-29 policy agenda presents an unprecedented opportunity to reshape the EU's economy and achieve the ambitious targets set out in the European Green Deal, fully recover from the COVID-19 crisis, enhance European competitiveness, and strengthen Europe's resilience. This requires a full-scale reform of the current socio-economic system, as today the way natural resources are used for economic activities is the cause of many of the world's most pressing issues. **Instead of an economy based on maximising extraction and production, adopting a more holistic view of Europe's prosperity is necessary.**

As President von der Leyen wrote: *"Implementation of the European Green Deal and the coronavirus recovery are two sides of the same coin. Europe has the potential to emerge from the current crisis to become a fairer, more prosperous, more sustainable and more resilient society."*[1]

We recognise that today's context has changed, with geopolitical tensions escalating, climate change impacts increasing globally, and continued economic disparity and insecurity creating public frustration and anxiety. This has translated into growing social tension and a sense of instability, reducing the political space to implement the ambitions mentioned by the President. Yet by returning our focus towards becoming "a fairer, more prosperous, more sustainable and more resilient society" **the transformation is feasible and its economic potential considerable.**

To support the implementation of the 2024-2029 EU Strategic Agenda, the reports by **Letta**, **Draghi** and the **Strategic Dialogue on the future of EU Agriculture** provide guidance on navigating the EU's challenges. Not all however sufficiently address the complex relations between the above priorities, nor the optimisation of potential positive synergetic impacts to catalyse so-called 'positive tipping points'.

Effective policymaking requires a systems change approach that addresses the blind spots of EU policymaking:

1. A siloed approach to policymaking
2. Misalignment of market signals and regulatory pressures
3. A lack of demand-side solutions
4. A reliance on risk-averse capital
5. The implications of the shift in global power dynamics

This systems change approach builds in the concept of **provisioning systems.** Approaching the economic activities that account for 90% of global material demand and the majority of environmental impacts — the essential human needs of energy, food, built environment, and mobility — can help policymakers develop effective policy pathways that can meet human needs within planetary boundaries. This requires moving beyond traditional growth and productivity metrics and siloed sectoral pathways. Towards an economic development model based on fewer resources that enables greater human and planetary wellbeing within a safe operating system.

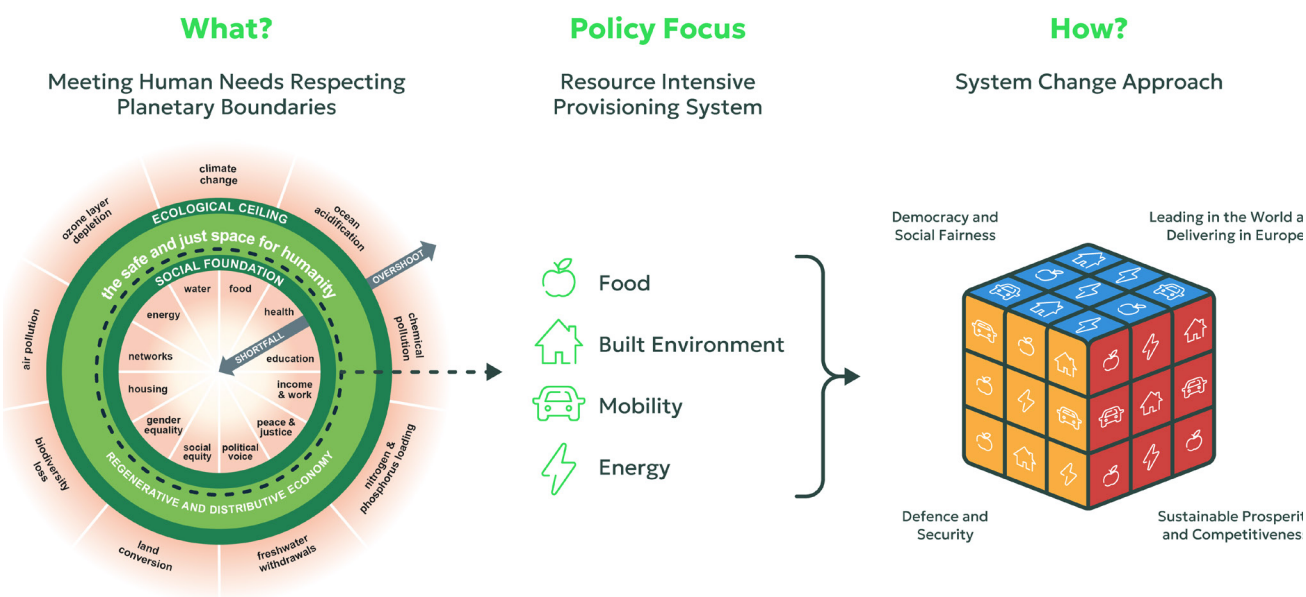
This approach consists of three steps when applied to the current EU policymaking context:

1. **Understanding what is at stake**—meeting human needs while staying within planetary boundaries.
2. **Focusing on the critical provisioning systems**—energy, food, mobility, and housing—where resource use is highest and where the most significant potential for transformative change exists.
3. **Adopting a systems change approach**—acknowledging the interdependence of both "macro" political priorities, the need for systemic transformation and that the effects of actions in one area, such as energy policy, will impact the other policy priorities.

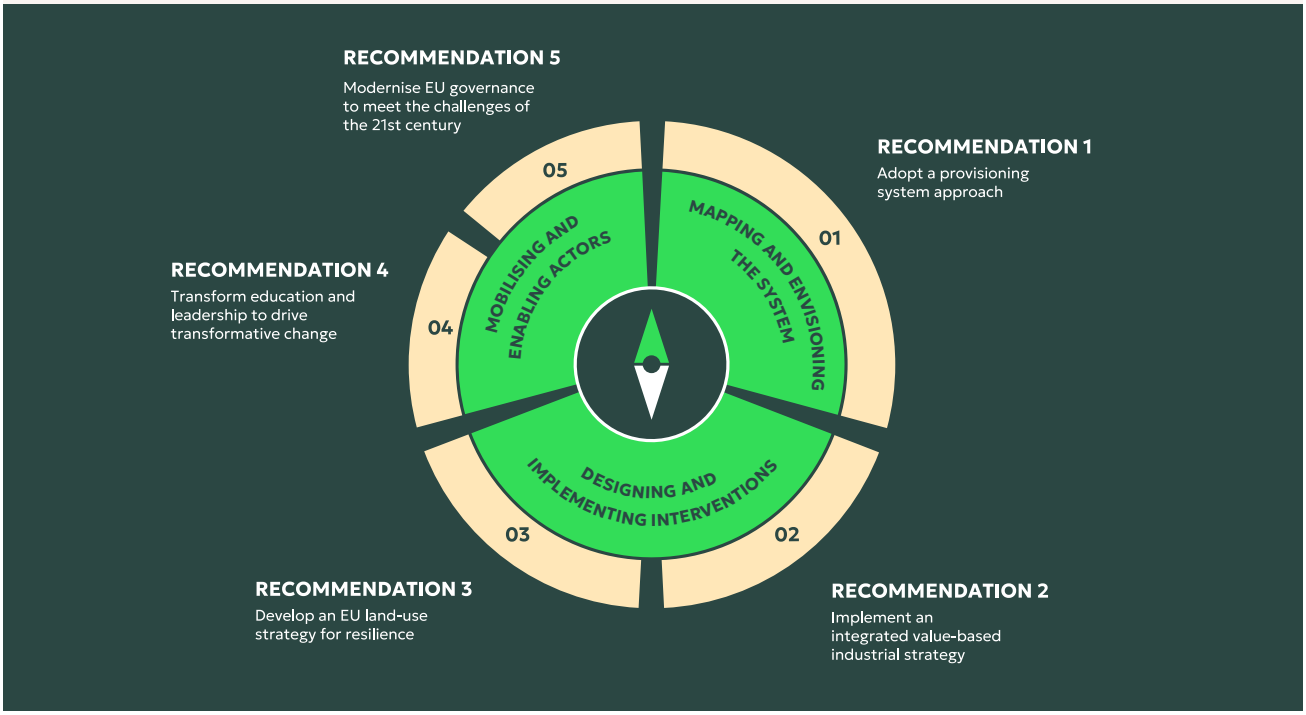
To navigate these complex pathways, **policymakers require guiding principles that help balance competing demands while unlocking potential synergies**. Inertia can only be overcome with sufficient time, resources, trust, effective narratives, and an iterative approach to identifying and leveraging catalysts for change. Critically, addressing resource inequalities—in both access and control—is fundamental to implementing solutions that serve the common good.

Our **5 key recommendations** are designed to help Europe achieve the priorities of the 2024-2029 EU Strategic Agenda. They are grounded in a systems change approach and tailored to the context of today's challenges. The aim is to enhance EU policymaking capabilities while enabling deeper systemic transformation. Each recommendation addresses specific implementation challenges while creating the conditions for successful delivery of the four priorities of the EU's Strategic Agenda: Sustainable prosperity and competitiveness, democracy and social fairness, defence and security and leading in the world while delivering in Europe.

A systems approach to the 2024-2029 EU Strategic Agenda



The 5 policy recommendations based on a systems approach to the 2024-2029 EU Strategic Agenda



1. **Adopt a provisioning systems approach:** Europe must focus on maximising the economy's ability to meet human needs and respect planetary boundaries. A transformation is required to simplify and harmonise both EU corporate reporting standards and economic and fiscal assessments, by complementing GDP with broader prosperity indicators. For this, resource efficiency measures need to be coupled with demand side approaches, and decarbonisation efforts with dematerialisation.
2. **Implement an integrated value-based industrial strategy:** Europe's competitiveness depends on leveraging its strengths in people, places and dematerialisation through the Industry 5.0 framework. This involves creating enabling conditions for 'champion ecosystems' that sit at the nexus between multiple systems to thrive, such as creating lead market conditions with Horizon Europe missions.
3. **Develop an EU land-use strategy for resilience:** A systemic approach is needed to balance competing demands across the various needs for land use. Such a strategy goes beyond a coherent legislative framework on agriculture and nature, to include aspects of water, nutrients, energy and spatial planning. A holistic, regenerative approach to land use and bioregions across Europe, and international partnerships to foster intercontinental biodiversity corridors, would position Europe as a global leader and ensure critical security and safety measures in the face of climate effects.
4. **Transform education and leadership to drive transformative change:** To unlock human ingenuity's full potential, the EU must transform its approach to education and capacity building. This transformation requires establishing and enhancing lifelong education while breaking down barriers across all educational levels to expand access to knowledge. New teaching and innovation methods are essential to retain Europe's vital talent pool. Simultaneously, developing leadership competencies for current and future decision makers is crucial. This effort should include fostering cross-university programs and academic partnerships, both between Member States and beyond Europe's borders.
5. **Modernise EU governance to meet the challenges of the 21st Century:** Current fragmented governance can be improved through cross sectoral policy implementation roadmaps, strengthened multi-level governance, and accelerated Single Market integration. Market signals also need to be aligned with regulatory pressures to reduce bureaucracy. For example, by placing a value on externalities and shifting the tax burden from social and environmentally beneficial activities towards those related to resource extraction and consumption.

