WHAT COMES AFTER THE EUROPEAN GREEN DEAL?

Recommendations 2024-2029

By the Independent Tripartite
High Level Groups
on EU Policy Innovation

'Higher than reality stands possibility'

(Martin Heidegger in 'Sein und Zeit', 1927)

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High Level Groups on EU Policy Innovation
Centre Condorcet asbl | rue van Campenhout 22, BE-1000 Brussels
EU Transparency Register 104824945116-03 | www.centrecondorcet.eu
+32 2 505 60 11 | secretariat@highlevelgroup.eu | www.highlevelgroup.eu

FOREWORD
BY THE CHAIRPERSONS

A well-functioning market economy, liberal democracy, and comprehensive welfare systems are the hallmark of European societies. They are the basis for their resilience. They bring trust from citizens and allow a realistic and mutually beneficial engagement in an interdependent, uncertain world.

They require permanent and comprehensive attention and care. In the current transition to a climate-neutral and circular economy, this means giving equal importance to the economic, social and ecological dimensions of sustainability. The multiple interdependent challenges facing our countries and the EU's macro-economic condition and its single market, require more systemic thinking, adaptation to new circumstances, and innovative methods of policy design and implementation.

In line with their role 'to think outside-the-box' given by the Polish Council Presidency in December 2011, over a hundred experts from different disciplines and with public, private or academic background, have sought to contribute to problem analysis and solution finding in a number of policy areas. The result of their voluntary work in the last five years forms the basis of the various chapters of this report.

As in 2014 and 2019, we brought together the work of our respective groups in this Blueprint. We present it to the Belgian Council Presidency, the Member States' governments and the European Commission, in the hope that they find useful ideas for the preparation of the EU Strategic Agenda and the Political Guidelines 2024-2029 and for upscaling collective efforts for the Common Good of all Europeans.

Brussels, 10 May 2024

Esko Aho
Chairman HLG on Forestry & Biomaterials

Peter Altmaier
Chairman HLG on Trade Policy Innovation

Phil Hogan
Chairman HLG on Biosphere Economy Innovation

Tobias Krantz
Chairman HLG on Systems Innovation

Pier-Carlo Padoan
Chairman HLG on Financing Sustainability Transition

Andris Piebalgs
Chairman HLG on Clean Energies & Supply Security

Mamphela Ramphele
Chairwoman HLG on Africa-Europe Partnership

Ivan Rogers
Chairman HLG on Neighbourhood Interdependencies

Vassilios Skouris
Chairman HLG on Citizenship Innovation

Nout Wellink
Chairman HLG on Governance Innovation

INTRODUCTION

The overarching priorities

The foreword puts it succinctly: the essential characteristics of Europe need to be preserved while European governments deal with a convergence of deep shifts in geopolitical, technological, environmental and economic conditions. This requires policy and governance innovation together.

Anxiety is seeping into citizens' mindsets. Scarcity risks to replace abundance. A new governance culture is needed to manage interdependent impacts and to preserve future welfare. Europe's resilience in the world depends on economic success, social acquiescence and trust. It can only be achieved by systems thinking and scenario planning based on foresight, comprehensive impact assessments, and creative policy innovations.

The main policy instrument of European governments against such major challenges is the European Union. It must be seen as a complex adaptive system embedded into other complex adaptive systems. They have a technological, economic or social-cultural nature, and they continuously evolve and interact. When too many paradigm shifts, dysfunctions and crises occur simultaneously in a particular context, and when these can no longer be explained within the existing thinking frameworks, it then requires an equally radical shift of mindset, organisations and operational modes.

Therefore, multidisciplinary system thinking must replace traditional silo thinking. After a five-year term focussed on a 'Green Deal' (2019-2024), the EU now needs to complement it with a comprehensive 'Economic Deal' (2024-2029), in order to preserve competitiveness, employment, welfare and social cohesion and to secure its place in the world. The transition to a climate-neutral economy needs primarily increased research and finance capacities. Yet the foundations of the existing policy framework, sourced from the late 1980s/1990s during the golden age of the Single Market and EMU development, are not equipped to steer such an important economic paradigm shift in a radically different context. Misalignments between the EU policy objectives and the instruments to reach them result in a transition failure that will put at risk our economic prosperity and social welfare model, and indeed our resilience and geopolitical role.

The current macro-economic context and the state of public finances, in addition to the rising expenses for security and defence, as well as the costs of the transition on households, require that the trajectory towards a climate-neutral and circular economy be managed with priority attention for technology and for economic system change and based on solid financial data and comprehensive impact assessments. The objectives to be reached should not be questioned, the methods require rethinking.

More attention is needed for the risk of transition failures and for unintended long-term effects, and for cascading effects between economic systems. The benefits may come over a decade or longer, but if the costs for citizens and enterprises fall now, they will undermine the long-term goals. Doing nothing is not an option, doing differently is a must. Like a sword of Damocles hanging over Europe are the costs of the transition, estimated by the International Energy Agency at around 6% of GDP annually in the next decades.

The transition is not a linear process and must be steered with appropriate methods and instruments. The operational toolbox should be reformed with a focus on managing policy outcomes in an economy in transition towards ecological sustainability and evaluating progress and costs regularly. It requires strategic agility, modern public management, reliable data, and a new culture and methods of collaboration to steer an inherently complex transition. This can all be done without Treaty change.

The EU and its governments will find more support if they handle the transition with the promotion of confidence for the future, with reassurance that citizens' welfare and assets will be preserved.

In the introductory chapter, the research team provides a brief analysis of the required costs and investments for the climate-neutral transition and of the risk of transition failures, as well as some practical ideas for operational reforms to avoid these.

Then follows a basket of proposals and ideas from the individual high level groups to improve policy effectiveness in the key areas for the transition to climate neutrality while preserving competitiveness and welfare. Finance, research and trade are policies to guide and support all other.

The research team and I are very grateful to the chairpersons and to all those who participated in these unique laboratories for policy innovation.

Stefan Schepers
Executive director (ed.)

THREE
MEGA CHALLENGES

I. How much should we invest in the European Green Deal?

The case for a better allocation of resources towards the net-zero transition.

On 11 December 2019, European Commission's President Ursula von der Leyen presented the European Green Deal communication, aiming at achieving a substantial reduction of GHG emissions by 2030 (-55% net compared to 1990), making Europe the first climate-neutral continent by 2050 (net zero), and limiting global warming to 1.5°C compared to pre-industrial levels. She presented the European Green Deal as "our new growth strategy (…), a strategy for growth that gives back more than it takes away." [1]

In 2024, most of the climate-related legislative packages have been adopted and the decarbonisation objectives are enshrined in EU law, requiring all economic sectors to invest in their transition. Yet, two fundamental questions remain: how much have we already invested in the transition? And how much more do we need to invest? The HLG explored some of the existing cost and investment estimates of the European Green Deal (1) and prepared recommendations in terms of economic governance (2) and public investments (3). It recommends the creation of a new EU Climate Transition Fund that will serve as a strategic investment tool for the 2024-2029 term.

Although most of the necessary decarbonisation investments will have to be financed by private capital, the public sector has a pivotal role to play in the strategic steering of public and private investments towards sectors that need it the most. For this reason, the EU and the member states should seek to optimise as much as possible the allocation of resources towards the net-zero transition based on verifiable data in view of improving the use of public and private money.

1. Assess the EU climate investment gap, set up an EU climate investment target

Initially, the costs of the European Green Deal were assessed based on different scenarios prepared before the adoption of the (now agreed) EU 2030-2050 climate targets. In its communication "A Clean Planet for All" from November 2018, the European Commission considered that the achievement of a net-zero target by 2050 would necessitate to invest around EUR 520-575 billion annually, representing around 2.8% of the EU GDP. At that time, the actual climate investment level was thought to represent around 2% of the EU GDP.

Therefore, the climate investment gap between the required total investments and the actual investments was thought to represent around EUR 175-290 billion per year, meaning an increase of +/- 30 to 50% compared to the actual investments.[2]

Since then, the EU has suffered major economic and geopolitical crises with the COVID-19 pandemic, the Russian invasion of Ukraine and the rise of energy prices. The return of two-digit inflation affected consumers' purchasing power and spelled the end of a decade of low-interest rates. Supply chain disruptions in sensitive sectors such as food, pharmaceuticals and critical raw materials underscored the need to reinforce Europe's strategic autonomy and resilience against external shocks.

[1] Press remarks by President von der Leyen on the occasion of the adoption of the European Green Deal Communication, 11 December 2019.

[2] European Commission, A Clean Planet for All, COM(2018) 773, 28 November 2018.

In the new context, uncertainty with regard to the required level of decarbonisation investments has increased. In a Recommendation from June 2023, the European Commission states that the EU needs to invest "about EUR 700 billion more each year from 2021 to 2030 than it did from 2011 to 2020" in order to achieve its environmental objectives at large, those of the REPowerEU plan, and those of the Net Zero Industry Act.[3] Other assessments refer to an overall investment need in the energy system at around 3% of the EU27 GDP for the 2031-2050 period, with an additional 1.5 percentage point compared to the average energy system investments in 2011-2020.[4]

More macroeconomic granularity is required to better inform governments on the costs of the sustainability transition. The HLG calls on the European Commission to perform a systematic and regular assessment of the level of climate investments in the EU, on a sector-specific and country-specific basis, comparing (A) the annual overall investment needs to meet the EU 2030-2050 climate objectives, and (B) the actual climate investments observed each year in the EU economy. The difference between the two would indicate the level of climate investment deficit or surplus (A - B), both at an aggregate level and in each sector and country.

On 21 February 2024, the Institute for Climate Economics (I4CE) published a detailed macroeconomic study assessing the European climate investment deficit across three "systems" (buildings, transports and energy) covering 22 specific sectors (e.g., wind power, hydropower, electricity grids, construction, renovation, heat pumps, batteries, vehicles, railways, etc.)[5] Those sectors are thought to represent more than 60% of the total EU27 GHG emissions. The I4CE study is a highly welcome step in providing granularity and methodology in terms of climate investment monitoring and should be extended to energy-intensive industries, agriculture and food production, forestry, waste management and adaptation to climate change.

The I4CE study highlights the following main conclusions:

- The actual climate investments observed in the EU27 increased by 9% in 2022, reaching an amount of EUR 407 bn (or 2.6% of the EU GDP) for the decarbonisation of buildings, transports and energy.
- However, the annual average climate investment needs are almost twice as high as the actual investments spent in 2022: EUR 813 bn (or 5.1% of the EU GDP) must be invested each year from 2024 to 2029 in order to reach the EU 2030 climate targets.
- This leaves an overall climate investment deficit of EUR 406 bn for the year 2022 at the scale of the EU, composed of EUR 122 bn for the energy system, EUR 137 bn for the building system, and EUR 147 bn for the transport system.
- The sectors with the highest climate investment deficit levels include electric vehicles for passengers (EUR 79 bn), wind power generation (EUR 74 bn onshore + offshore), residential building renovations (EUR 52 bn medium + deep), the modernisation and optimisation of the electricity grid (EUR 42 bn), heat pumps (EUR 37 bn, replacements + new installations) and trans-European railway infrastructures (EUR 29 bn), to name but a few.
- Only two sectors were in a situation of climate investment surplus in 2022: hydropower (EUR 2 bn) and battery storage (EUR 0.5 bn).[5]

Such an analysis should be periodically concluded at EU level within the context of EU climate investment gap monitoring, with a detailed breakdown of investment needs per sector, per country and per social group. The sector-specific component should consider all energy-consuming and/or carbon-emitting economic activities, including agriculture, building upon the above methodology proposed by I4CE. The country-specific component should compare the relative positioning of each EU member state and across all sectors. The social component should aim to assess the investment needs per household, based on typical profiles (income, number of persons).