LIST OF MEASURES PER RECOMMENDATION

1. Adopt a provisioning systems approach	1. Adopt and implement a provisioning systems approach, focus on satisfying human needs instead of growing economic sectors a. Couple resource efficiency with efficiency measures demand-side approaches b. Link decarbonisation efforts with dematerialisation 2. Transform, harmonise and simplify economic measurement and indicators of progress a. Implement 'Beyond-GDP' indicators, such as science based targets for nature b. Include them in all EU corporate reporting standards, and economic and fiscal assessments, such as the European semester 3. Focus efforts and capital on demand side measures that improve wellbeing, reduce poverty, and decrease material footprints, such as a. Renovation and insulation, especially for social housing b. Energy demand reduction measures in combination with renewable, storage and grid expansion c. Shifting towards more active, less congested, and more integrated mobility system that is accessible and affordable to all 4. Establish a material target. For example, reduce the EU27 material footprint by 50% by 2030, and 75% by 2050
2. Implement an integrated value-based industrial strategy	1. Be consistent on the implementation of the industrial strategy: do not kill industry with kindness a. Focus on developing 'champion ecosystems' by creating enabling conditions b. Do not attempt to select and support individual winners 2. Focus on people, places, and dematerialisation a. People: i. Improve and expand education for all and throughout life ii. Ensure accessible child care iii. Provide good working conditions and fair pay iv. Invest in liveable neighbourhoods v. Include financial support for employment transition b. Places: i. Integrate and update Cohesion and Horizon policies to support member states, regions, and cities to build better physical, digital and social infrastructure, across the EU and globally ii. Increase investment in local research, innovation and education organisations and enhance their integration with each other and local and international business iii. Govern through dialogues between regions, cities and industries, and structure support through Horizon Europe Missions

2. Implement an integrated value-based industrial strategy

   c. Dematerialisation:
      i. Incentivise the reduction of resource demand along circular economy principles for all natural resources and materials
      ii. Promote all circular economy options: better designs, more intensive use, light weighting and life extension
      iii. Incentivise direct electrification of industrial processes where possible, support energy demand reduction efforts, require clean energy demand procurement, invest in expanding energy storage capacity, and finance this through leveraging private capital with public funding.
3. Prioritise and support technologies with social and environmental benefits
   a. Implement Industry 5.0 principles
   b. Include specific measures to support workers with the digital transition and the impacts of AI and automation
   c. Harness the potential of digital learning
   d. Strengthen the "Do no significant harm" and precautionary principles
4. Develop new types of economic relationships with third countries
   a. Invest in capabilities to leapfrog polluting technologies
   b. Foster integration in circular and regenerative value chains
   c. Create a wider market for green production
   d. Accompany regulation with a global footprint with measures supporting the greening of production of affected sectors and workers in Europe and abroad

3. Develop a European land-use strategy for resilience

1. Develop a land use strategy that balances the demand of all four provisioning systems and improves resilience
2. Build the strategy on the outcomes of the Strategic Dialogue for the future of EU agriculture and follow its approach, to feed into the key upcoming policy design processes
3. Coordinate with interconnected policy areas, such as fresh water quality and quantity and the ocean, to prioritise nature-based solutions through a holistic and regenerative approach
4. Reduce land demand through:
   a. Prevent food waste
   b. Phase out bioenergy use
   c. Shift to alternative proteins
5. Stimulate the densification of urban environments, both in term of living and working areas, and improve resilience of landscapes
6. Establish international partnerships to foster intercontinental biodiversity corridors

4. Transform education and leadership to drive transformative change

1. Invest massively in the fifth freedom (research, innovation, data and knowledge), its accumulation and amplification, within Europe, and with its partners
2. Break down barriers to participate in education:
   a. Tackle taxation and wealth disparities
   b. Invest in disadvantaged rural and urban communities to ensure equal access to opportunities

4. Transform education and leadership to drive transformative change

   c. Encourage participation by women and minority groups
   d. Focus on both short-term reskilling and long-term capacity building
3. Reintegrate humanities and science, through:
   a. Integrated research programs
   b. Interdisciplinary education
   c. STEAM based education
   d. Collaborative innovation platforms
4. Strengthen leadership education programmes, such as Masters' of Business or Public Administration, with competencies designed for navigating complexity:
   a. Systems thinking approaches
   b. Adaptive management principles
   c. Cross-cultural collaboration skills in public and private sectors
   d. Science-informed decision-making at all governance levels
   e. Systemic and dynamic modelling methods
5. Establish comprehensive intergenerational agreements that ensure fair resource distribution and balanced decision-making between current and future generations' needs.
6. Strengthen knowledge relations with the rest of the world by investing in networks and the human capital of partners.

5. Modernise EU governance to meet the challenges of the 21st century

1. Continue with and improve the use of cross-sectoral policy implementation roadmaps with transparent milestones and conditional requirements across all levels of governance
   a. Align short-term crisis responses with achieving long-term goals
   b. Ensure consistency between policies
   c. Keep a level playing field for all while remaining value-driven
2. Empower multi-level governance
   a. Enhance local and regional expertise and responsibility, to rethink the involvement of citizens in European policymaking
   b. Strengthen the role of cities and regions as implementing agents by policy-design and incentives in line with the subsidiarity principle
   c. Strengthen social and citizens dialogues and expand experiments with increasing citizen participation
3. Accelerate the integration of the Single Market
   a. Streamline decision-making processes for regulation, policy and permitting
   b. Complete the Capital Market Union
   c. Establish a legal form for pan-European businesses
   d. Implement the 5th freedom: research, innovation, data and knowledge
   e. Prioritise unified regulations over directives
4. Aim for a balanced regulatory environment that aligns market signals with policy objectives
   a. Shift tax burden for social and environmentally beneficially activities towards those related to resource extraction and consumption
   b. Expand emissions trading system (ETS), in one or multiple steps of the resource value chain
   c. Use the proceeds to support citizens and businesses to navigate the transition

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1. A vision for Europe

The European Union has been able to sustain wellbeing for its population by crafting a unique mix of public conditions and private forces, while charting a course to a Paris-compatible future. Yet Europe is faced with a polycrisis of international tensions, cost of living, climate change, pollution and biodiversity loss. With China flexing its economic and geopolitical muscle and the US redefining its role on the world economic and political stage, Europe must reposition itself once more at the start of a new Commission mandate. Will Europe allow its path to be determined by others, or chart its own course? With a bold programme, the European institutions can set Europe on course for a secure, competitive and thriving future.

Together could we imagine a Europe where the rhythm of life is designed around the wellbeing of its people: Where the Union's economy is serving the majority of people and their needs; where productivity has been redefined not sacrificed ; and by mastering technology and human ingenuity, we have enhanced the single market to produce more value for people and planet with less effort and fewer natural resources, optimized for delivery of low-carbon and nature-based solutions. In this Europe, we harness the power of technology not to bind us to our desks, but to liberate us and enhance our quality of life on a healthy planet.

This is a thriving new Europe where the foundation of our economy is based on valuing education, employment, innovation and entrepreneurship, health and our natural environment, measured through broader indicators beyond the narrow framework of GDP growth—all contributing to building a society that is resilient to future shocks and stresses.

Imagine living in cities that seamlessly blend with nature, where green spaces are abundant and accessible to all. Where urban infrastructure, housing, mobility and services are designed for liveability and an enhancement of the lives of city dwellers. Our cities are connected to revitalized rural areas abundant with small farms and local businesses that flourish, sustained by a system that values all economic actors and natural resources at the same time. A Europe that places an economic value on all of its natural resources: its mountains, forests, rivers, seas and oceans, and its land and soil to ensure that Europeans can thrive, not just survive.

In this Europe, we have achieved a large degree of resource sovereignty, securing our energy and material needs through renewable sources and innovative, regenerative and circular methods across the value chain. Our dependency on imports and our production of waste is reduced

from conception to end of pipe. To this end, rare-earth metals and minerals are captured and reintegrated into our economy, ensuring that we decouple continued economic development from environmental impacts.

We know that this Europe can only succeed if it also works with its neighbours and international partners on a transformation journey that is developed as equals. New trade relations that are based on models of mutual empowerment, open science, technology sharing, knowledge exchange and ecological corridors. Partnerships that place a value on the role and resources of the global South and create the dynamic for social equity and their economic transformation, as well as our own.

Our commitment to environmental stewardship and climate action should be to not just prevent harm from global heating, sea level rise, floods and biodiversity loss; but to reverse the trends, enriching the diversity of our natural landscapes and ensuring Europe is a tapestry of healthy ecosystems, supporting a resilient society.

ALL THIS IS WITHIN OUR GRASP IN EUROPE. BUT IT IS CERTAINLY NOT A GIVEN, AND IT IS FAR FROM THE STATUS QUO.

As it stands now, the world we live in is far from the world we want. Europe's values, security and prosperity can no longer be taken for granted.[2] Business as usual will generate results as usual. Yet, the interconnected crises that Europe is facing shows that deferring negative effects to the future for economic benefits today is not possible any more. The crossed boundary of 1.5 degrees global heating is expected to lead to a 2.5% drop in GDP, and at 3 degrees this could be up to 10%.[3] This cost of inaction is felt today.

Europe's pivotal role in global transformation has never been clearer. With the right approach, we can pioneer innovative solutions that serve people and the planet while strengthening our global leadership position. The EU has the capability, resources and responsibility to demonstrate how a major economic power can successfully navigate the transition to a sustainable, competitive future. This opportunity for transformation comes at a crucial time, as highlighted by the worsening damages of climate in Europe and globally,[4] political turbulence,[5] and technological change.[6] Swift action now will determine whether Europe leads or follows in shaping the future global economic landscape.

The von der Leyen II Commission faces a daunting task: to implement its vision for a sustainable, prosperous Europe, its most ambitious implementation programme since the single market and the introduction of the euro. It has set out the goal to address the effects of accelerating climate change, biodiversity loss, and increasing economic- and international tension whilst increasing the prosperity of its citizens and strengthening its industrial base.

Specifically, the European Commission's priorities are:[7]

1. Democracy and social fairness
2. Defence and security
3. Sustainable prosperity and competitiveness
4. Leading in the world while delivering in Europe

To support the implementation of the EU's Strategic Agenda, the reports by Letta[8], Draghi[9] and the Strategic Dialogue on the future of EU Agriculture[10] provide guidance on navigating the EU's challenges. Not all however sufficiently address the complex relations between the above priorities, nor the optimisation of potential positive synergetic impacts to catalyse so-called 'positive tipping points'.[11]

Enhancing these synergies can only be done if the EU addresses its blind spots both regionally and globally:[12]

1. A siloed approach to policymaking
2. Misalignment between market signals and regulatory pressures
3. A lack of demand-side solutions

To translate political priorities into effective policies, these blind spots must be addressed. This entails a coherent agenda — **one that ensures competitiveness based on social cohesion and sustainability, while securing food, water, energy and supply chains** — crucial for the lives and livelihoods of people. Without respecting both planetary boundaries and social conditions, the EU risks "ending up solving the challenges of the last 20 years, rather than those we will collectively face over the next 20 years."[13] For such an agenda to succeed, a systems-based approach to Policymaking is essential, addressing interconnected social, environmental, and economic challenges.[14]

The systems-based approach outlined in this report is structured around **four key provisioning systems—energy, housing, food, and mobility**. **These systems lie at the heart of both our environmental impact and societal wellbeing**. 'Provisioning systems' represent a recent and increasingly relevant concept that groups together ecological, technological, institutional, and social elements transforming natural resources to satisfy human needs.[15] These systems include physical elements, such as networks of physical infrastructure, technologies and their efficiencies; and social elements, such as government institutions, communities, and markets. Provisioning systems must be anchored in broader economic, financial, and governance transformations to be effective. When they fail, they can both deplete resources unsustainably and fall short of meeting human needs.

By examining these systems and their interactions within planetary and social boundaries, **we highlight key tensions, trade-offs and synergies for systems-based policymaking.** This approach reveals opportunities for enhanced policy coherence and identifies levers for change across sectors and governance levels, aiming to reduce resource use and deliver multiple benefits. Employing a ***Rubik's Cube analogy***, we demonstrate how the **provisioning systems framework**—focused on maximising the economy's capacity to meet human needs while respecting planetary boundaries**—offers EU policymakers a powerful and effective fit-for-purpose strategy for the next legislative cycle**.

To support the Commission in this crucial transition, we present **five recommendations** developed through applying this systems thinking approach, building on guidance from the Systems Change Compass, Earth4All, and other publications by our member organizations. These five have been selected based on their potential to help the EU achieve the priorities outlined by the Commission and navigate the challenges of implementing policies.

A SYSTEMS-BASED APPROACH TO POLICYMAKING IS ESSENTIAL

Over the coming months, the **Systems Transformation Hub will build on these concepts to develop further guidance on accelerating systems change.** To bring more partners on the necessary journey of transformation, we will host policy cafés as a safe spaces for contentious conversations with diverse stakeholders. These include future scenario explorations and workshops to catalyse and co-create policy solutions. To respond to crisis situations, a situation room approach provides rapid-response intelligence and advice to align short term measures with long term goals. Only by applying systems thinking across policymaking and implementation can we successfully navigate the complexity of today's world and create pathways to a competitive, resilient European economy that enables citizens to thrive, not just survive.

2. Current proposals to achieve the Commission's targets for 2024-2029

The EU's raison d'etre as an economic union has been as much a peace project as a prosperity project, and promoting competitiveness and economic growth has been at its core for decades.[16] However, both are at historic lows, signalling that the current approach is not fit for purpose and has lost its effectiveness.17 The need for a different approach is widely recognised in a slew of recent guidelines and publications such as the Draghi and Letta reports; however, more work needs to be done to develop the appropriate pathways to achieve them.

The Commission's political guidelines for 2024-2029 and the accompanying mission letters aim to address this challenge. In her accompanying speech, Commission President Ursula von der Leyen reaffirmed her Commission's commitment to the European Prosperity Plan by focusing on strengthening the single market, introducing a Clean Industrial Deal to improve competitiveness and accelerate the decarbonisation of the economy, and proposing additional investment in skills, research and innovation. Finally, she recognised the importance of retaining the value of resources in the economy longer through a circular economy as a central pillar to achieve this.[18]

However, the guidelines provide limited detail, allowing for broad interpretations and space for further development. If the Commissioners are to implement the policies to match these ambitious political priorities, they need to directly address the underlying causes of the current challenges, overcome policymaking blind spots, and successfully enforce their legislation.

The most notable recent guidance includes the reports by Draghi, Letta, and the Strategic Dialogue on the Future of EU Agriculture. These three reports present slightly contrasting visions and pathways to overcome the perceived critical EU challenges over the next five years. For example, both the Draghi and Letta reports agree that strengthening the single market—through harmonising regulation, decarbonising the economy, and investing in research, innovation, and people—is crucial for improving competitiveness. They also agree on the need for deeper European integration and a stronger public sector.[19] However, they differ in their views on the role of social measures and the relationship between natural resources and prosperity. Analysing these differences illuminates potential weaknesses and contradictions of the various political approaches, and allows for the development of pathways that can overcome these.

The **Draghi Report** recognises Europe as a global leader and warns that the European Green Deal's "political sustainability could be endangered, if decarbonization leads instead to deindustrialization in Europe." On the other hand, it is not critical of disruption, seeing it as a chance for renewal and building prosperity. For example, it identifies high energy prices as a challenge that can be solved by further integrating energy markets, investing in European public goods like international transmission lines, and expanding renewable generating and storage capacity. But it also recommends that energy-intensive industries be able to buy electricity at cost prices with long-term contracts,[20] without any incentive to reduce the demand. Furthermore, it recommends emulating China's mining-to-shipping vertical integration of critical raw materials and implies support for deep-sea mining, but does not detail the risks of such a transactional approach to international partnerships, nor the full potential of alternative methods of cooperation. The report neither addresses the potential of resource efficiency and demand side measures on strengthening value chain resilience and independence,[21] and the necessary link between a social market economy and increasing wellbeing.[22]

In contrast, the **Letta Report** builds further on the potential for a sustainable single market approach anchored in a circular and social Europe. Investing in services of general interest and the circular economy as key to Europe's long-term competitiveness. Specifically, it states that the circular economy is "the only possibility of saving the planet and changing the paradigm of present manufacturing." It also argues for the implementation of the fifth freedom of research and innovation and the "right to stay", implying place-based investments to improve the attractiveness of all EU regions is fundamental to build a strong European Market and foster successful businesses.[23]

The **Strategic Dialogue on the future of EU Agriculture** aligns more closely with the approach that the Letta report advocates, with a strong place-based and social focus, and a recognition that demand and supply need to change in tandem. In particular, the strategic dialogue shows the potential of developing a transformative set of policies through an inclusive stakeholder process.[24]

A key distinction between the three reports is how they were developed. The Strategic Dialogue involved months of discussions with diverse stakeholders, while the Letta Report was based on a longer period of public consultation with Member States and other relevant parties. In contrast, the Draghi report was based primarily on research, particularly of the Chinese and US economic systems, by a small team within the Commission.

The need for political support, citizen engagement, realignment of incentives and fiscal capacity is evident for successful implementation. A cautionary tale for policymakers is the German version of the Strategic Dialogue on agriculture, which was concluded by the same chairperson in 2020. While it was widely hailed at the time by all parties as the pathway to a sustainable and competitive German agricultural system, its recommendations were not implemented. Only when the German government needed saving measures were a select set of measures implemented, those that would save the government money at the expense of the farmers. All investments in the agreement that would have ensured farmers could transition were left out. This breach of trust and foresight lay the basis of the widespread farmer unrest at the start of 2024[25] and growing social tension.

At the time of writing, it seems that the Strategic Dialogue is already suffering this fate. Not because of the lack of political support or available funding, but because various special interests' groups that are expecting to lose out are increasing the pressure on their representatives to renege on their personal commitments to the recommendations.[26] Both these instances show the complex and difficulty of implementing transformational change, even with proper consultative processes.

To help EU policymakers identify the most promising approaches to achieve its stated aims, it is therefore essential to unpack the drivers of the challenges it faces in the upcoming legislative cycle. Proposed solutions will only be effective if they address the root causes of the EU's interconnected challenges, but they will only be implemented with sufficient political support, the courage of policymakers, and if all stakeholders are willing to share the burden of responsibility.

THE NEED FOR POLITICAL SUPPORT, CITIZEN ENGAGEMENT, AND FISCAL CAPACITY IS EVIDENT FOR SUCCESSFUL IMPLEMENTATION.

3. Solving the Cube: an analogy of a systems-based approach to policymaking

Effective policymaking must take into account the dynamic, real-world conditions in which policies operate. Regional differences, resource constraints, and temporal factors shape the outcomes and impacts of any given policy. These contextual elements are necessary for policies to be connected to the socio-ecological realities that influence their effectiveness. This is especially relevant today, as global challenges like climate change, biodiversity loss, and social inequality highlight the need for adaptable and responsive policies to both short-term and long-term consequences.

To overcome the shortcomings of the current approach and enhance the recommendations of the Draghi and Letta reports, this chapter shows how a systems-based approach to policymaking is essential to achieve the targets of competitiveness and the announced Clean Industrial Deal. Instead of treating problems in isolation, policymakers must recognize how interconnected different policy domains are — such as competitiveness, security, wellbeing, and natural resource management.

To support policymakers on this journey, we first introduce the need for a provisioning system approach to reduce our dependence on natural resources to reduce our environmental impacts and massively increase our wellbeing. To illustrate this systems-based approach, we introduce the concept of the Wellbeing Cube, a framework that helps visualise the interconnectedness of various policy domains and their impacts on societal and planetary wellbeing.