[3] Commission Recommendation (EU) 2023/1425 of 27 June 2023 on facilitating finance for the transition to a sustainable economy.

[4] European Commission, Impact assessment report accompanying the EU 2040 climate target communication, SWD(2024) 63, 6 February 2024.

[5] Institute for Climate Economics (I4CE), European Climate Investment Deficit report: an investment pathway for Europe's future, 21 February 2024 (Clara Calipel, Antoine Bizien, Thomas Pellerin-Carlin). See also Jean Pisani-Ferry & Selma Mahfouz, Les incidences économiques de l'action pour le climat, 2023.

The EU climate investment gap monitoring would serve as a compass to guide governments on the necessary financial efforts and the positioning of their economy in the transition pathway, thus enabling an optimised resource allocation. On this basis, the EU could set up a dynamic EU climate investment target expressed as a proportion of the EU GDP, and inspired by the NATO defence investment target. The next step would be to integrate this target into EU economic governance rules.

2. Integrate the EU climate investment target into EU economic governance rules

Once the EU disposes of clear and precise indicators for the necessary additional climate investments per sector and per country, it becomes possible to integrate such indicators into the EU economic governance rules. The political agreement found in December 2023 on the reform of the Stability and Growth Pact (SGP) Regulations is an important step forward.[6] It will allow for more flexibility in the way Member States comply with the EU fiscal rules. As part of the so-called "national medium-term fiscal-structural plans", member states will commit to a fiscal trajectory over a four or five-year period. EU macroeconomic surveillance will consider the different national situations and commitments made to reduce public debt and deficit over the years.

The agreed approach in the reform of the SGP will enable a more comprehensive macroeconomic surveillance than a simple debt-to-GDP or deficit-to-GDP ratio. When applying the new rules, the European Commission and the member states should recognise and facilitate the value of public investments allocated to the sectors with the highest level of climate investment deficit. The strategic allocation of public investments in those sectors will contribute to putting Europe on the track to achieving its own climate objectives, and will therefore make the economy more resilient against climate-related financial risks.

3. Create a new EU Climate Transition Fund for long-term decarbonisation investments

Many reasons justify the need for a new EU Climate Transition Fund:

- From 2020 to 2023, public health and energy crises provoked an unprecedented need for government expenditure in Europe in a short period of time.[7] This situation revealed important differences in the respective budgetary intervention capacities of member states. For example, Germany and France alone accounted for almost 80% of the State Aid notified under the EU Temporary Crisis Framework in 2022 in the context of exceptionally high gas prices following the Russian invasion of Ukraine.[8] Leaving public climate investment efforts to the member states may deteriorate the level-playing field in the EU single market, as well as the level of social cohesion among countries and regions.

- The EU Recovery and Resilience Facility (EUR 723 bn) is expected to end by 31 December 2026. In the same year, the EU carbon pricing framework will go through an important upgrade with the start of the gradual phasing-in of the Carbon Border Adjustment Mechanism and phasing-out of free Emissions Trading System allowances. Still, at the same time, the new Emissions Trading System for road transport and building heating will start to apply. Continuous public investment efforts will be needed to support the development of climate-neutral technologies in situations where there is a lack of risk appetite for private capital and to alleviate the social costs of the transition on citizens.

[6] Council of the EU (press release), Economic governance review: Council agrees on reform of fiscal rules, 21 December 2023.

[7] EU Agency for the Cooperation of Energy Regulators (ACER), Assessment of emergency measures in electricity markets, 2023 market monitoring report, 14 July 2023; European Parliament, How have major economies responded to the COVID-19 pandemic, study requested by the ECON committee, May 2022.

[8] Remarks by Executive Vice-President Margrethe Vestager on the proposal for a State Aid Temporary Crisis and Transition Framework, 1 February 2023.

- Discussions on a European Sovereignty Fund emerged in the year 2022, yet the STEP mechanism (Strategic Technologies for Europe Platform) eventually agreed on fell short of the initial ambition, both in terms of design (mostly based on the reallocation of existing resources) and in terms of budgetary proportions (up to EUR 160 bn in the initial European Commission's proposal).[9] However, in the Staff Working Document of the Net-Zero Industry Act (NZIA) proposal, the European Commission considered that "the current EU budget has insufficient possibilities for supporting the objectives of the NZIA and for ensuring a level playing field between member states relative to the identified public investment needs".[10]

A new EU Climate Transition Fund should be developed in view of steering public and private investments for decarbonisation with a long-term horizon. The HLG recommends building it around the following overarching principles:

- The EU Climate Transition Fund should aim to facilitate investments in sectors suffering from the highest level of climate investment deficit, on the basis of the systematic and regular assessment of the level of climate investments in the EU as described above. Investments should in particular (but not exclusively) benefit the sectors listed in the Net-Zero Industry Act and in the Taxonomy Regulation, as well as activities that effectively contribute to progress towards the objectives of those legislations, without doing significant harm to climate and the environment.[11] This also requires reforms in transition finance instruments, so that public and private actors can better identify investments that contribute to the transition (see section "transition finance", chapter "financing sustainability transition" below).

- The EU Climate Transition Fund should aim to preserve economic cohesion in the Single Market and social cohesion among citizens. The different budgetary capacities of member states should not exacerbate socio-economic inequalities between advanced low-carbon regions and carbon-intensive ones. As a collective financial power, the EU should seek to invest in strategic cross-border projects where member states or private actors are not individually inclined or able to invest, yet where tangible economic and climate benefits are expected. For example, particular attention should be paid to energy grid interconnections, cross-border renewable projects and trans-European railway infrastructures.[12] EU funding should also support "purely public" projects in the situation of a climate investment deficit, such as energy-efficient renovations of schools, hospitals, social housing and other public sector buildings, as well as large climate-change adaptation investments such as dams and water infrastructures that protect society against important physical damage, with even higher costs of inaction. EU funding should also serve to complement member state social policies to support households in their own transition (e.g. low-income households upgrading from old energy-intensive to modern, energy-efficient domestic appliances).

- The EU Climate Transition Fund should allocate funds where private capital is insufficient. The development of net-zero production technologies typically requires large capital expenditure investments with long-term returns of around 10-15 years or more. The EU Climate Transition Fund should specifically target situations in which there is a need to leverage private capital by de-risking early-stage investments and providing guarantees, up to a level where sufficient private capital can be brought in. It should also aim at providing more predictability for investors with multi-annual financing instruments, such as EU-wide Carbon Contracts for Difference (see section "carbon pricing and taxation", chapter "financing sustainability transition" thereafter).

[9] Commission welcomes the provisional agreement to reinforce the EU long-term budget and to boost Europe's competitiveness and sovereignty, press release, 7 February 2024.

[10] Commission Staff Working Document, Investment needs assessment and funding availabilities to strengthen EU's Net-Zero technology manufacturing capacity, SWD(2023) 68, 23 March 2023.

[11] The design of the Recovery and Resilience Facility (RRF) could inspire the new EU climate transition fund. The RRF complies with Article 17 of the Taxonomy Regulation (2020/852/EU): Do No SignificantlHarm (DNSH) to any of the objectives of the EU Taxonomy Regulation (climate change mitigation, climate change adaptation, sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention and control, protection and restoration of biodiversity and ecosystems).

[12] Studies show that a better integration of European energy systems via more trans-national interconnections may reduce system costs by 25% and may reduce the capacity need for electricity storage by 31%. Bruegel, Unity in power, power in unity: why the EU needs more integrated electricity markets, 14 February 2024.

II. How to avoid a "Transition Failure"?

Rethinking the operation of public governance facing major societal challenges

A transition cannot succeed without sound economics. Economic, finance, research and trade are the key expertise needed to reach the objectives determined by climate and environment expertise.

In the EU, one hears many different opinions on the role that governments should play in their own economy and towards their industries. It is not uncommon to be called a "liberal" when one says that governments should preserve the conditions for the smooth functioning of free and open markets, or an "interventionist" when arguing that higher policy goals justify breaking, bending or bypassing natural market forces.

This simple dichotomy is still deeply rooted in Europeans' minds, even at the highest levels of EU governance. Yet it has become obsolete against major societal challenges that the EU is currently facing, such as climate change, geopolitical transformations and global trade disruptions. The role of governments must urgently be rethought in an economy in transition and their relationship with industry, by overcoming traditional divisions and ideological deadlocks in economic policy.

Scholars have developed the concept of "transition failure", which originated in the field of management and social sciences and is now being discussed by economists. The key concepts can be summarised as follows:[1]

Transition objectives	The starting assumption states that it is up to governments to define certain welfare goals (or transition objectives) for society that the market does not automatically pursue, or would take too long to deliver: for example, the 1.5°C target of the Paris Agreement and the EU 2050 climate-neutrality objective.
Transition policies	Thereafter, economic policies should be developed so that society eventually reaches those goals: for example by putting a price on carbon, imposing behavioural taxes and incentives, banning or promoting certain technologies, supporting innovation, etc.
Outcome	A transition failure occurs when economic policies fail or do not suffice to deliver the transformation desired by governments.

1. A transition failure is different from a market failure

Transition failures are more complex than market failures, as they cannot be reduced to simple economic models with clear assumptions and predictions. In a market failure, government policies aim to repair the functioning of an already existing market. In a transition failure, government policies aim to create new markets, causing inevitable disruptions with the existing ones. The established systems of production and consumption must be replaced by new alternatives, with new winners and losers. Transition policies are inherently more complex than others, as their effects cannot be clearly anticipated before implementation due to a high number of interdependent variables.[2]

[1] Press remarks by President von der Leyen on the occasion of the adoption of the European Green Deal Communication, 11 December 2019.

[2] European Commission, A Clean Planet for All, COM(2018) 773, 28 November 2018.

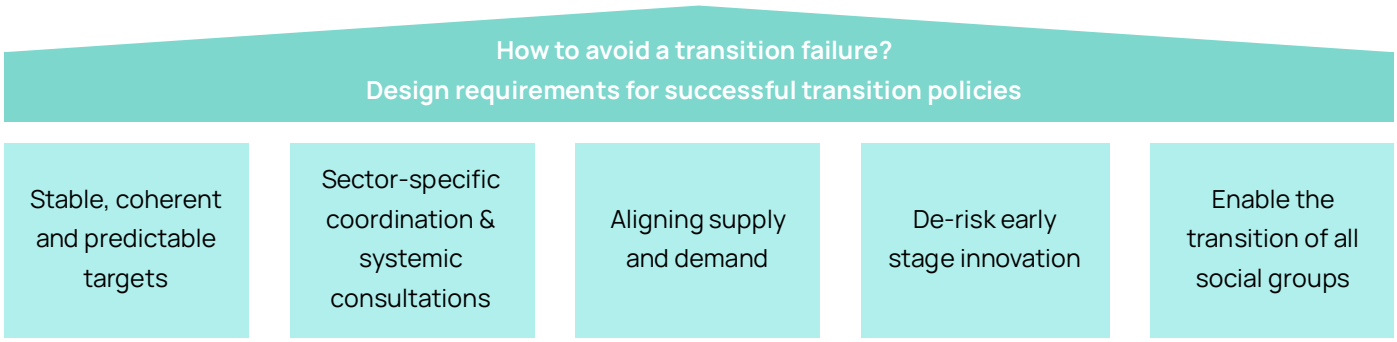
However, a transition cannot succeed without sound economic reasoning. Imposing environmental taxes on certain technologies or products in the absence of any viable alternative will probably not durably change consumers' behaviours. Defining ex ante a restrictive list of government-approved technologies for the future will likely spoil the potential for unknown and more performant innovations. Promoting research and innovation in the absence of a financial risk appetite for production scale-up and commercialisation will likely not generate industrial success stories.