3.1 The need for a provisioning system approach for natural resource management

Throughout human history, access to and control over natural resources have been fundamental to national power and development. Nation-state building has historically depended on expanding access to land, water, and natural resources such as fossil fuels, minerals, and metals.[27] This resource competition has repeatedly sparked conflicts and undermined political stability and democratic processes - from historical colonial conquests to modern disputes over oil reserves and critical minerals like lithium and cobalt required for renewable energy technologies.[28]

Current extractive economic models, championed by industrialised nations, have created stark global inequalities. Whilst the wealthiest countries benefit most from unrestricted resource exploitation, many low-income countries still cannot meet basic human needs, despite exporting much of their wealth abroad.[29] The statistics are stark: over one-third of countries globally still need to meet their basic nutritional needs, 40% do not have adequate access to energy,[30] and nearly 30% do not meet the threshold for overall life satisfaction.[31]

The Global Resources Outlook 2024 report shows how our unsustainable resource use drives the triple planetary crisis. Extraction and processing of materials, everything we get from Earth, are driving 55% climate impacts (up to 60% if we also include land use change), over 90% of land related biodiversity loss and water stress and around 40% of health-related pollution impacts. Moreover, all these elements display an increasing trend since the last global assessment in 2019.[32]

OUR UNSUSTAINABLE RESOURCE USE DRIVES THE TRIPLE PLANETARY CRISIS

Changing humanity's relationship with the rest of nature is an environmental and economic issue. Equity, stability, and security are imperative and crucial for strengthening our collective resilience to future shocks and stresses. This relationship is neither stable nor balanced and will be resolved either through collective wisdom and cooperation or difficultly and painfully. The latter could lead to instability, conflicts, wars, pandemics, extreme weather events, chaos, and forced migrations.[33]

The current linear view of economic development, as used by most economists and politicians, corresponds to the narrow quantitative concept of economic growth (GDP) linked solely to productivity. This stands

COMBINED, THE FOUR SELECTED PROVISIONING SYSTEMS ACCOUNT FOR ABOUT 90 PER CENT OF ALL GLOBAL MATERIAL DEMAND

in stark contrast to the biological and ecological sense of development, which corresponds to the notion of qualitative growth, bringing wellbeing and thriving societies.[34] When taking a broader range of indicators for societal wellbeing, it becomes clear that GDP is an incomplete measure of both economic performance and societal progress.[35]

A key challenge, therefore, is how to shift from an economic system based on the notion of unlimited growth to one that is both ecologically sustainable and socially just. Yet no growth is not the answer. Growth is a central characteristic of all life; a society, or economy, which does not grow, will die sooner or later. Growth in nature, however, is not linear and unlimited. Whilst certain parts of organisms, or ecosystems, grow, others decline, releasing and recycling their components, which become resources for new growth.

To remain within planetary boundaries while ensuring security, competitiveness, and wellbeing, we must reframe the central economic question. Rather than maximising sectoral output and the quantity of products and services on the market, the focus should shift to effectively meeting human needs, using less energy and fewer resources.[36] This requires addressing multiple balances: between abundance and sufficiency, between technological innovation and behavioural change, and between global needs and local contexts.

Solving this requires more than technical solutions. Decisions about the desirability and promotion of specific behavioural changes or new technologies reflect underlying value judgements of the geographical and political context in which they are taken. Culture, tradition and social structures are equally important in defining potential solutions. To achieve meaningful change, we must unpack and address these drivers and pressures in their proper context.

To address these complex challenges, new economic models are needed, such as "Doughnut Economics." This innovative approach brings together the concepts of planetary boundaries and social boundaries, aligned with the Sustainable Development Goals. The Doughnut model proposes a development approach that balances resource use within a "safe and just space"—a zone where human needs are met without exceeding ecological limits.[37]

To operationalise these principles, the Global Resources Outlook 2024 merged the Doughnut Economics framework with Fanning's provisioning system approach.[38] This analysis identified four provisioning systems that are most resource intensive and hold the key to a successful green transition: energy, food, built environment, and mobility. Combined, these systems account for about 90 per cent of all global material demand.[39]

The provisioning system approach enables in-depth analysis of resource use and competition, allowing for targeted demand and supply-side measures that can deliver multiple benefits across each system.

The practical implementation of these frameworks requires a fundamental shift in how we approach resource use across key provisioning systems. While each system presents unique challenges and opportunities for transformation, a provisioning systems approach allows for the identification of shared solutions that can be effective across the board, while avoiding current blind spots.

3.2 The Wellbeing Cube as an analogy to a systems-based approach

Identifying the impacts of four resource-intensive provisioning systems of energy, food, built environment, and mobility on the planetary and societal boundaries should precede any successful policy approach to the needed systemic transformations. Effective policy formulation demands an appreciation of the contextual elements, the specific temporal and spatial factors that influence their outcomes, the short-term and long-term consequences, and the regional differences that shape the interactions and impacts within socio-ecological systems.

A systems-based approach to policymaking provides a way to address challenges by considering institutions and practices as integrated systems within an evolving broader set of global socio-economic and geopolitical system changes. This method looks at how the various parts, their relationships, the rules that govern these relationships, and the underlying norms and values work together to form a cohesive

system.[40] Understanding how these systems work is critical to uncovering why they tend to produce super wicked problems (e.g. a food system that is reliant on fossil fertilisers and pesticides) that are stubbornly resistant to improvement, especially when dealing with a continuum of short-term shocks and stresses.

Just as solving a Cube requires understanding the complex interactions between its pieces, effective policymaking demands comprehension of the intricate relationships within societal systems. It can be likened to solving a Cube, where each policy action is akin to turning one of the cube's faces. This analogy highlights how each move affects multiple facets, illustrating the interconnected nature of policy impacts. Inspired by Metabolic's visualisation of complex earth systems,[41] the analogy also underscores a critical lesson: social and environmental challenges cannot be simply isolated and treated independently of other economic, security or social issues. Just as twisting one segment of the Cube impacts the entire structure, trying to address a single issue in isolation will lead to unintended consequences elsewhere.

If we apply the Cube to the EU policy agenda, the different colours would represent the main political priorities: democracy and social fairness, leading in the world and delivering in Europe, defence and security, sustainable prosperity and competitiveness, as seen in Figure 1. To succeed, appropriate policy actions (turning the squares) must consider the complex physical and social systems that mediate how resources are extracted for various purposes and transformed into material and cultural things that satisfy human needs. Striving to achieve competitiveness or security while ignoring social fairness or international partnerships is simply not possible.

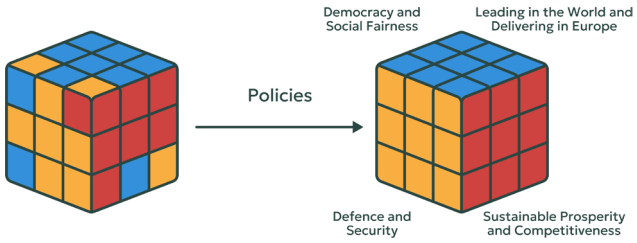


FIGURE 01 A Cube for systems-based policymaking.

Specifically, each field represents a part of one of the provisioning systems, as all political priorities are relevant to each provisioning system, as shown in Figure 2. If Europe is to achieve its goals, it needs to be competitive and secure in food, the built environment, energy, and mobility. But, as can be seen from the Cube, any policy targeting one particular provisioning system for one priority can have unintended consequences on many other parts of the system.

TRYING TO ADDRESS A SINGLE ISSUE IN ISOLATION WILL LEAD TO UNINTENDED CONSEQUENCES ELSEWHERE.

While the Cube is a simplified pathway of how well being can be achieved in Europe, it is a useful tool to enable visioning possible wellbeing and a systems approach to policymaking. In reality, the interactions between policies and societal systems are far more intricate, involving numerous stakeholders, variables, and unpredictable outcomes. However, like in the Cube, there are many "pathways" to overcome policy challenges, and continuous adjustments and evaluations are required to address evolving circumstances and needs. This analogy helps to illustrate the core principle that actions in one area can have widespread and sometimes unforeseen consequences, emphasising the importance of considering the broader system and scientific boundaries when making policy decisions.

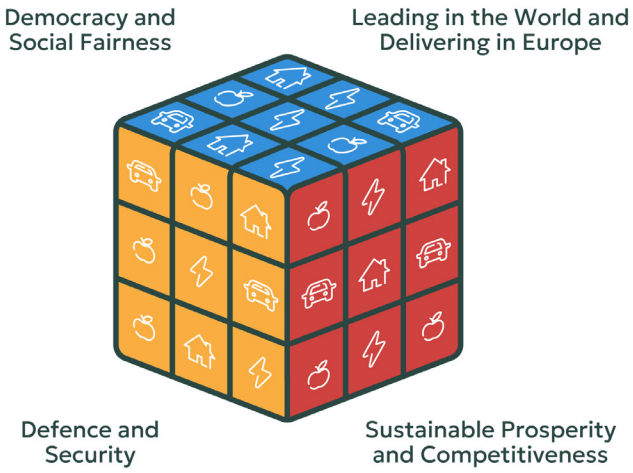
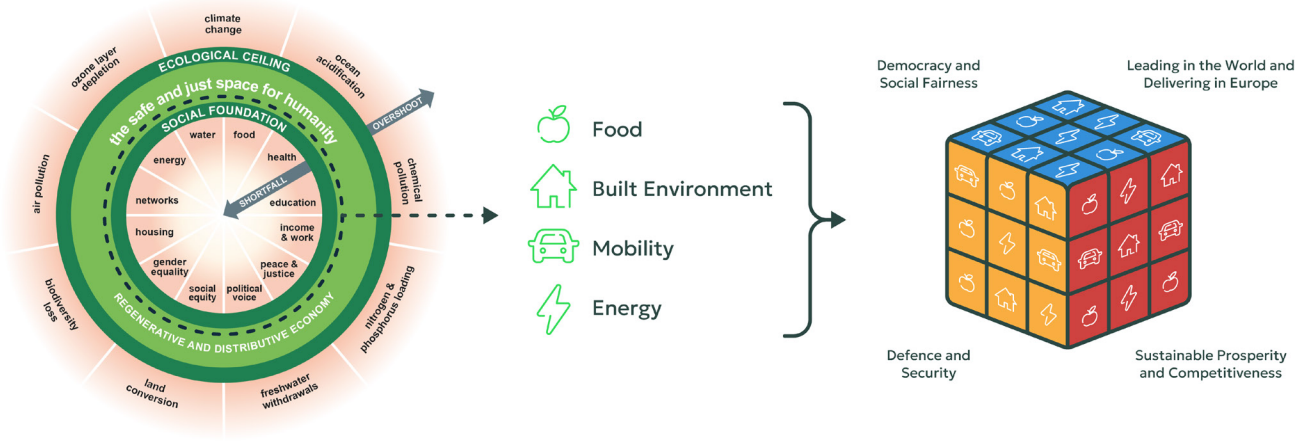


FIGURE 02 The Cube with provisioning systems.

The doughnut economics model and the wellbeing cube provide a useful visual and conceptual framework for guiding Europe towards a sustainable future. By focusing on provisioning systems—the critical areas where human wellbeing and environmental impact converge—we can design policies that maximise the potential for a prosperous and just society while respecting the planet's limits.

FIGURE 03 A systems approach to the 2024-2029 EU Strategic Agenda.