This leads us to question what should be the role of policy economists in an economy in transition. Once the transition objectives have been set into the law, governments must develop the necessary conditions so that the desired transformations become possible. In that sense, governments should act both as directors and as entrepreneurs: they regulate or create markets and they also actively participate in their functioning.[3]

From 2019 to 2024, the EU set ambitious transition objectives related to climate-change mitigation and decarbonisation, circular economy, resilience against international shocks and strategic autonomy, sustainable lifestyles and consumption – to name but a few. Achieving these objectives will require a general transformation of traditional economic structures and societal habits.

2. Innovate on the methods, but keep the goal

Ahead of the next 5-year political term, the EU should focus its efforts on the transition towards the objectives already agreed upon and avoiding a transition failure. In this context, the recommendations developed below in this Blueprint are built upon the following overarching principles for good transition policies:



- Transitions cannot occur in the absence of stable, coherent and predictable targets durably set into the law by governments. The investments required to build carbon-neutral, circular and resilient industrial ecosystems in Europe are typically made over a long period of time, with important upfront capital expenditure and long-term returns. Therefore, it is of critical importance to ensure a high degree of stability, coherence and predictability in the transition goals set by governments, so that companies can rely on them in their multi-annual investment strategies. A sudden change of political direction with drastically different objectives could generate value destruction of the efforts and investments already made towards the transition, hence provoking a transition failure – even with the intention of avoiding it.

- Sector-specific coordination and systemic consultations should catalyse all transition efforts in the same direction. Defining the goals of the transition should be followed by a reflection on how each sector can contribute to achieving them, in close concertation with the parties concerned on the necessary reforms. In this regard, the

[3] Schipper-Tops, R., C. Damen, S. Kes en D. van der Plas (2021). Van overheid als marktmeester naar ondernemer en regisseur. ESB, 106(4795S), 46–49 (cited in Bolhuis, 2023 – see above). 'Wimar Bolhuis, Beleidseconomen moeten weten wat transitiefalen is, in ESB 2023. Wimar Bolhuis, How does transition failure helps policy economist' (TNO paper 2024).

"Clean Transition Dialogues" announced by President von der Leyen at the State of the Union 2023 were a positive step, which should have been initiated at the beginning of the European Green Deal and conducted throughout the years. Systematic public-private concertation on the necessary framework conditions are indispensable to enable the transition in each sector. Building upon the existing Regulatory Fitness (REFIT) programme, the European Commission should seek to align all existing sector-specific legislations with the overarching EU transition objectives. Coherence of national government budgets with the EU transition objectives should also be reviewed, such as for example the remaining fossil fuel subsidies. Any regulatory or budgetary misalignment with the transition objectives may threaten their achievement and increase the risk of a transition failure.

3. An inclusive view is needed

- To create new markets, governments should act simultaneously on the supply side and on the demand side. Transition policies that are exclusively focused on the supply side (e.g. regulatory obligations on producers) or on the demand side (e.g. environmental taxes on products) increase the risk of a transition failure, as they may not suffice to create economically viable new markets. Aligning supply and demand should be at the core of all transition policies, so that the producer and consumer can match their interests. For example, an energy system in transition should be more decarbonised on the supply side and more efficient on the demand side. A transport system in transition should ensure that electric (or low-carbon) vehicles are being placed on the market, while consumers can get access to sufficient charging infrastructures.

- Governments should be the primary risk-takers in certain highly innovative investments.[4] By de-risking early stage innovation, the public sector can play a strategic steering role for all investments towards the desired transformations. This can be made through a series of financing instruments such as public-private partnerships, public guarantees, preferential loans and direct equity investments, aimed at providing more financial leeway and security to radically new technologies in development. This does not necessarily mean more public spending, but a better and optimised use of public investments.

- Governments should enable the transition of all social groups and should put in place special facilitation measures for those who cannot afford to change, such as low-income households and/or highly carbon-dependent regions. As the transition objectives are defined by democratically elected regimes, social acceptance is a fundamental condition for success. Part of the population may feel that the (immediate) costs of the transition exceed their (long-term) benefits and will lose confidence in the direction set by governments. Public mistrust towards the institutions and radical electoral shifts may ultimately provoke a transition failure. The motto "to leave no one behind" in the EU climate-neutrality transition should be more than a social solidarity agenda, it is a critical policy requirement against transition failures.

This Blueprint calls on the EU to achieve its own transition objectives by developing fit-for-purpose transition policies. A comprehensive "Economic Deal" should follow and complete the former "Green Deal", by focusing in particular on the missing enablers in research, trade, finance, energy, industry and agriculture. Setting transition objectives is a democratic imperative, avoiding transition failures is a generational responsibility.

[4] Mariana Mazzucato, The Entrepreneurial State, Anthem Press, 2013.

III. Better transition through public governance improvements

Introduction

New competences and new policies require new governance, that is the package of instruments and methods to manage public policy elaboration and implementation. There has been far too little attention to this, which is an important cause for transition failure and its economic cost.

Obviously, the ecological objectives to be reached need to be defined by plethora of multidisciplinary environment and climate experts. But the methods to achieve them require economic and finance, trade, research and technology expertise and, not to forget, social one. An economic transition to climate neutrality must be managed using the right expertise in the right governance system. Crucially it cannot be done without the co-designing of the economic actors who will have to invest and implement the transition objectives within the given timelines; they are the only ones with the technology and market know how to design economically efficient and financially feasible pathways towards a climate neutral and circular economy in 2050, at the latest.

Therefore, a transition needs a Green Economic Deal and requires government by a knowledgeable, experienced top team, consisting of six Vice-Presidents with overall responsibility for the key transition functions: the research to innovation value chain, energy systems, manufacturing and food systems, trade and partnering, and finance. They need appropriate instruments, modern management procedures and a renewed administrative culture. Competence is more important than political or national affiliation. This team needs to operate synergistically with the relevant Councils and with their respective teams of Commissioners. Ideally, they should be assisted by a Chief Economist and a high-calibre team. Without solid financial data, the transition is a walk in the fog.

The interdependent, volatile and complex context of the world today differs fundamentally from the stable context at the time of designing the supra-national system and its modus operandi, three-quarter century ago. Its purpose was to develop a common and later a single market in order to relaunch economic growth in the aftermath of two world wars and to bring social stability through welfare systems and its governance toolbox was designed to do just that. Today's challenges did not even exist.

Transition in a post-industrial economic ecosystem is complex, involving probable and unknown feedback and interactions. Complexity cannot be managed by the same methods as the previous goals. It can only be steered by relevant stakeholders acting separately together towards a common goal, and with central supervision and coordination. It requires a mixture of authority, experimenting, and learning from experiences, including from outside the EU. It demands a culture which is always truly open to alternative views and willing to change course when the facts do not correspond to the hypothesis when negative collateral effects appear which were not foreseen.

This will help governments and the European Commission to act primarily as enablers for those managing in practice economic and social transition. Trying to micro-manage such a complex economic and social process cannot work. The shift towards regulations reduces flexibility for governments facing diverse contextual conditions; it complicates regular evaluation of implementation, thus hindering timely adaptations if needed. Too many Green Deal regulations are known to be short on solid data and analysis of costs. Is the budgetary situation of EU governments so healthy that they can afford this?

The EU governance system has now to emancipate itself from the legalistic policy-making approach useful for past objectives: it must innovate itself in unison with the economic transition. Changing policy management methods can be done within the Treaties' confines.

Methodology and culture need to be focussed on collaboration with a wide array of expertise and experience in business and academia. It needs liberation from outdated bureaucratic culture, organisation and procedure in favour of a system which gives priority to strategic awareness and foresight, flexible use of resources and funds, and collective commitment towards clear KPIs (key performance indicators). These must be developed together, in a complementary way in order to reinforce each other.[1] Past incremental changes were insufficient to manage a complex transition with high economic and social risks.

Such operational and cultural redesign merits full attention of the European Commission President, supported by the Secretary-General and a team of independent governance innovation experts. The European Council should supervise the much-needed management metamorphosis, and set clear KPIs and timelines. These must cascade to KPIs for the lead sectors for the transition as well as the others, which will allow objective evaluation and facilitate timely adjustments. Obviously, for the sake of the whole system's efficacy, the Council and European Parliament should mirror these management reforms.

1. Improve legitimacy through emphasis on common goods

How do common public goods align with the actual policy agenda and priorities? How are common public goods and the pursuit thereof communicated, and how can representative democracy be complemented with participatory elements? This demands a re-calibration of the social contract, permanently giving attention to the right balance between technocratic and democratic governance, long-term policy horizons (such as a transition to a circular economy) and short-term challenges and costs for business and citizens. It demands also to ensure that no one is left behind. The definition of common goods, such as Europe's social-economic model, climate neutrality, resilience, or others, must happen in bottom-up processes and ultimately be decided in the European Council.

Modern governance relies on communication with citizens via a representative model of democracy (who in the EU is doing what and to what end). This requires upfront involvement of national parliamentary committees in the preparatory work of the equivalent European Parliament committees on certain decision-making processes. It will later facilitate commitment to implement Union acts.[2]

As such, the narrative for common public goods can be strengthened by defining them in the framework of Union law: treaty competences and principles, such as subsidiarity, and by taking a collaborative governance approach. Specifically, the EU should set up an expert committee to advise Member States to improve implementation of Union law. This is a necessity to reduce the cost for economic operators in the Single Market.

This also requires a new way of looking at subsidiarity and a preference for directives and by ensuring a more active co-legislative role for national parliaments with EP; and a much wider use of match funding (including from the private sector). Defining a common public good is thus linked directly to defining the EU's competencies to authorise and legitimise them in the current governance structure.

In accordance with the subsidiarity principle, the focus of European action must be on those areas in which Member States cannot act sufficiently on their own to provide and achieve a European public good due to "policy spillovers", i.e., where they are overstretched, and in which the EU has more suitable and more effective means at

[1] Yves Doz and Mikko Kosonen, Governments for the Future : building the strategic and agile state, SITRA Studies nr 80, 2014.

[2] High Level Group on Governance Innovation and EPC report, 2023. High Level Group on Governance Innovation and EPC report, 2023. Christian Calliess, European public goods and the principle of subsidiarity – Drivers for the future of the European Union? 2021 (Paper for HLG). Sonja Puntscher-Riekmann, Is there a European Common Good, 2013.

its disposal than the Member State level. In this framework, European public goods can function both as a compass and yardstick to show that EU reform is not about "more Europe" across the board, just for the sake of it, but about a better functioning EU that can efficiently realize existing European mandates and thus "deliver" when citizens rightly expect it.[3]

It requires honest narratives; well-educated and digital savvy citizens can easily check what remains of grand declarations. Promising funding is not a policy either. Strategic agility and common commitment need to be built up by significant culture and management changes (digital government being just one of the tools to achieve this).[4]

One important aspect to consider is how to overcome the 'national instinct' and national vested interests in areas where common action offers significant efficiency and effectiveness benefits (e.g., procurement of hard security). The informal Council meetings are but a watered-down version of the more efficacious ones launched long ago at Castle Gymnich near Bonn. Better alignment methods through allocating more time to smaller informal dialogues will help in this respect.

2. Develop a 'central mind of governance' (strategic centre)

Once the common good objectives are agreed, preparing for achieving them is the main task. Before and during the drafting process, there are four supportive instruments to be used: foresight, impact assessment, consultation, and regulatory scrutiny. Together, they form a 'central mind of governance' (or strategy centre) for the Commission.[5] Central Mind of Governance defines the total of crucial strategic policy-making functions of governments. In particular in times of adversity, or when there is a need for paradigm economic shifts such as today, it can help those who make decisions with long-term consequences under conditions of uncertainty.

This strategic centre (central mind) should be free of political interference, therefore the form of an agency may offer the best guarantees for the quality of their work. It should be fully independent of the three institutions, though its output serves to improve the quality of policy and decision-making everywhere.

Around this strategic centre, the EU can continue to benefit from the work of applied policy research by independent think tanks or similar. However, in Brussels, their capacities are far smaller and their funding far weaker than in Beijing or Washington. This is one often overlooked part of the EU's competitive disadvantage.

3. Upscale foresight and strategic awareness

Foresight cannot be developed by desk research only, it needs superior information (hard and soft data) from multiple sources and disciplines as input for dialogues with key actors and experts to interpret data and analysis, hypotheses and assumptions. It needs constructive disruptors, people who dare to think 'outside-the-box'. They can support the best minds in bureaucracies to step out of conformity and thus to improve the overall performance of the system. This in turn helps to move away from defensive attitudes towards openness and engagement. Using foresight helps to design possible solutions which work to secure Europe's strategic economic and social assets and to improve its own capabilities.

[3] Ibid.

[4] Yves Doz and Mikko Kosonen, op.cit.

[5] Yehezkel Dror, Adjusting the central minds of governments to adversity, in International Policy Science Review, vol. 7, no 1, 1986.

After this first study phase, there should be a process which involves relevant university experts, policy institutes or similar from the Member States, people with different perspectives, knowledge and experience; the ultimate purpose is to transfer know-how into the institutions.[6] Their aim is to design alternative scenarios for reaching the desired policy objectives in all Member States and at improving strategic agility to respond faster to important changes in other systems which can impact the transition economics.

Foresight helps to build such better strategic awareness, to anticipate future challenges and provide long-term stewardship through the volatile political, economic, technological and social-cultural currents. It demands permanent internal and external, inter-disciplinary dialogues which aim to understand many possible futures and what they may require, including the possibility of low probability but high impact events (so-called 'black swans'). To be sure, foresight is different from forecasting linear developments which are inappropriate when dealing with complexity and volatility.

The EU's ability for effectively championing the common interest relies on better implementing strategic awareness and foresight, in particular in the European Commission and European Council. Such efforts do not affect the right of initiative of the Commission or the division of competences between EU and Member States; on the contrary, they create common ground. The division of decision-making competences remains unaffected.

4. Establish an independent entity for impact assessment and evaluation

Policy proposals elaborated with the best foresight and strategic awareness still require impact assessment (IA). This must be done according to the OECD guidelines by an independent scientific entity (agency) responsible for both IA and evaluation and operating with the best similar centres in Member States. In fact, the EU disposes itself of the Joint Research Center, but many wonder how much of its work is really used and why it does not occupy a more central place in the policy-making system.

IA must not only take place at the beginning of the process but also for amendments proposed by the European Parliament before the European Council decision-making. It can have a high economic cost that proposals elaborated with great care can be deconstructed, often in co-decision, without IA.

Past experiments made clear that it should be handled independently from the institutions in order to be objective and effective. However, it is essential that its output serves the European Commission and governments together in order to facilitate coherence in the policy elaboration processes. This implies that foresight and impact assessment should cross boundaries of competences within the EU and with Member States and be all-inclusive, another reason to position it as an independent body.

It requires such an input diversity that this can be handled best outside the formal system, in order to involve not just a multitude of stakeholders, but to take into account their backgrounds, specializations and interests. The European Commission and Council use already the input for committees of experts, and can continue to do so. However, this is only really helpful for strategic awareness if they come from multiple fields, not only from public administrations, and if they receive broad enough mandates to cover systems analysis, causal interdependencies and potential feedback and if they can design new conceptual and operational frameworks.

Developing and maintaining high-quality dialogues which are meaningful for policymakers demands a sustained effort to overcome expertise silos and to develop synergistic knowledge, to manage emotions and cultural differences, to avoid daily issues, and to develop a common understanding; this is difficult enough within a single

[6] Mariana Mazzucato and Rosie Collington, The Big Con, how the consulting industry weakens our businesses, infantilizes our governments and warps the economy, 2023.

country but poses additional challenges in a multi-cultural and multi-layered governance system. It requires expert advice to organise it.

5. Make time for meaningful consultation and alignment

It should also organise consultation, in the first place with economic actors (companies and research organisations), and with civic society organisations with proven credibility and representativeness. Real consultation aims to find creative alternative ideas, it is organised scepticism; hearings are therefore far more useful than a tick-the-box survey.

It also helps to build alignment of long-term vision and short-term steps and thus to reduce the adversarial culture which lobbying by non-governmental or economic actors has often created, not least with the help of media and new social networks.

The combination of foresight and consultation can have a positive impact on designing alternative courses of action for decision-makers, each with its different multi-sector, short and long-term, impact. It can help to design alternatives, reducing the probability of unintended consequences and transition failure. It serves in fact as an early test of societal reality.

6. Respect the importance of regulatory scrutiny

Quality control at the early stages of the legislative process is another essential task in order to ensure as much as possible effectiveness of proposed regulation and to minimize undesired effects within a system itself or in other economic systems.

If foresight, impact assessment and consultation are conducted as they should, it remains important to check the coherence with existing legislation, the potential cumulative effects, the cost-benefit analysis, and the balance between triple sustainability (economic, ecological, social). Currently, the Regulatory Scrutiny Board has the authority to demand a review of the proposal if it finds weaknesses.

Therefore its independence is crucially important. It can only be guaranteed if it is outside the Commission administration, because an "independent" administration within an administration is a mirage just like an "independent" state within a region cannot survive the first encounter with strong political preference, however consequential in the long term. The transition failure is testimony to this.

The quality check of the preceding work and the coherence check with existing legislation should include a critical examination whether the dominant logic of prior experience does not lead the legislation down a pathway which ultimately may no longer correspond to emerging conditional change. Comparison is sometimes useful, sometimes a weakness. This is particularly the case at a time when rapid technology developments can shift competitive positions or transition opportunities within a very short period of time. Cooperation with the Scientific Advisory Council, if upscaled and re-composed, can help to reduce this risk inherent in path dependency.[7]

But above all, it requires real-time data to calculate the costs of proposed measures. This can actually be helpful for decision-makers to move forward to the desired objectives while minimizing the costs and maximizing potential benefits. The RSB should have therefore all capacities needed.

[7] See chapter on Research and Innovation Policy.

7. The strengths of collaboration

The collective decision-making of the European Commission, as envisaged by the Treaties, is in fact what a complex economic transition process needs and it must be implemented in letter and spirit.

In fact, in today's large companies, top management teams have become much wider too; decision-making is no longer the role of a CEO operating with just one or two other functions, she/he is the ultimate risk taker, supported by the directors. To ensure that all aspects of strategic decisions are taken fully into account, top management teams in successful companies have become more like the Commission in its heyday.

This collaborative operation should permeate the whole organisation but in particular the policy-making levels (from heads of unit to director generals). The process must get out of its vertical silos and become a horizontal networked one from the start till the end. This will only happen if the human resources reform of the late 1990s is reviewed and the reward systems become focussed on outcomes, setting clear KPIs.

The composition of teams also matters. Multicultural cabinet offices, with a head from a different member state than the Commissioner, will bring automatically more openness and avoid a cultural-operational locked-in syndrome.

Throughout the administrative system, there is a need for more skill complementarity in accordance with the new strategic challenges and priorities. This will help policy processes in unison with the dynamism of technology and market developments, based on knowledge and experience drawn from the real world. Collaborative mechanisms also provide comfort for risk-taking, which under conditions of uncertainty and probability is a necessity. This aspect is too often neglected by the leadership.[8]

8. Recognise the value of decentralisation

The central aim of its principal policy initiator, the Commission, remains to reconcile ideals and deals, to align divergence in an ever-more complex internal and global context and to translate it into a long-term strategy and policy proposals that serve the common European good.

This demands efficient cooperation by all Member States through the European Council and Councils with synchronised methodologies. Inefficacies in Member States percolate in the EU system. Peer reviews are in the common interest, provided they lead to reforms where needed. Sovereignty cannot be an excuse to maintain vested operational systems which are in the common disinterest.

A better balance and blending must be found between centralization and decentralization, and between various methods of European governance: the Monnet method, mixed supra-intergovernmental methods, the intergovernmental method, and specific project methods (e.g. the so-called 'Barnier method'). Differentiated integration (concentric circles, coalitions of the willing) might well be the necessary way forward: it can be connected to Qualitative Majority Voting in view of the Passerelle Clause, one way to anticipate potential deadlock and ensure that the small treaty changes can still be pursued. Alternatively, the "unanimity minus one" approach should be examined.[9]

In the absence of treaty changes, options include the introduction of solidarity instruments and mechanisms that exist in parallel to the current legal set-up. For other policy goals, it might be worthwhile to distinguish upfront between community method for market organisation, and other governance methods for other policy goals.

[8] Emy C. Edmonson, The fearless organisation, Creating psychological safety in the workplace for learning, innovation and growth, Harvard 2018.

[9] High Level Group on Governance Innovation and EPC, Joint Report, 2023, www.highlevelgroup.eu

This would entail designing a collaborative governance method whilst still acknowledging national competences, namely via a pragmatic method of stakeholder engagement aimed at alignment and consensus (for example by reforming the comitology system). Collaborative governance methods are a practical solution for the challenges of contemporary governance.[10]

9. Address the gap between vision and implementation

A lot of improvement can be more easily made, without Treaties change, through addressing gaps between political visions and implementation. This relies heavily on broadening the prevalent legalistic mindset by a managerial one through regular executive development, leadership training, and the reform of human resource policy.

The setting of EU's Missions were an opportunity for a more comprehensive approach but they remained an incremental change method, insufficient for transition challenges. The nature of many current geopolitical crises also requires a full integration of the EEAS in the overall institutional structure and on synergy with the trade policy, perhaps the EU's strongest instrument in the world.
The need for fundamental reforms also comes from the prospect of new enlargement with countries even more different than those in the previous rounds, posing as yet unclear policy and funding challenges, but certainly of a different magnitude.

The coordinating role of Vice-Presidents has led to a more coherent intellectual vision about policies, but the coherence objective has insufficiently percolated to lower levels, partly due to the opposition of senior officials eager to protect their policy area, partly by politically motivated disturbance of science-based impact assessments, partly by the lobbying of stakeholders without economic or finance expertise or by incumbents unwilling or incapable to face the need for change.

10. Allow more flexible use of resources

People, expertise (in house and external) and funds should be mobilized quickly according to ever shifting needs. Without it, being strategically aware and comprehensive foresight will still not achieve much in practice. While this is difficult in a single state organisation, it is even more challenging in a supra-national system with its division of competences.