Source: Raworth 2017; IRP 2024; Europe's Choice, Political Guidelines for the next European Commission 2024-2029

WA systems approach to the 2024-2029 EU Strategic Agenda consists of three steps:

1. **Understanding what is at stake**—meeting human needs while staying within planetary boundaries.
2. **Focusing on the critical provisioning systems**—energy, food, mobility, and housing—where resource use is highest and where the most significant potential for transformative change exists.
3. **Adopting a systems change approach**—acknowledging the interdependence of both "macro" political priorities, the need for systemic transformation and that the effects of actions in one area, such as energy policy, will impact the other policy priorities.

In this logic, we are shifting from a policy framework built around increasing the size of specific sectors to one structured around using provisioning systems to deliver on actual human and planetary needs, as shown in Figure 3. Policies would emphasise shared goals and aim to maximise the economy's potential to deliver essential human needs, focusing on food, energy, mobility, and housing.[42]

EXAMPLE

If we take the energy system, Europe used to be relatively competitive in the field of energy through its imports of Russian oil and gas, which turned out to be a risk to its security, and did not allow it to respect planetary boundaries.[43] In the past two years, Russian gas has been replaced by American LNG imports, which are more secure but endanger Europe's competitiveness and still do not respect planetary boundaries.[44] While bioenergy expansion could enhance energy independence, its current limitations outweigh its benefits. Bioenergy production remains dependent on imports, requires extensive land use, and is cost-inefficient compared to other renewable energy sources.[45] Furthermore, it stresses critical planetary boundaries, particularly water resources and nutrient cycles.[46]

Renewable energy technologies offer greater efficiency than bioenergy and sustainability than natural, present their own strategic and environmental challenges. The shift could create new geopolitical dependencies, particularly on China's dominance in renewable technology manufacturing.[47] Additionally, the extraction and processing of critical minerals needed for renewable infrastructure risks straining planetary boundaries through increased mining and resource depletion.[48] Only when the shift to renewables can be combined with a shift in demand from the other provisioning systems, both in terms of flexibility and total amount of energy demanded, combined with investments in the grid and intelligent management, can Europe create an energy system that is competitive, secure, and sustainable.[49]

4. Unpacking tensions, trade-offs, and synergies for provisioning systems

Policymakers often face tensions between different objectives, where achieving one goal could hinder another if policies do not adequately consider the relevant context. However, if done successfully, policies designed for one objective could support another by leveraging synergies. In some cases, trade-offs must be made between conflicting policy goals.[50] The challenge, however, is to discern between trade-offs, tensions and synergies. As outlined in the previous chapter, social cohesion and resource efficiency are central to any durable economic development pathways, even though they seem like trade-offs in the short run. If the EU successfully addresses these implementation challenges, it will be able to nurture its businesses to become global leaders based on European social and environmental values for prosperity and planetary health.

An example of an approach that is only sometimes successful in recognising the difference between trade-offs and synergies is the one proposed in the Draghi report. This assumes wellbeing follows primarily from GDP per capita and emphasises resource ownership as key to economic security.[51] Doing so overlooks several critical factors: the positive feedback loop between worker wellbeing and productivity,[52] the potential for reducing geopolitical vulnerabilities through decreased resource consumption,[53] and the opportunities for mutual prosperity through equitable partnerships with nations in the global south. Such alliances could offer a more sustainable alternative to current resource-based economic models.[54] Letta, in his report, on the other hand, specifically identifies the potential of investing in social and environmental capital, for example, by promoting the circular economy's potential to reduce the need for resources.[55]

Through a systems analysis approach based on the provisioning systems logic outlined in Chapter 3, we identified four areas of implementation challenges for EU policymaking aiming to achieve its four targets. On the other hand, we also find that there is the potential for a positive feedback loop, where the successful implementation of transition enabling measures can mutually reinforce each other.

The primary challenge involves transforming how we value and allocate different forms of capital—natural, human, and financial. This value shifts across multiple dimensions: time, geography, cultures, and individual perspectives. While price is one measure, value extends beyond it, encompassing the relative worth of using finite natural resources for different purposes. While price mechanisms are an approach to value resources, value is also constructed through various social and institutional arrangements, including contracts, cultural norms, and regulatory frameworks.[56]

THE PRIMARY CHALLENGE INVOLVES TRANSFORMING HOW WE VALUE AND ALLOCATE DIFFERENT FORMS OF CAPITAL

Since most forms of value are tied to assets, assessing the costs of maintaining, developing, and disposing of natural resources must be evaluated comprehensively. These impacts extend beyond financial considerations, encompassing health effects, environmental degradation, and significant community investments of time and effort. Finally, it relates to the opportunity cost that specific actors need to incur, for themselves or for others, to maintain these assets.

Fundamentally linked to the question of valuation is the question of allocation and how to do so equitably. This task is particularly complex because property rights to most forms of capital and their associated costs are already distributed—often inequitably. While changes could increase absolute benefits for all parties, they inevitably lead to shifts in relative positions and power.

Based on the challenge of valuation and allocation, two further blind spots emerge for EU policymaking that complete the three already discussed. The first is the reliance on risk-averse financing. While bold, flexible and collective investment is needed for a successful transformation, distributional principles are more geared towards the fear of failure, or member state protectionism. This despite the greater actual risks of retaining the status quo.

Failing to acknowledge the shift in global power dynamics and the costs of unequal partnerships is the final blind spot. A changing global order brings risks as well as opportunities, and requires a new approach to diplomacy. One that recognises third countries as genuine partners, where the EU's self-interest lies in global economic development, and where the externalities of Europe's economy are adequately compensated.

The second major challenge lies in overcoming three distinct types of inertia: institutional, social, and physical. Institutional inertia manifests in rigid policies and organisational structures, impeding social and technological solutions. Social inertia reflects individuals' and communities' resistance to new practices, often rooted in cultural norms and established behaviours. Physical inertia stems from the complex task of transforming society's fundamental infrastructure, requiring substantial investments and time.

These forms of inertia interact with transition dynamics in complex ways. Pathways need to overcome multiple barriers: lock-in effects, entrenched interests protecting their position, and political resistance at both domestic and international levels. Conversely, when change gains momentum, it tends to accelerate exponentially, with innovations cross-fertilizing across sectors and catalysing broader systemic transformation.

THE SECOND MAJOR CHALLENGE LIES IN OVERCOMING THREE DISTINCT TYPES OF INERTIA: INSTITUTIONAL, SOCIAL, AND PHYSICAL.

To navigate these complex pathways, policymakers require guiding principles that help balance competing demands while unlocking potential synergies. Inertia can only be overcome with sufficient time, resources, trust, effective narratives, and an iterative approach to identifying and leveraging catalysts for change. Critically, addressing resource inequalities—in both access and control—is fundamental to implementing solutions that serve the common good.

FIGURE 04 Systems Change Compass.

Source: Systemiq & Club of Rome (2020)

The System Change Compass, shown in Figure 4, provides 10 such principles for European policymakers.[57] These address three key dimensions: Policy coherence at the system level, guidance for transforming provisioning systems, and a clear path forward for Europe's industrial transformation. They can be applied in both emergency situations and for long term planning, to help develop effective implementation pathways.

If the EU can follow these principles and adopt a systems approach for all natural resources, such as land, it will be able to achieve the exact opposite of the effects of its current approach to bioenergy. It will enhance competitiveness and sustainable prosperity through increased efficiency in its use of natural resources. This will also have the added benefit of reducing strategic dependencies on unreliable partners, while creating the opportunity to expand cooperation on an equal footing with the global south. By focusing economic activities on delivering human needs and respecting planetary boundaries, it will deliver in Europe and be a global leader. Finally, if it can reduce inequality and the power of vested interests, it will increase fairness and strengthen democracy.

CASE STUDY

The challenges outlined here—valuation, allocation, and overcoming inertia—converge clearly in one of Europe's most pressing challenges: land use management. European land faces mounting pressure to serve multiple competing demands related to the four provisioning systems and the need to protect nature.[58] This example illustrates how siloed, sector-specific approaches often create unintended consequences, while a systems perspective can reveal hidden synergies.

Understanding these competing demands requires examining how land is valued and allocated in the current system. The valuation of land and the associated costs and benefits of owning and using land are based on a complex mixture of regulations and pricing based on cultural, natural, and economic factors, strongly determined by its historical uses and current distribution of power.[59] It is a finite resource, and so meeting its competing needs requires finding and updating a balance in its distribution. Also, given that all land is allocated, any shift would inevitably lead to relative gains as well as losses.

The limitations of this current approach to land governance are particularly evident in the proposed role of bioenergy in the transition.[60] According to the Commission's modelling, the Fit for 55 plan[61] will drive a four-fold increase in wood imports for bioenergy, while energy crops could occupy up to one-fifth of Europe's cropland by 2050.[62] The environmental impact is severe: when accounting for indirect land use changes, bioenergy's carbon emissions potentially exceed those of fossil fuels.[63] Furthermore, bioenergy is a highly ineffective and costly way of producing energy in terms of land use, with some estimating that the energy output per hectare from solar power can be up to 300 times higher than that of bioenergy.[64]

As a result, the expansion of bioenergy production, despite its intended benefits—enhanced energy security, rural income generation, and stimulating made-in-Europe energy innovation—is producing counterproductive effects across all these dimensions. Furthermore, the policy's environmental impacts extend beyond direct land use changes, creating cascading effects on ecosystems that threaten both ecological stability and socioeconomic wellbeing.[65]

A systems approach to land use would replace the current siloed, sector-by-sector strategy prioritising financial returns. This comprehensive approach evaluates land's potential to meet various human needs while respecting planetary boundaries. It reveals efficiency gains and synergies that can reduce land pressure, such as combining agriculture and PV installations,[66] regenerative agricultural practices,[67] or designing built environments that work with nature, creating cooler cities and improving public health.[68] These solutions deliver multiple benefits: lower energy demand, increased productivity, and enhanced overall wellbeing.

Transitioning from sector-based to systems-based policy requires broad collaboration across departments and stakeholders. The strategic dialogue on EU agriculture's future demonstrates this potential—its recommendations gained acceptance from diverse and often opposing stakeholders, but recent developments described in chapter 2 seem to put its achievements at risk.[69]

To leverage the positive feedback loops, and break the negative ones, the recommendations of the dialogue should be implemented in an iterative process and complemented with a wider strategic dialogue on developing an EU land use strategy. The Systems Transformation Hub initiated a first step in this process in June, where experts and policymakers working on climate, environment and agriculture met to discuss various land use scenarios for the EU.

5. Five key recommendations

Europe faces a clear choice. The announced 2024-29 policy agenda presents an unprecedented opportunity to reshape the EU's economy and achieve the ambitious targets set out in the European Green Deal, fully recover from the COVID-19 crisis, enhance European competitiveness, and strengthen Europe's resilience. This requires a full-scale reform of the current socio-economic system, as today the way natural resources are used for economic activities is the cause of many of the world's most pressing issues. Instead of an economy based on maximising quantity and extraction, adopting a more holistic view of Europe's prosperity is necessary.