It requires regular evaluation whether the basic drivers and assumptions of a certain policy are still valid and whether external circumstances have evolved, maybe under impact of the initiation of the policy which as a result may be amended. A key exercise is to look at the collective impact of interdependent policies, because the bundling of policies may bring more economic and social value than the policies separately. The return of policies can be higher or lower than originally estimated and can go beyond narrow calculations by interest groups or individual departments.

The EU has shown in recent crises to be able to mobilise significant funds rather quickly. This ability should be complemented by flexible budgeting. Setting of KPIs helps to evaluate performance and to adapt budgets accordingly, which in turn can liberate funds. Too many funds may appear to be locked into programs whose effectiveness or need has become questionable.

[10] Klaus Gretschmann & Stefan Schepers, Revolutionising Innovation Policy, 2016

Besides funds, the other key resource are people. The last significant reform of the human resources administration in the Commission dates from more than twenty-five years ago and was based on assumptions derived from the UK civil service whose effectiveness has been often questioned by public management experts. There is a need for a new reform, it can come only by involving independent expertise from inside and outside the EU.

The new challenges for the EU demand to move towards clearer allocation of responsibilities based on the strategic objectives, not on pre-existing hierarchies and administrative silos. Given the average high quality of EU officials, this should not be difficult to achieve and would lead to a multidimensional organisation with a focus on horizontal cross-directorates general programs, with their own staff and budgets, mandated by various Commissioners under the leadership of a Vice-President. ICT systems can be enablers for their functioning.

The best-qualified officials should be brought together in talent pools which receive systemic professional development; this must include internships in companies to give real market understanding. This will help to return to the more easygoing and constructive relationship between the European Commission and businesses which existed during the elaboration of the Single Market and the EMU.

11. Include management among key leadership tasks

The collegial responsibility of the Commission is definitively one of its principal assets to steer the common interest through difficult circumstances. However, this cabinet-style responsibility should cascade into the second and third circles of policy elaboration and implementation. This can be achieved by systemic coaching by the Vice-Presidents in their respective domains.

It is linked to the previous point on resource efficiency and requires systemic promotion of mutual understanding and real dialogues, not paper exercises or tick-the-box consultations. Informal meetings with stakeholders can be a helpful tool, but also away-days are necessary to develop mutual understanding and trust, transparency about goals and interests and fairness, close cooperation and coordination, in the interest of achieving collective outcomes.

Rotation between directorates general helps to stimulate mutual understanding and to facilitate collaboration. Promotion and reward mechanisms should be based on achieving KPIs but also take into account collective achievements and cooperative attitudes.

In some instances, it might be worthwhile to distinguish upfront between the community method for market organisation, and other governance methods for other policy goals. The latter could include the 'Brexit method', or a better inclusion of the European and national parliaments, especially in issues that fall under the special legislative procedure. Both methods would entail designing a collaborative governance whilst still acknowledging national competences, namely via a pragmatic method of stakeholder engagement aimed at alignment and consensus. Other policy reforms under consideration, outside strict single market issues, are to reduce the use of regulations in favour of directives.[11]

12. Include public management in reporting and peer review

The future MFF should include a dedicated objective for public administration modernisation to incentivise the development of programmes that deliver better public administration and governance.

[11] High Level Group on Governance Innovation and EPC report, 2023.

The next Commission President can already assign someone with specific responsibility for issues relating to better public administration and governance in order to better coordinate and simplify the current public administration, to eliminate current fragmentations, improve regulatory synergy and coherence, and deliver comprehensive impact assessments. It should introduce a chapter dedicated to public administration and governance in the Annual Growth Survey (standardised and shared assessment framework for public administration, systematic data collection to be developed in cooperation with Member States) and in EcoFin reports. Implementation of regulation is an important element in the single market.

The current EU financial support dedicated to Member States' public administration reforms should be complemented with support for the sharing of knowledge, experience and good practices among Member States, as well as bench-learning exercises combining Member State self-assessment with an enhanced peer review system.

THREE TRANSITION LEVERS

IV. Financing Sustainability Transition

The role of transition finance, taxation and the regulatory power in steering decarbonisation investments

The EU has committed to reducing greenhouse gas (GHG) emissions by 55% net in 2030 compared to 1990 and becoming climate neutral (net zero) by 2050, in view of limiting global warming to 1.5°C compared to pre-industrial levels. Important decarbonisation efforts are being made to reach these objectives in all sectors of the economy. However, large industrial assets and energy-intensive sectors struggle to find the appropriate financing tools, due to the significant quantities of investments required and their long-term maturity. From a balance-sheet perspective, industrial decarbonisation investments are typically perceived as an important immediate expenditure for the company, with uncertain long-term benefits.

To break this "tragedy of the horizon", the EU has thus far used many policy instruments aiming at redirecting capital flows towards decarbonisation, with visible and positive results already. Firstly, sustainable and transition finance deals with how the financial system works and how climate-related financial risks are tackled. Secondly, carbon pricing and taxation aim to integrate climate externalities into price signals. Thirdly, the regulatory power has a strong influence on investment decisions by setting signals on the desired direction.

NB. This chapter does not cover economic governance and public investments, which are already developed in the previous chapter ("How much does the European Green Deal really cost"?). The HLG emphasizes the strategic role that public investments must play in steering capital when the market fails to do so, and recommends the creation of a new EU Climate Transition Fund.

1. Transition finance: a complementary and indispensable dimension of sustainable finance

The EU has made important progress in redirecting financial flows towards sustainable economic activities. In 2018, the European Commission's Action Plan on Financing Sustainable Growth[1] laid down the foundations of what is now known as the EU sustainable finance framework. The HLG appreciates the EU's endeavour in setting up an advanced regulatory system for sustainable finance and takes stock of the promising and growing use of the current tools by market participants.[2]

The HLG recommends that transition finance remain a top political priority in the 2024-2029 period. Efforts should be made to redirect capital towards investments that are not yet considered green assets, but are contributing to decarbonisation. All actors should be able to finance their transition, regardless of their starting point.[3] Finance is required both for the development of net-zero technologies and for the transition of less advanced ones.

1.1. An improved definition of transition finance

The EU definition of transition finance requires more precision. As it stands, the definition states that transition finance *"should be understood as the financing of climate and environmental performance improvements to*

[1] European Commission, Action Plan: Financing Sustainable Growth, COM(2018) 97, 8 March 2018.

[2] EU Platform on Sustainable Finance, A Compendium of Market Practices, January 2024.

[3] European Commission, Strategy for Financing the Transition to a Sustainable Economy, 6 July 2021, COM(2021) 390.

transition towards a sustainable economy, at a pace that is compatible with the climate and environmental objectives of the EU", and lists a series of four investment types.[4, 5]

There are uncertainties as to how these instruments are treated across other pillars of the EU sustainable finance framework, notably for the purpose of assessing their eligibility as sustainable investments under the Sustainable Finance Disclosures Regulation (SFDR) at the entity level (e.g. individual companies). A clarified and more precise definition of transition finance should specify how different corporate finance instruments should be treated for the purpose of determining whether they contribute to the transition of a company.

While the European Commission has already clarified the interactions between the SFDR and the Taxonomy Regulation for activity-linked funding,[6] a similar clarification is required within the context of general debt and equity investments at the entity level. The definition should elaborate on the role that entity-level transition plans and targets may have in assessing the eligibility of general funding instruments as sustainable investments.

1.2. A traffic-light Taxonomy framework with a broader scope of intermediary activities

The EU Taxonomy (Regulation 2020/852) aims at identifying activities that are aligned with a set of sustainability objectives as listed in Article 9 – most notably climate change mitigation and climate change adaptation. Activities can either be aligned (and thus qualify as green investments) or non-aligned. Article 10(2) recognises certain transitional activities as aligned with the Taxonomy. The HLG recognises and appreciates that the Taxonomy is already being used for transition planning, as reported in the Compendium of Market Practices by the EU Platform on Sustainable Finance.[7]

In March 2022, the EU Platform on Sustainable Finance recommended developing an alternative traffic-light design, in which activities would be delineated between specific categories.[8] The green category would include activities that Substantially Contribute (SC) to the environmental objectives. The amber category would include activities with an intermediate level of environmental performance, with No Significant Impacts (NSI) on the environmental objectives. The red category would include activities with Significantly Harmful (SH) impacts on the environmental objectives.

The HLG recommends the development of a traffic-light Taxonomy design that would better reflect the impacts of activities with an intermediate level of environmental performance on a broader scale. As the transition needs to occur over a specific period of time, it should include dynamic eligibility requirements that change over time, especially in the amber category, so that transition activities remain technologically relevant and companies effectively evolve towards more sustainable alternatives. Looking at the case of the Singapore Taxonomy, emission thresholds for transition activities could become stricter after 2030 and sunset dates could be imposed on certain amber activities, when sufficient technological progress is deemed available to switch to the green category.[9]

Regardless of the chosen policy instrument (i.e. a new legislative proposal or non-legislative guidance), the traffic-light Taxonomy design should aim to complement the already existing green category by providing more visibility on investments in the amber and red categories. It is crucial to preserve the instruments already in place that are being used by market participants.

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[4] Commission Recommendation (EU) 2023/1425 of 27 June 2023 on facilitating finance for the transition to a sustainable economy.

[5] (A) Investments in portfolios tracking EU climate benchmarks; (B) investments in Taxonomy-aligned activities (transitional activities under Article 10, eligible activities becoming aligned over a period of 5-10 years); (C) investments with a credible transition plan at entity or activity level; (D) investments with credible science-based targets.

[6] Commission Notice on the interpretation and implementation of certain legal provisions of the EU Taxonomy Regulation and links to the Sustainable Finance Disclosure Regulation (2023/C 211/01), 16 June 2023.

[7] EU Platform on Sustainable Finance, A Compendium of Market Practices, January 2024.

[8] EU Platform on Sustainable Finance, The extended environmental Taxonomy: final report, March 2022.

[9] The HLG recognizes that the current EU Taxonomy Regulation already foresees regular revisions of the technical screening criteria. It stresses that the "amber category" of a more developed traffic-light system should be highly dynamic. The case of the Singapore Taxonomy is only mentioned as an example for its traffic-light design.

1.3. Standardised financial instruments for the transition

The HLG appreciates the creation of the EU Green Bond Standard (GBS) and its promising potential for market uptake, which will provide credibility and transparency to debt issuance. In addition, the EU should develop a Transition Bond Standard, which would be kept separate from the GBS. The new EU Transition Bond Standard should include requirements for proceeds to be used for amber activities on an alignment path towards green activities while ensuring flexibility for banks and companies to finance these activities.

Similarly, the EU should develop a standard for sustainability-linked bonds and other target-based instruments, covering common key performance indicators and criteria in sustainability target-setting. Both transition bonds and sustainability-linked bonds should be treated in the same way as activity-based transition finance in the context of the SFDR sustainable investment test. It would increase transparency and enhance the effectiveness of private capital by allowing the development of funding instruments focused on the transition. Yet the pre-existence of a traffic-light Taxonomy is needed to facilitate the link between activity-level sustainability assessment and entity-level transition planning.

1.4. Coherent and meaningful climate transition plans, subject to a common European assessment

Climate transition plans should be coherent, science-based and aligned with the EU decarbonisation objectives. Firstly, the consistency of all legislation that requires the disclosure of sustainability-related information should be reviewed, with an eye to providing coherent, comparable and non-redundant information to investors.[10] Secondly, the regulatory framework should further define the methodological elements required to build credible transition plans, which should rely on objective criteria and science-based methods, with a particular focus on decarbonisation and circularity aspects.[11] Thirdly, the EU should seek to establish a global standard on climate transition plans at international level.

Climate transition plans should be assessed and scored by a centralised European body, comparable to an EU rating agency for sustainability. This body would use a common methodology to review the credibility of transition plans issued by companies. The resulting assessment would bring clarity into the ESG rating landscape. It would link the sustainable investment eligibility assessment of general funding instruments (i.e. general debt and equity) to the credibility of entity-level transition plans, for companies that may not be able to fund via project-linked or sustainability-linked instruments.

1.5 The role of the banking sector: assessing climate risks, enabling transition investments

The banking sector is an important financial lever for the European economy. Since 2017, central banks and supervisors have developed common tools and methodologies to identify and compare climate-related financial risks, such as the physical impacts of climate change and transition costs.[12] As such risks will eventually materialise, they should be reflected in prudential capital requirements via specific risk-weighted adjustment factors.[13] Prudential rules should always remain risk-based and should not be used as a financial leeway for the economy (i.e. no green supporting factor).

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[10] E.g. Corporate Sustainability Reporting Directive, Corporate Sustainability Due Diligence Directive, Taxonomy Regulation, Credit Requirements Directive, Capital Requirements Regulation.

[11] E.g. References to key performance indicators per sector, references to the financial aspects of the transition plan, such as green CAPEX, green revenues and key assumptions.

[12] Network for Greening the Financial System (NGFS); ECB Climate and Nature Plan 2024-2029.

[13] European Banking Authority, The role of environmental risks in the prudential framework, EBA/DP/2022/02, 2 May 2022.

A green lending facility should be explored in view of facilitating access to finance both for green or net-zero activities, and for amber or transition activities with a credible pathway towards green. Interest rate differentiation based on the sustainability impacts of the financed activity may constitute a strong incentive for decarbonisation, both to companies and individuals (e.g. green loans, energy-performance renovation loans).[14] It could be implemented in monetary policy via targeted longer-term refinancing operations (TLTRO) if sufficient data granularity is available, or via tax incentives and other tools, such as derisking exposure towards transitioning companies and innovative technologies. It could include a green guarantee to support bank lending for decarbonisation projects.[15]

1.6 Complete the Capital Markets Union

The aforementioned reforms are intended to improve the rules and instruments for transition finance in the EU. They should be conducted in parallel with the completion of the Capital Markets Union (CMU), so that private capital is efficiently allocated towards transition investments. At present, the lack of a developed market for risk capital in Europe continues to be an obstacle for innovation and business scale-up.

The HLG has taken note of the Eurogroup's statement on the future of the CMU and stresses several of its points.[16] The regulatory architecture should be reviewed so that the EU securitisation market can further grow. More supervisory convergence of capital markets across the EU would facilitate financial integration. The conditions for institutional, retail and cross-border investments in European equity should be improved via regulatory means or tax incentives.

2. Taxation aspects: carbon pricing, environmental taxation and economic incentives

The EU carbon market relies on the Emissions Trading System (EU-ETS), which sets a binding cap-and-trade system for many types of industrial and transport activities within the EU and a Carbon Border Adjustment Mechanism (CBAM), which will apply as of 2026 for some types of imported materials and energy products. The two instruments have been designed to work in parallel as a comprehensive framework with a similar carbon price both for intra-EU trades and imports from third countries.

At the beginning of the EU 2019-2024 political mandate, the price of carbon allowances was fluctuating around EUR 25 per tonne of CO2 equivalent (CO2e). In the course of the mandate, an unprecedented carbon price increase has occurred as market fluctuations exceeded the symbolic record of EUR 100 /tCO2e in February 2023. Some believe that an upward trend may continue in the coming years so that the price could exceed EUR 400 /tCO2e by 2030.[17]

In addition, member states are competent to regulate national taxation and may decide to provide incentives or disincentives on climate and energy, for example on specific products or behaviours (e.g. tax breaks on electric vehicles), or energy products (in the remit of the Energy Taxation Directive).

2.1 A fine-tuned EU carbon marked for more predictability

Carbon pricing is efficient when it is ambitious, predictable and clearly applicable: the EU-ETS should be finetuned to better steer long-term decarbonisation investment planning by industry. Market fluctuations in the EU carbon

[14] Emmanuel Macron, Our strategy must be to speed up the ecological transition as well as the fight against poverty, Le Monde, 29 Dec. 2023; Christine Lagarde, Letter to Positive Money Europe, 7 July 2022.

[15] Enrico Letta, Much more than a market, April 2024 (European Green Guarantee).

[16] Eurogroup (inclusive format), Statement on the future of the Capital Markets Union, 11 March 2024; European Council, Conclusions 17-18 April 2024.

[17] EurActiv, EU carbon price to hit €400 mark with 90% climate goal: analysts, 5 October 2023

price may provide incentives for decarbonisation investments to industry. However, large-scale and long-term investments occur when a sufficiently predictable price trend is identified. Improving transparency and long-term predictability of the EU carbon price could help trigger long-term and large-scale decarbonisation investments. There is also a risk that short-term price fluctuations may cause suboptimal industrial change, leading to carbon leakage in European industries gradually moving production outside the EU.

Hence, a broader use of Carbon Contracts for Difference (CCfD) would help finance selected innovative decarbonisation projects.[18] CCfDs are already being developed at national level and could be completed with an EU-wide scheme accessible to companies in transition. Moreover, the administrative functioning of CBAM and its reporting obligations on importers should be carefully reviewed in order to ensure proper implementation and enforcement of carbon pricing at imports, thus reducing the risk of incorrect reporting or circumvention.

It is equally important to build a strong voluntary carbon market in terms of trust, transparency and liquidity with solid rules, standards and framework to exploit the opportunity for companies to invest in and contribute positively to climate change mitigation. The implementation of the future Carbon Removals Certification Framework (CRCF) Regulation will be crucial for the identification and incentivisation of carbon removals.

2.2 Avoid carbon leakage down the value chain: the case of EU manufactured goods

Carbon pricing is efficient when it incentivises decarbonisation in the full value chain, rather than pushing parts of the industrial ecosystem outside the EU: the CBAM should also cover imported downstream goods and should not be limited to a few raw materials and components only.

In the current regulatory design, the EU-ETS applies to manufacturing activities operating within the EU/EEA while the CBAM is expected to apply to imported raw materials and electricity as from 2026. The HLG fully supports the core objective of these two interlinked instruments, which aim to strike a level playing field between EU and non-EU companies, thus avoiding carbon leakage and European de-industrialisation.

However, the so-called imported "downstream goods" (i.e. any manufactured product[19] containing some of the materials originating from the EU-ETS activity sectors) will still be able to enter the EU market without any equivalent carbon price at customs. This unbalanced situation creates a competitiveness gap to the detriment of European manufacturers and to the benefit of their non-EU competitors, by pushing downstream production (and carbon emissions) outside Europe.

In addition to the compliance costs that are inherent to the administrative functioning of the EU-ETS and of the CBAM, European downstream manufacturers will be penalised twice compared to their non-EU competitors that could potentially fully avoid both the reporting costs and the carbon costs of the two systems, as long as their goods are not covered by the CBAM and are produced outside the EEA.

The European Commission should urgently take stock of the downstream sectors that are most exposed to a carbon leakage risk (i.e. those that use a significant quantity of CBAM-covered goods in their production chain) and prepare a legislative proposal aiming at applying a comparable carbon price on imported downstream goods sold in the EU market, as if they were produced in the EU.

[18] CCfDs are a type of government support measure by which public authorities set a strike carbon price in a contract with industry, in order to provide certainty and stability on future revenue streams. If the strike price is above the EU-ETS carbon price, the company is compensated for the difference by the state. If the strike price is below the EU-ETS carbon price, the company pays back the difference to the state (two-way CCfD).

[19] Both intermediary and finished goods may qualify as downstream goods. The risk of carbon leakage occurs at the point when downstream goods enter the EU market, with possible repercussions on later production and commercialisation stages (if any).

2.3 Beyond carbon pricing: incentives for decarbonisation, circularity and energy efficiency

Carbon pricing is not enough: other economic incentives for decarbonisation, circularity and energy efficiency are necessary, targeting both industries and consumers. Life-cycle assessment shows that energy-efficient products and products equipped with low-carbon technologies have a lower carbon footprint in the long-term compared to others, regardless of the carbon intensity in their own physical composition during production. However, the long-term climate impact is not reflected in carbon pricing, which only applies when the product is initially purchased. This is also the case for products with a high repairability or recyclability potential, for which the full life-cycle environmental benefits are not reflected in carbon pricing.

In addition to carbon pricing, incentives and rewards should be given for the production and consumption of energy-efficient products, products equipped with low-carbon technologies, highly repairable or highly recyclable products. This may include direct price incentives to consumers when purchasing the most energy-performant classes of goods or highly recyclable/repairable goods, real-time energy billing contracts and personalised energy tariffs and "circularity subsidies" to promote the development of reusing and recycling schemes. The EU should perform a screening of existing, sustainability-oriented, economic incentives and apply them to its own funding instruments, such as the EU Social Climate Fund (with a broader objective beyond carbon pricing compensation).

2.4 More coordination in climate-related national energy taxation

National taxation and subsidies should be better coordinated among member states, in view of providing more coherent price signals to the market. Around EUR 123 billion of fossil fuel subsidies were spent in the year 2022 in the EU27, with around 52% of them (EUR 64 billion) that are not expected to end before at least 2030.[20] Steady annual spending levels of fossil fuel subsidies were observed from 2015 to 2021 in the EU27 (around EUR 55-60 billion), whereas the agreed EU climate policy objectives would logically require a redirection of such public expenses towards other (sustainable or transition) activities.[21]

Climate-related taxation and subsidies should be better coordinated in the 27 member states, with an eye to agreeing on a coordinated phasing-out pathway. The European Commission should perform a regular screening of environmentally harmful subsidies in all member states and provide recommendations per country on how to replace them by other interventions in favour of the transition. The screening could be integrated into the European Semester evaluation, the Eurozone economic governance and future updates of the National Energy and Climate Plans. Member states should be encouraged to follow the recommendations as part of the EU macroeconomic surveillance.

3. Regulatory and governance aspects

The HLG welcomes the unprecedented efforts made by the European Commission from 2019 to 2024 in driving ahead the reforms of the European Green Deal. Clear milestones and sector-specific targets have been enshrined into law and should remain as such, thus providing reliable and predictable indicators to investors on the desired destination point of the sustainability transition (the "what"). However, more clarity is needed on the necessary pathway to reach climate neutrality during the transition (the "how").

[20] European Comission, State of the Energy Union Report 2023, COM(2023) 650, 24 October 2023.

[21] European Environment Agency, Fossil fuel subsidies in the 27 EU member states, 2015-2022 (November 2023).

The broader economic and geopolitical context has aggravated over recent years. Increasing energy costs and the historical return of two-digit inflation in 2022-2023 has led to concerns over the risk of European deindustrialisation. In light of these developments, a debate has emerged in the EU on whether it is time for a "regulatory pause" in order to implement the new sustainability rules, or to continue to regulate, in particular on the left-overs of the past years such as biodiversity preservation, sustainable food production and the development of strategic technologies for decarbonisation.

3.1 Strategic identification of decarbonisation technologies

From 2019 to 2024, EU regulatory developments set the desired climate policy direction. Now is the time to focus on how to reach those objectives in practice. Setting targets to be met in the future is one side of the coin; complementary reforms should be made to provide the necessary regulatory conditions to reach those targets.