As President von der Leyen wrote: *"Implementation of the European Green Deal and the coronavirus recovery are two sides of the same coin. Europe has the potential to emerge from the current crisis to become a fairer, more prosperous, more sustainable and more resilient society."*[70]

We recognise that today's context has changed, with geopolitical tensions escalating, climate change impacts increasing globally, and continued economic disparity and insecurity creating public frustration and anxiety. This has translated into growing social tension and a sense of instability, reducing the political space to implement the ambitions mentioned by the President. Yet by returning our focus towards becoming "a fairer, more prosperous, more sustainable and more resilient society" the transformation is feasible and its economic potential considerable.

To support the Commission in this implementation journey, we identified five recommendations by applying the provisioning systems approach and frameworks like the Systems Change Compass and Earth4All to the current political context. These recommendations are selected to individually strengthen and collectively transform EU policymaking. They are designed to strengthen EU policymaking capabilities while enabling deeper systemic transformation. Each recommendation addresses specific implementation challenges while creating the conditions for successful delivery of the Commission's priorities of:

1. Democracy and social fairness
2. Defence and security
3. Sustainable prosperity and competitiveness
4. Leading in the world while delivering in Europe

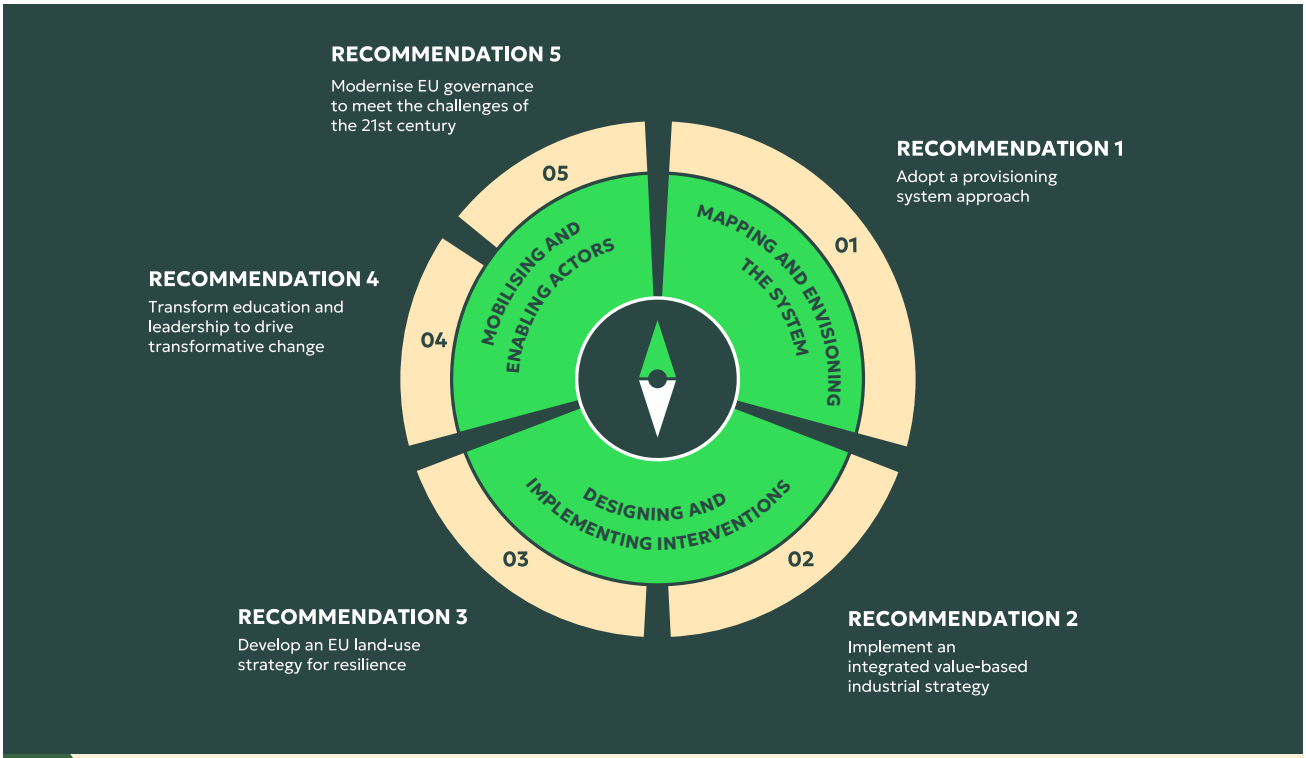


FIGURE 05 The 5 recommendations based on the systems change compass theory of change.

RECOMMENDATION 1: Adopt a provisioning systems approach

Currently, the economic model is built around GDP growth, prioritising financial capital while human and environmental capital are undervalued or not even valued at all[71]. This structure frequently leads to the unsustainable use of natural resources and limited focus on long-term wellbeing which **outsources the costs** to non-financial damages such as health, people elsewhere, or into the future.

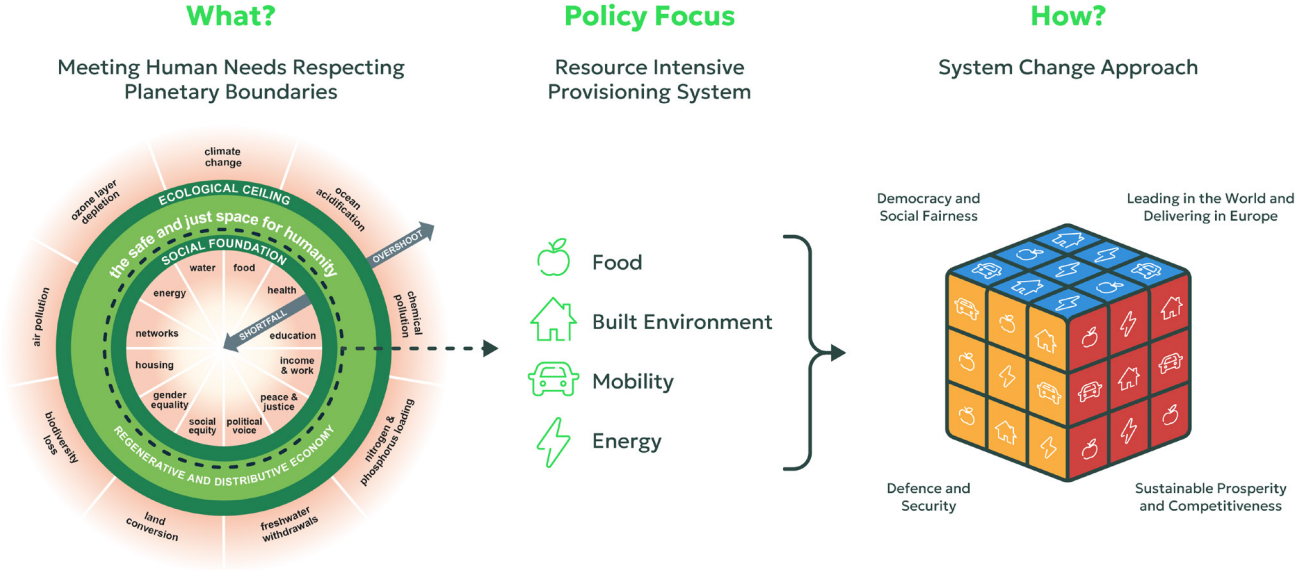
Yesterday's and today's extractive economic model lies at the core of the interconnected issues of rising inequality and the depletion of natural resources. The wealthiest consume the most resources and produce the largest share of emissions, while the less affluent bear the consequences. At the societal level, countries with the most equality tend to be the most prosperous, whereas inequality goes hand in hand with powerful vested interests that tend to resist measures for increasing shared prosperity. Rising losses associated with climate change, COVID-19 recovery and current inflationary pressures present Europe with a choice: rebuilding the former system or creating a new, more sustainable economic architecture.[72]

To this end, the main implementation challenge for the EU to overcome is how to measure and enjoy the full breadth of the benefits of a successful transition, fairly allocate its associated costs, and effectively distribute its natural resources for sustainable long-term use.

THE MAIN IMPLEMENTATION CHALLENGE FOR THE EU TO OVERCOME IS HOW TO MEASURE AND ENJOY THE FULL BREADTH OF THE BENEFITS OF A SUCCESSFUL TRANSITION, FAIRLY ALLOCATE ITS ASSOCIATED COSTS, AND EFFECTIVELY DISTRIBUTE ITS NATURAL RESOURCES FOR SUSTAINABLE LONG-TERM USE.

If the EU wants to achieve its four political priorities, shown in Figure 6, the **most effective route would be to take a systems approach**, where the economy is optimised for meeting human needs and respecting planetary boundaries. When this is based on **provisioning systems,** it can **couple resource efficiency with demand side approaches, and decarbonisation efforts with dematerialisation, which will increase prosperity prosperity**.

FIGURE 06 A systems approach to the 2024-2029 EU Strategic Agenda.



Source: Raworth 2017; IRP 2024; Europe's Choice, Political Guidelines for the next European Commission 2024-2029

A provisioning systems approach integrates interconnected ecological, technological, institutional, and social components that work together to transform natural resources to meet human needs.[73] The focus is on maximising the effectiveness of the economy to deliver human needs while minimising the environmental impacts of associated resource consumption. Specifically, it looks at how four provisioning systems – energy, food, built environment and mobility – that account for 90% of all global material use, can improve wellbeing and planetary health.[74]

Unpacking the relations between provisioning systems and leveraging their synergies enables policymakers to **identify effective cross-cutting policies**. In contrast, focusing solely on an individual sector's economic value amplifies conflicts between competing priorities. For example, a fiscally affordable energy bill is not achieved through subsidies on fossil fuels, but by **supporting renovation for better insulation and smart decarbonised energy systems** that help people reduce their energy bills, improve the comfort of their homes, and increase the value of their property. Directing capital to support a Just Transition and the Social Climate Fund's aim of reducing energy poverty complements this.

A clean energy mix is neither achieved by promoting bioenergy production, which has considerable resource requirements and a significant opportunity cost of carbon.[75] Instead, **clean energy sources with a smaller material footprint**, such as wind and solar, are needed, combined with **energy efficiency and demand reduction measures** in other systems. Lastly, a shift towards more sustainable mobility does not just mean electrifying cars. It includes a **more active, less congested, and more integrated mobility system** that is accessible and affordable to all.