The HLG appreciates the Net-Zero Industry Act (NZIA) initiative, which aims at simplifying and accelerating the development timelines of industrial projects for climate neutrality. Yet its initial design was too selective: the EU should facilitate the development of all technologies that contribute to reducing GHG emissions, rather than selecting a few of them *ex ante*.

The EU 2024-2029 political term should consider with the utmost importance the strategic identification and prioritisation of all technologies at the service of the transition by finding, accelerating and rewarding their development. This needs to be done in close concertation with the industry sectors concerned through a permanent sectorial dialogue on decarbonisation (e.g. a multipartite decarbonisation taskforce steered by the European Commission).

3.2 Identification and removal of regulatory barriers to decarbonisation

The EU does not need a regulatory pause; it needs to improve coherence between existing legislation in order to remove barriers to decarbonisation. The general objectives of GHG emission reduction by 2030-2050 should be reflected in all related sectorial legislation, without any contradictions.

Attention should be paid to finding and removing regulatory obstacles to decarbonisation in all existing and future legislation, in order to better streamline climate objectives everywhere. This requires a "decarbonisation fitness check" to ensure policy coherence in the EU legislative acquis and science-based regulations, as well as a permanent social dialogue on decarbonisation with the industry sectors concerned (as mentioned above), in view of providing regular recommendations on how to improve the existing regulatory framework to enable decarbonisation.

3.3 Address the left-overs of the sustainability transition, within and beyond the EU competences

The left-overs of the sustainability transition should be addressed, including outside the scope of EU treaty competences. Achieving a stronger European alignment on industrial policy decisions related to decarbonisation is crucial to attract investments and secure long-term sustainable growth in Europe.

This requires a special governance method with permanent coordination among the 27 capitals and the EU, in order to organise coherent decarbonisation policies in the remit of national competences, under the steering of the European Commission. Such intergovernmental alignments should be pursued in particular in green taxation, economic incentives for low-carbon, energy-efficient and circular products (see section 2 above), biodiversity preservation, the renovation and decarbonisation of buildings (including low-carbon construction materials), the development of environmentally sustainable food and agricultural systems.

V. Research and Innovation Policy

Ensure synergetic research investments with multiple impact

Executive Summary

Research policy and funding is key to drive the EU's transition toward climate neutrality across all economic sectors, simultaneously enhancing competitiveness, ensuring citizen prosperity, and bolstering Europe's resilience and security. A systems-based rather than a component based approach to research policy is essential to optimize research investments costs, ensure dual use, and align competitiveness with sustainability. Effective trans-national cooperation with business and researchers is crucial for understanding the blending of scientific disciplines and market potential.

Rather than just increasing budgets, systemic inefficiencies should be resolved and new private sector funding should be facilitated, in particular through completion of the capital market union, publicly guaranteed bonds and equity investments. This will allow start-ups and scale-ups to grow within Europe.

The Innovation Principle should guide policy and regulatory scrutiny to facilitate a research to innovation-in-the-market culture. The societal impact of research investments should be include upfront in decisions. Strengthening technology infrastructures through a shared European strategy will support industry scale-up. Education systems should be aligned. Innovation policy requires a compelling narrative for citizen acceptance.

Finally, robust impact assessments must be developed to provide in-depth analyses of expected and actual policy outcomes, ensuring efficient research commercialization and fostering a thriving innovation ecosystem.

Introduction

A well-functioning R&D system is perhaps the best investment governments can make for future competitiveness and welfare. In the coming years, there should therefore be more focus on the results to be achieved and less on resources. More investments would be valuable and it is of course important that all countries in the EU meet the European R&D targets. But, due to the tougher economic times, a stronger emphasis must be placed on making the system more efficient, in achieving more with the same resources. That means cutting costly red tape, better synergy of private and public resources, better coordination of national and European resources, and a stronger focus on incentives for both companies and universities to use existing resources more effectively.

Research policy and funding must be the principal tool for securing the EU's transition towards climate neutrality in all sectors of the economy, for simultaneously improving competitiveness, ensuring citizens' prosperity and Europe's resilience and security. This demands overarching priority and radical change by the European Commission and in member states. Given Europe's macro-economic conditions, there is no time to lose anymore.

In the first place this requires a change of mindset: research outcomes must bring societal benefits as well as corporate profits, which in turn support the public budget and allow a new investment cycle. Secondly, a determined effort is needed to rapidly complete an efficiently functioning single market for research and education.[1] The single market is the EU's most important common good[2]; avoiding deepening fault lines is a mutual strategic interest. Thirdly, it requires a much more efficient and synergetic use of existing capacities and funds, in the Commission and member states, and simplification of procedures.

The estimated transition costs and the transition failures show the need for new thinking: R&D finance is an investment in the future, and a systemic approach will bring not a single, but multiple benefits.[3] Given the new challenges for Europe's security, research results must serve both the military and civil sectors. Exclusively focussing on civil applications in selected areas of the future Horizon Europe should therefore be abolished. Investments in improving Europe's defence will be all the more acceptable for citizens if dual output is envisaged from the start wherever possible.[4]

Research policy is the key tool for transition and competitiveness, needing policies which facilitate innovation and allow fast introduction to the market. More agile policy-making and implementation must be achieved to respond to rapidly shifting needs and opportunities. This demands constant updating of legislation in parallel with technological developments in order to achieve faster market access and transition to climate neutrality.

A key differentiator of Europe is that it takes into account, and must continue to do so, the provision of public goods (health, education, infrastructure) and users in the public sector. This helps to maintain Europe's overall attractiveness compared to its competitors and to attract the best researchers. The purpose is to solve ecological problems, secure citizens' welfare and bring success in international trade[5]. However, the required system thinking needs a re-composed European Innovation Council, which must include a greater variety of disciplines and include radical thinkers too, taking a fully inclusive approach[6].

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[1] See also E. Letta, Much more than a Market, 2024; High Level Group Report, The Green Deal and Innovation Policy, 2020

[2] Thomas Brent, Goda Naujokaitytė, Horizon Europe successor needs €200B to meet future challenges, say MEPs, Science Business, 2023, https://sciencebusiness.net/news/fp10/horizon-europe-successor-needs-eu200b-meet-future-challenges-say-meps

[3] System thinking develops solutions for economic, social or ecological issues by taking into account not just individuals parts but the interdependencies within a given system and between systems. It focusses on the complexity of interrelated patterns and how they influence each other. It is the opposite of silo thinking. For example in health , system thinking looks at the whole body of a person; silo thinking looks at a broken finger.

[4] Martin Greenacre, David Matthews, EU Commission launches bid to expand funding of dual-use research in Horizon Europe's successor, Science Business, 2024, https://sciencebusiness.net/news/dual-use/eu-commission-launches-bid-expand-funding-dual-use-research-horizon-europes-successor

[5] European Commission, Industry 5.0, 2022, https://research-and-innovation.ec.europa.eu/research-area/industrial-research-and-innovation/industry-50_en paragraph 2

[6] It must operate therefore with the experts on foresight and strategic awareness, see High Level Group chapter on Governance Innovation.

But the new reality to be taken into account too is that the West has lost its research and innovation monopoly forever. Global cooperation must be high on the agenda therefore in particular for early stage, fundamental research which has to be put back on the agenda as a priority, it requires substantial strengthening of the European Research Council (ERC)[7]. Despite increasing economic competition and trade hindrances with other economic powers, the new geopolitical landscape demands cooperation wherever feasible. The defence and security research area is one where the EU countries and the USA seek efficient cooperation; in other sectors, such as climate, transport, health or other, the EU should also look at the opportunities for cooperation with other countries.

It requires a common improvement of regulatory and financial framework conditions and single market functioning without barriers. A clear narrative is needed to make everyone understand the common benefits of the single market in today's volatile global context.

1. Increase research funding but innovatively

Innovative thinking about funding is required, just increasing budgets cannot be the first option in current circumstances. The waste caused by systemic inefficacies must be eliminated, and this will require determined actions.

The transition and funding research for innovation alike will be greatly helped by increasingly taxing negative externalities, such as emissions and others, in all production value chains. This should go hand in hand with reducing and finally eliminating harmful subsidies of which there are many, in particular in the energy sector.[8] This will have the automatic effect of stimulating investments by corporations, instead of increasing dividends or share buy-ins which often benefit mainly investors from overseas and in fact export capital needed here in Europe.

Innovation often happens in start-ups. By stimulating savings to flow into research (through publicly guaranteed bonds), and equity investments in an efficiently functioning European capital market, start-ups and scale-ups would no longer need to hope for foreign buyers but could grow and keep production in Europe. Focusing these investments on sectors where the EU is likely to be successful will not only bolster these industries but also benefit employment across the region. Research project co-design and co-financing by European companies would increase their chances to make a difference on the market, and not just lead to a publication and a patent, which is then purchased from abroad.

EU member states could also enhance their R&D budgets by strategically aligning research priorities with structural funds, which are pivotal in policy experimentation. These funds, primarily allocated to European regions, could be extended to support research in universities that addresses pressing societal challenges. Furthermore, sharing the insights and solutions developed from this research across regions with similar issues could provide a cost-effective strategy, reducing the need for additional funds in other EU territories.

These efforts will help governments exceed even the agreed-upon allocation to research of 3% of GDP by all member states, which remains a minimum for a transition which truly helps competitiveness.

State aid concepts and research project planning each need to be adapted to new realities.[9] The same methods to evaluate state aid in, for example, the steel industry cannot be applied today. Research project design needs scientists to be involved upfront, problem analysis and skills development should go together (and scouted for worldwide), the process of engineering in ecosystems must be seen as a whole (systems thinking). The link to the end user(s) must always be present.

[7] European Research Council, Statement by the ERC Scientific Council on the next EU framework programme for research and innovation (FP10), 2024, https://erc.europa.eu/news-events/news/statement-erc-scientific-council-next-eu-FP

[8] High Level Group on Financing Sustainability Transition, reports March and July 2023.

[9] As set within the Horizon Europe's framework, https://euraxess.ec.europa.eu/sites/default/files/he_factsheet_12021.pdf

Finally, public procurement is a very important instrument for actually funding the transition, given the high level of public spending in the EU. But the focus should be on multiple benefits, not just on the lowest cost. Public procurement rules can create rapid markets for innovation and enable user engagement and co-creation[10].

2. Base policy on the reality of research & innovation processes

Innovative capacity in an economy is determined not only by the collective research and development systems and resources but also by the value chain leading from there to innovation, a complex interplay of factors which enables knowledge to be converted into new products, processes and organizational forms.

A new approach to innovation should be developed, linking three main methodological areas: product engineering, design thinking and the ability to deliver products with a significant impact on societies and economic sectors. Thus, it becomes crucial also to attract the most talented and innovative researchers, both from within and outside the EU[11].

However, research policy has been weakened by the gradual shift away from the initial emphasis on collaborative, pre-competitive research and technological development in lower TRL that benefitted both industry and society. The upcoming 10th Framework Research Programme (FP10) needs to reverse this trend and re-focus on its core roles.[12] Recognition of experimental research and development is essential because the EU is lagging behind in comparison to our main competitors. The 'balance' between fundamental and applied research on the one side and experimental research on the other side requires further analysis and action.

The European Commission's Joint Research Centre has estimated that in the early Framework Programmes, every €1 in funding led to an increase in industry added-value of between €7 and €14. Earlier programmes have also seen a positive impact on the competitiveness of, for example, the European telecommunications sector, as it helped to create common standards, foster innovation and stimulate market demand for new services. This must be repeated.