An economy focused on the delivery of human needs must **adapt its indicators of progress**. This can build on the ongoing efforts by the European institutions and social partners to develop and **implement 'beyond growth' indicators[76] such as science-based targets for nature**. These indicators are complementary to GDP and need to be included **in all EU corporate reporting standards, and economic and fiscal assessments**, such as the European semester, in order to harmonise and simplify them.

Establishing a material target would greatly support efforts to dematerialise and increase prosperity by shifting away from a purely extractive economic system. For example, the technical working group of the Platform on Sustainable Finance already proposed that the EU should reduce the EU27 material footprint by 50% by 2030 and 75% by 2050 compared to 2015.[77]

RECOMMENDATION 2: Implement an integrated value-based industrial strategy

Europe's ability to uphold its fundamental values is at risk, if it is unable to become more productive. Specifically, Europe is falling behind other global players in developing and adopting the technologies of the 21st century, including renewable energy and battery manufacturing, digital hardware and software, nano and quantum technologies. Europe, therefore, must be more disruptive.[78] The path forward requires both disruption and transformation. The EU needs to adopt an industrial strategy that **unlocks the full potential of its key strengths: people, places, and dematerialisation.**

Europe's competitiveness derives from its ability to be the globally leading social and sustainable market economy. As already identified in the previous Commission mandate, charting a path based on European values and economic strengths is essential for prosperity. The Green Deal and its Industrial Plan should remain central to policymaking during the Von der Leyen Commission's second mandate. The proposed €650+ billion plan could form the basis of a comprehensive economic development strategy, strengthening the EU's global position.[79] The plan should enable the EU industry to drive the twin green and digital transitions while ensuring alignment with EU strategic goals and values.

The risk of the current approach, is that it **kills the industry with kindness.** Instead of consistently implementing its policy roadmaps, unpredictability on key economic legislative files has increased. Valuable lessons can be learned from successful examples of the European manufacturing industry: only by pooling innovation and financing capabilities across borders and not compromising on our values, such as safety, can the EU produce global leaders.

An effective European strategy is not about selecting and supporting winners or maximising shareholder profits, but **creating the enabling conditions for the champion ecosystems** that could establish the basis of Europe's sustainable prosperity and competitiveness. These ecosystems can be found at the intersection of various provisioning systems, those that leverage the synergies between them with profitable and effective solutions. As shown in Figure 7, they range from software applications that reduce the need for resources, such as smart grids, mobility integration systems, or video conferencing, to kelp farming that offers healthy protein-rich nutrition while cleaning the ocean.

What they have in common is that their success is deeply interconnected, with the progress of one often depending on others, creating a high potential for positive feedback loops and exponential returns. This interdependence means that policymakers must address multiple areas simultaneously, fostering innovation across sectors.[80] For European policymakers seeking to implement this approach, the Systems Change Compass offers 30 policy orientations, along with over 50 policy proposals on how the champions of each provisioning system can best be nurtured.

This industrial strategy would be built on European values of prosperity, equity, freedom, peace and democracy in a sustainable environment. [81] Such a strategy would be strongest in building an economy which delivers for society as a whole. It naturally links to the European Pillar of Social Rights in terms of **improving and expanding education** for all and throughout life, ensuring accessible child care, good **working conditions and fair pay**, **liveable neighbourhoods**, and financial **support for employment transition**.[82] Existing legislation such as the Social Climate Fund, the Council recommendation for a Fair Transition, and the minimum wage directive are all good examples of how this could be achieved if implemented at the required level of ambition.

To unlock the full potential of the European economic and industrial strategy, **Cohesion and Horizon policies should be integrated and updated to support member states, regions, and cities** to build better physical, digital and social infrastructure, across the EU and globally. For example, through expanding cross-region and cross-border transmission lines in line with RePowerEU. Furthermore, stimulating and adopting innovation can only function by **increasing investment in local research, innovation and education organisations as well as enhancing their integration** with each other and local and international business. This should be **guided by dialogues between cities, regions and industries**, and based on existing regional development programmes such as the Just Transition Mechanism.[83] **The Horizon Europe Missions have created an opportunity for such an approach to be tested and fully developed,** with the 'Cities mission' in particular offering strongest possible enabling conditions for lead market generation.[84]

Lastly, **incentivising the reduction of resource demand along circular economy principles** can be a key driver for innovation in the European manufacturing industry.[85] This should go beyond critical raw materials, and include all materials and natural resources as outlined in the previous recommendations, and **promote all circular economy options**, such as better design, more intensive use, light weighting and life extension, through measures such as the expanding the Critical Raw Materials Act, Net Zero Industry Act, Ecodesign directive, waste regulation, and extended producer responsibility. For it to achieve it's maximum impact, it should also include an update of RePowerEU and other industrial energy legislation, to **promote direct electrification** of industrial processes where possible, support energy demand reduction efforts, require clean energy demand procurement, invest in expanding energy storage capacity, and finance this through leveraging private capital with public funding.[86]

Industry 5.0 provides a framework that can help deliver on the foundational elements of people, places, and dematerialization. Drawing from lessons learned during the COVID pandemic, the **Industry 5.0** approach shown below **emphasises building resilient value chains while operating within planetary boundaries.**[87] It reimagines Europe's twin transition by integrating digital transformation with sustainability and climate action.

This transformation requires commitment at all governmental levels and must inform international policy alignment to effectively balance the needs of people, planet, and prosperity.

Industry 5.0 principles

- Ensures a framework for industry that combines competitiveness and sustainability, allowing industry to realise its potential as one of the pillars of transformation
- Emphasises impact of alternative modes of (technology) governance for sustainability and resilience
- Empowers workers through the use of digital devices, endorsing a human-centric approach to technology
- Builds transition pathways towards environmentally sustainable uses of technology
- Expands the remit of corporation's responsibility to their whole value chains
- Introduces indicators that show, for each industrial ecosystem, the progress achieved on the path to well-being, resilience and overall sustainability.

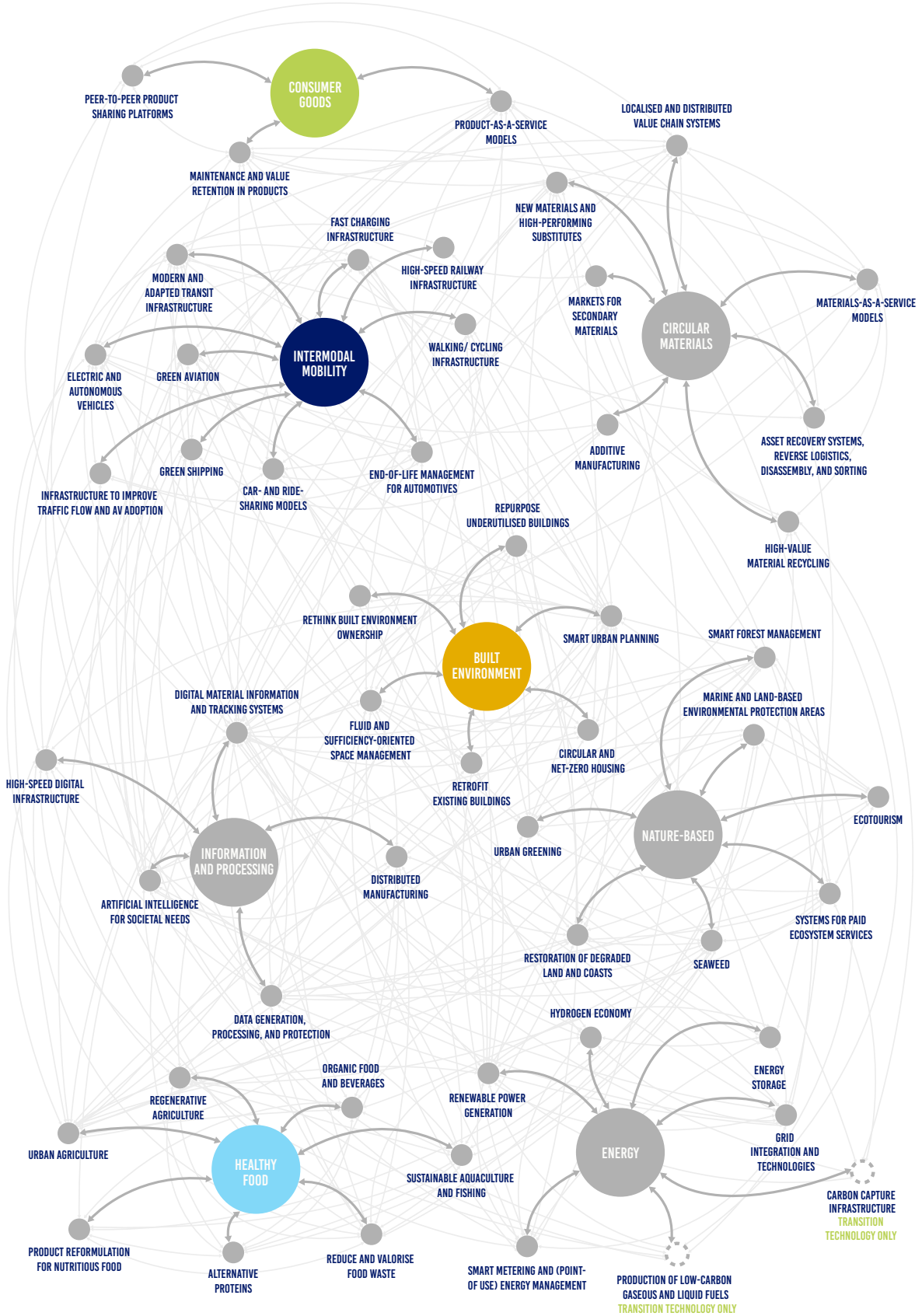


FIGURE 07 An overview of 50+ potential champion ecosystems, and their related provisioning system.

By harnessing the digital economy and international partnerships, Industry 5.0 can further support the delivery of the foundational elements. **Existing efforts at combining the green and digital transition need to be strengthened**, especially through prioritising and supporting technologies with social and environmental benefits. [88] This should also include **specific measures to support workers with the digital transition and the impacts of AI and automation**, as well as **harness the potential of digital learning**. Furthermore, the **"do no significant harm" and precautionary principles** are essential to safeguard the quality of European technologies.

The EU could **develop new types of economic partnerships that go beyond trade agreements, focusing on developing sustainable economic models.**[89] A new offer can be developed by Europe for its partners that currently rely on the export of primary products, that increases the resilience of supply chains, and reduces the global material footprint. This includes **investing in capabilities to leapfrog harmful and polluting technologies**, fostering **integration in circular and regenerative value chains** and **creating a wider market for green production.**[90] European regulation with a global footprint, such as the EU Deforestation Regulation and Carbon Border Adjustment Mechanism, are accompanied by **measures supporting the greening of production of affected sectors and workers** in Europe and abroad.

EXAMPLE

Combining the EU industry and the Cities' missions means unlocking supply and demand within the ambition, directional market signal and structured approach of the mission.[91] Cities operate under specific Climate City Action Plans and hence, have specific investment needs to get to net-zero. The aggregate demand of 112 cities spelled out in those plans, constitutes a pathway for the European clean industry. Now, actionable mechanisms for green industrial performance and decarbonisation planning, grounded in systemic approaches to design and implementation, public and private procurement, development of EU standards, such as CEN2, and permitting are needed in order to realise these plans.

This process can inform and transform EU industrial policy today, as it can direct the re-design of supply chains, infrastructure and material flows to help deliver the scale of transformation envisaged; send clear and significant demand signals; and help build new business models and standards for implementation at all levels. Implementation of the Mission objectives through collaborative partnership between cities, regions, member states, the European Commission and industry, will set a precedent to further mobilise capital markets and generate learnings and incentives to accelerate the sustainable reindustrialisation of Europe, aligned with EU values.

RECOMMENDATION 3: Develop a European land-use strategy for resilience

The EU faces mounting pressure to balance multiple land-use demands, including food production, water management, housing, timber provision, energy generation, and nature protection. Existing sectoral approaches have proven inadequate, leading to inefficiencies and conflicts between competing needs. This is worsened by increased extreme weather situations, for example with regard to the destructive potential of floods for people, houses and crops in landscapes without adequate spatial planning.[92]

Single sector solutions are insufficient as pressures on land-use increase from all sides. The limitations of single-sector solutions are, for example, evident in current bioenergy policies. While intended to promote renewable energy, these subsidies incentivise landowners to reduce land allocation to alternatives. A strategy that optimises the use of land for the benefits of all human needs, would likely focus less on bioenergy. Its relative efficiency per hectare is significantly lower than wind or solar energy, and when accounting for indirect land use changes, its carbon footprint exceeds that of fossil fuels.[93]

A **systemic EU land-use strategy would benefit landowners and users and reduce pressure on natural habitats** in Europe and globally through better coordination of different land uses. Specifically, this strategy would focus on leveraging the synergies between **meeting the various human needs that require land use, such as food, housing, and energy, and protecting biodiversity**.

The **recommendations of the Strategic Dialogue on the future of EU agriculture provide a basis for the development of such a strategy**, and its method of stakeholder engagement will be key in developing understanding of its coherence across sectors. Such a strategy should then feed into the multiple ongoing legislative processes, including designing the next programming cycle of the Common Agricultural Policy, implementing the Nature Restoration Law, revising key pieces of environmental policy, including the Land Use, Land-Use Change, and Forestry (LULUCF) and Deforestation Regulations, and preparing a proposal for a Framework for Sustainable Food Systems, as required by the Farm to Fork Strategy.

A SYSTEMIC EU LAND-USE STRATEGY WOULD BENEFIT LANDOWNERS AND USERS AND REDUCE PRESSURE ON NATURAL HABITATS

Taking an **holistic and regenerative approach to land use cannot be separated from the water-nexus**. Both water quality — regulated through the Water Framework Directive — and water quantity are an integral part of sustaining both agriculture and biodiversity goals.[94] Oceans, through the solutions they can provide for the energy and protein transitions, will need to be part of closing the overall puzzle.[95] Only by directly addressing these interconnected ecosystems, for example by supporting solutions with multiple benefits such as mangrove and kelp forests, protecting water catchment areas essential for drinking water, and minimising nutrient run-off, can a land strategy function. The benefits of such measures can be amplified by **biodiversity corridors, particularly intercontinental ones**, and the expansion of international partnerships.[96]

Shedding light on trade-offs between different objectives and **combining demand and supply policies must be a cornerstone of any land strategy**. This should consider the opportunities for reducing land demands that address the demand side, such as **food waste prevention, phasing out bioenergy use, and shifting to alternative proteins**.[97] Only by complementing production measures with changing demand can outsourcing the environmental impacts of EU food consumption abroad, such as deforestation, be avoided.[98]

An effective land-use strategy needs to be about more than just agriculture, including all land and landscapes that encompass natural resources and human needs. Combined with integrated spatial planning that promotes **sustainable densification of urban areas, nature-based solutions** will be essential. Through these approaches, the climate resilience of communities and infrastructure will be strengthened, quality of life improved, and successful business models pioneered.[99]

RECOMMENDATION 4: Transform education and leadership to drive transformative change

While the pace of technological change quickens, Europe's capacity to keep up is faltering. An unprecedented number of workers are retiring, taking with them valuable skills and expertise, adult education rates are not matching their targets, and PISA scores are falling in most member states.[100]

This is not just a challenge for Europe's industrial competitiveness, as the skills and capabilities of its leaders risk becoming just as outdated. **To navigate complexity, linear, top-down organisational structures and associated paradigms are too slow and ineffective**, while the expertise required to facilitate bottom-up processes or iterative processes is lacking from large parts of private and public sectors.[101]
Any effective modernisation of governance and improved industrial strategy therefore need to be complemented with **a full-scale mobilisation programme to unlock the potential of human creativity, ingenuity and social cooperation**. This takes the fifth freedom of research, innovation, data and knowledge to the next level, by **investing massively** in its accumulation and amplification, within Europe, and with our trading partners. It could also mean revisiting Article 165, to improve the coordination of Europe's ample educational capital at the European level, building on the example of the Erasmus and Horizon Programmes, and the European Pact for Skills.

However, these educational and research initiatives cannot succeed in isolation. **Building human capital must go hand in hand with addressing inequality.** The quality of learning and capacity building is inherently linked to broader access to opportunities, wealth distribution, and social stability[102]. By tackling **taxation inequalities, investing in disadvantaged rural and urban communities, and breaking down structural barriers faced by women and minority groups**, better conditions for education and skills development are created.[103] This means that any strategy for improving Europe's educational and innovation capacity will only optimise it's results if coupled to tackle wealth disparities, ensure equal access to opportunities, and **focus on both short-term reskilling and long-term capacity building**.

A FULL-SCALE MOBILISATION PROGRAMME TO UNLOCK THE POTENTIAL OF HUMAN CREATIVITY, INGENUITY AND SOCIAL COOPERATION.

The path forward **requires reintegrating humanities and science** through integrated research programs, interdisciplinary science, technology, engineering, arts and Mathematics (STEAM) based education, and collaborative innovation platforms.[104] By leveraging Europe's world-leading creative industries, we can build and communicate a compelling shared vision of a sustainable future, provided strategic investment and public engagement are driven in the right direction.[105]

This transformation demands **new leadership competencies specifically designed for navigating complexity**. By **emphasizing systems thinking, adaptive management, and cross-cultural collaboration** in both public and private sectors, **comprehensive intergenerational agreements** can be established, that ensure fair resource distribution and balanced decision-making between current and future generations' needs. For this, **building trust through stronger commitment to science-informed policymaking at all governance levels** is required, including using **innovative modelling methods** that are more systemic and dynamic in scope, as well as better defining how the precautionary principle should strengthen resilience, and empowering system change leaders across all sectors while ensuring their equality and diversity.[106]

As with industrial relations, Europe has an interest in strengthening **knowledge relations with the rest of the world**.[107] This goes beyond expanding exchanges of students to fostering networks of dialogue between research institutions and policymakers across the world. If Europe recognises the value of human capital of its partners for their and its own benefit, increasing the potential of cooperation to solve wicked problems.[108] Through this approach, the rights of future generations are considered in policymaking and their voices are better heard and included in decision-making debates. This would have the added benefit of upskilling the existing and arriving generations of leaders.

RECOMMENDATION 5: Modernise EU governance to meet the challenges of the 21st century

The European Union is famously forged in crises, but the challenges facing the EU have outpaced the transformation of its governance structure, capacity, and mandate. There is no shortage of ideas of what needs to be done. However, effective responses to these recommendations are hampered by the incomplete, outdated and siloed European governance framework. As a result, the single market is fragmented by national barriers, the regulatory environment can be contradictory, complex, and unpredictable, and proposed measures often fail to be as ambitious as required.

For citizens and businesses to thrive in today's Europe, a modernised EU governance is required. This approach should be more responsive, coherent, and focused on delivering human needs while respecting planetary boundaries, thereby unlocking the full benefits of the single market. Such a structure can **align short-term crisis responses with achieving long-term goals, ensure consistency between policies, and a level playing field for all while remaining value-driven**. This can only be done if the EU continues with and improves on its tendency **to develop clear policy implementation roadmaps with transparent milestones, conditional requirements, across all levels of governance**[109] — essential for stakeholders to confidently plan and invest for long-term returns.

To do so, there is a need to **rethink the involvement of citizens, cities and regions** in European policymaking, **empowering a multi-level governance structure**.[110] This harnesses local and regional expertise and responsibility, while maintaining cohesive and responsive policy implementation and collective decision-making across all EU levels.[111] The **role of cities and regions as implementing agents** of policy should be strengthened in the design of policies and incentives in line with the subsidiarity principle. Finally, **social and citizen dialogues** should be strengthened as an effective method to involve relevant stakeholders, as well as expanding experiments with increasing citizen participation and co-creation, for example, through citizen assemblies.

THE TYPE OF MEASURES PROPOSED SHOULD AIM FOR A BALANCED REGULATORY ENVIRONMENT THAT ALIGNS MARKET SIGNALS WITH POLICY OBJECTIVES.

Simultaneously, the **integration of the Single Market needs to be accelerated.** Many proposals have already been included in the Letta and Draghi reports on how this can be achieved, especially regarding **streamlining decision-making processes** for regulation, policy and permitting. For example, through **completing the Capital Markets Union**, **establishing a legal form for pan-European businesses** and **implementing the fifth freedom** for research, innovation, data and knowledge. **Europe should prioritise unified regulations over directives,** as a way of reducing cross-border barriers to trade and investment, and implement directional rather than prescriptive policy approaches.[112]

The type of measures proposed should **aim for a balanced regulatory environment that aligns market signals with policy objectives**. This can reduce the regulatory burden and bureaucratic complexity that frustrate businesses and citizens. For example, by placing a value on externalities and **shifting the tax burden** from social and environmentally beneficial activities towards those related to resource extraction and consumption. This could also include **expanding the Emissions Trading System** and reducing the number of allowances or introducing a similar system for natural resources, targeting one or multiple steps of the resource value chain. The **proceeds would be used to support citizens and businesses** to navigate the transition, develop new social, business, and technological solutions and models necessary for the transition.

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