Europe's considerable scientific capacities face further disadvantage because of fragmentation, lack of coherence and synergies, bureaucratic obstacles and lack of commitment by member states in the European Research Area (ERA). They often reinforce each other, in addition to disconnecting policymaking and implementation within the Commission. The requirements for applications have made the process unduly complex and costly and need to be simplified. Too little attention for engaging capacities from all member states hinder the progress of the ERA and carry a collective cost.

Innovation should be also an integral part of administrative systems at all levels—local, regional and national. Public management skills should not be underestimated in enhancing efficiency and fostering innovation within these systems, much like the impact of continuously training bureaucrats.

In future, the Directorate-General for Research and Innovation must again bear full responsibility for everything from framework programme preparation to project implementation. It is necessary to learn from the early models of EU research policies which brought significant results. Its Commissioner should be a Vice-President, overseeing the research to innovation cycles in all economic sectors.

[10] Max Rolfstam, Public procurement as an innovation policy tool: the role of institutions, Science and public policy, (36(5) June, 2009, pages 349-360, https://www.researchgate.net/publication/250198854_Public_procurement_as_an_innovation_policy_tool_The_role_of_institutions

[11] High Level Group on Citizenship Innovation, Report 2022.

[12] Dan Andrée, Viewpoint: Where should the next EU Framework Programme be heading?, Science Business, 2023, https://sciencebusiness.net/viewpoint/planning-fp10/viewpoint-where-should-next-eu-framework-programme-be-heading

3. Prioritize system change

System innovation was a European concept[13] and it once helped a few European countries to outperform the USA in productivity growth thanks to collaborative methods and the neat distinction between the different roles of actor, participant and user. Systems thinking is the only way to renew the economy while taking all factors, economic, ecological, social, trade and geopolitical, into account.

The risk during the transition of an economic system is the confusion between addressing individual components (product or process) of a system and not also the system as a whole (for example cars instead of transport). Markets are such complex systems, embedded in global economic systems.

While regulations can enhance efficiency, an overreliance on regulatory solutions can create a mismatch between problem and solution, disturbing markets and resulting in negative outcomes like declining economic performance and competitiveness.

Therefore, research policy must be embedded in a systems approach in order to optimize solution finding and minimize costs. This will help to reconcile competitiveness and sustainability. To achieve such systemic change, cooperation between a much wider group of stakeholders is a prerequisite to understand the system before dealing with its components (as in the Fifth Helix innovation model)[14]. SMEs and civil society, often referred to as middle layers, should be heard as well in systems' adaptation and innovation.

Peer review with successful experiences in member states should be the rule for the Commission. The present Missions tend to be complex compared to past projects (missions in Horizon 2020)[15]. The approach by the EU needs to be diversified and tailored to each specific situation. There is a risk of using a "mission-oriented" policy recipe where a different approach would be more appropriate. The Mission in Horizon Europe must be critically evaluated in order to decide if this should be a funding instrument in FP10.

4. The Innovation Principle

It should be brought back to the forefront of policymaking and included in all the Commission's internal policy design and evaluation procedures. The Regulatory Scrutiny Board should see to this, with the full backing of the Commission President. The complex System Innovation cycle should be taken into account and Innovation Readiness Level[16] should be considered, which is a complete framework for guiding idea development and assessing idea status across key dimensions, as well as social innovation. It provides structure and support for idea owners as well as coaches and managers in the development of an early stage idea to an innovation on the market.

It should form the basis of this new operational culture at every level and be consistently disseminated throughout the system. It implies transversal and multidisciplinary innovation thinking throughout the innovation policy chain: in the Commission, but also the Council, the Parliament, inter-governmental agencies and the national ministries. It should be used as an important touchstone in impact assessment for policy and regulatory proposals. This can realistically only be done with the involvement of stakeholders, in particular with the economic actors (business).

[13] Elena Calvo-Gallardo, Nieves Arranz, Juan Carlos Fernandez de Arroyabe, Innovation systems' response to changes in the institutional impulse: Analysis of the evolution of the European energy innovation system from FP7 to H2020, Journal of Cleaner Production, Volume 340, 2022, 130810, ISSN 0959-6526, https://doi.org/10.1016/j.jclepro.2022.130810.

[14] Irena Lacka, Lukasz Brzezicki (2021). The Efficiency and Productivity Evaluation of National Innovation Systems in Europe, European Research Studies Journal Volume XXIV Special Issue 3, 471-496.

[15] For instance, the OECD highlights their complexity by noting that "Each mission area has a dedicated Mission Board and a Mission Assembly that help specify, design and implement specific missions in Horizon Europe. One of their key tasks is also to engage with citizens in a continuous process for the design, monitoring and assessment of the missions. Each Mission Board consists of up to 15 experts coming from innovation, research, policymaking, civil society and relevant organisations. Each Mission Assembly gathers a maximum of 30 high-level experts to provide an additional pool of ideas, knowledge and expertise » OECD, Stip Compass, Horizon Europe's missions, 2020, https://stip.oecd.org/covid/moip/case-studies/13

[16] https://kthinnovationreadinesslevel.com/

The Innovation Principle should guide both the consultation and legislation functions of the Commission, Council and Parliament, should be used as a twin of the precautionary principle, as combining research and innovation almost always provides (a) solution(s) when the risks have been scientifically assessed. It should not be vertically encapsulated somewhere in an administrative system, but lead to promoting political openness and change in administrative culture and full transparency[17] in several areas (health, mobility, consumer protection, etc.).

5. Prioritize multiple forms of collaboration

In recent years there has been a dramatic increase in the knowledge and innovation resources of emerging economies with new innovation hot spots emerging around the world. The growing internationalization of trade and production value chains adds a further dimension to innovative capacity. Goals can be achieved faster by cooperating with R&D hubs everywhere .

This will require policy innovations, such as adopting lower Technology Readiness Levels (TRL) to enable collaboration with non-European countries, through potential alliances under initiatives like Horizon Europe, because early-stage projects carry fewer risks of intellectual property disputes. The search for more technology sovereignty and strategic resilience in Europe would not be hindered by such collaboration and in particular cases it may be enhanced even. Bilateral and multilateral trade agreements might serve this purpose, especially for green technology[18]. They can contribute to enhancing frontier research by steering clear of silo thinking and encouraging the seamless integration of applied research. These can be combined with a reinforced focus on research security as in the recent Commission proposal for a Council recommendation on enhancing research security[19]. However, openness must remain a priority when pursuing strategic cooperation.

Research projects should be designed through collaboration among disciplines, diverse scientific entities (universities, specialist research centres, research & technology organisations) and companies (innovative start-ups and incumbents alike), regardless of location and format. This would also allow the EU private sector to develop and scale up. Clear KPIs and the involvement of people with scientific and economic know-how are what matters. Circumstances demand that outcomes matter more than procedures. Inspiration can come from very successful models elsewhere, such as Industry–University Cooperative Research Centres in the USA. The IUCRC program generates breakthrough research by enabling close and sustained engagement between industry innovators, world-class academic teams and government agencies to drive innovation in various focus areas.

Taking these challenges seriously means shifting more funding to areas such as robotics and autonomous systems, bio-materials, “smart manufacturing”, blended technologies and advanced manufacturing areas. However, to complement this more industry-driven agenda it remains very important to continue and increase the efforts in supporting research simply driven by researchers’ curiosity because many discoveries have occurred this way[20]. The intended transition forces Europe to back winning global technological competition. The EU can no longer afford to be a bystander. The EU should acknowledge that leadership in many areas can still be achieved, but with a radically different approach.

[17] European Commission, The Innovation Principle, 2022, https://research-and-innovation.ec.europa.eu/system/files/2022-07/ec_rtd_factsheet-innovation-principle.pdf

[18] As demonstrated by the Trade and Cooperation agreement signed between the EC and UK in 2020, which contains a paragraph on “Large Cross Border or international cooperation projects” for areas such as energy, transport, environment and R&D”, p.201, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22020A1231(01)

[19] EESC, Proposal for a Council recommendation on enhancing research security, 2024, https://www.eesc.europa.eu/en/our-work/opinions-information-reports/opinions/proposition-de-recommandation-du-conseil-sur-le-renforcement-de-la-securite-de-la-recherche

[20] “Research is a continuum. Ideas are explored at a basic level and then mature towards the market” Goda Naujokaitytė, Consultation exposes problem over funding for basic vs applied research in Horizon Europe, 2023, https://sciencebusiness.net/news/Horizon-Europe/consultation-exposes-problem-over-funding-basic-vs-applied-research-horizon-europe

6. Strengthen constructive engagement between research and industry

In line with the report of Italy's former Prime Minister Enrico Letta on the future of the single market, the EU needs a revamped single market that also includes a "fifth freedom" dedicated to the free movement of research, innovation, knowledge and education. While the latter will develop and complete the EU internal market, a modernized competition law that reflects the changing global landscape, must be implemented.

Indeed, there is a need to foster a better understanding of knowledge transfer and merging with industry. A dynamic and interdisciplinary approach is required to maximize the impact of research findings for practical solutions. This will help to reduce dependence on external sources and save systemic costs in the economy and society.

An issue to be resolved concerns the partnerships established in order to address some key European problems collectively. Some require a contribution from member states. Countries that do not have the financial resources to contribute to these partnerships, inevitably will not benefit from the activities of these partnerships and eventually, the innovation divide between EU countries will widen. This is not in the common interest. Investments made by member states might not yield equal returns, but there is a crucial need to fund EU partnerships for the "greater good of the Union"[21]. For example, investing in projects that drive greenhouse gas reduction helps to protect all European citizens.

European institutions and agencies could benefit from adopting a bottom-up approach to enhance these partnerships. Instead of traditional calls for partnerships, they could issue calls for experts, facilitating cooperation among stakeholders and promoting the adoption of new technologies. But it is crucial to also reduce the bureaucratic burden associated with participating in such joint programs.

This can be furthermore supported by giving specialist technology institutes a more prominent role, going beyond the traditional focus on universities, because leveraging the expertise and capabilities of such institutes can lead to valuable contributions to the missions. One way of doing this is to entrust them with the operation, management and maintenance of the Technology Infrastructures (OITBs, TEFs, testbeds, etc.) related to deep tech, not only because of their technological expertise, but also because the traditional main customers of technology institutes are companies, which are precisely the main users of this type of structure.

Attention must also be given to the different own funding capacities of universities in the member states, in case the total cost is not covered and researchers have to find additional funding. This can weaken the chances of universities in member states with weaker funding of universities to participate, thus depriving the EU of their capacities and further deepening fault lines in the ERA.

Incentives should be established for universities to foster collaboration with industries, a practice already successful in some countries. Integrating private funding and potentially the European Investment Bank (EIB) in co-funding research infrastructures and assessing these projects could be essential to enhancing their effectiveness.

7. Create comprehensive consortia and specialist agencies

To compete on a global scale and challenge American and Asian counterparts, the EU needs to forge ahead in emerging technologies. The creation of new public-private consortiums, akin to the success story of Airbus[22], could bring together industry leaders, academia and research institutions for major research and innovation

[21] E. Letta, Much more than a Market, 2024.

[22] The following study provides a general overview of Airbus consortium's positive impacts on EU integration and competitiveness. Alberto Domini, Julien Chicot, Mission-oriented R&I policies: In-depth case studies. Case Study Report From Concorde to Airbus, European Commission, 2018, http://publications.europa.eu/resource/cellar/4940e0c9-2359-11e8-ac73-01aa75ed71a1.0001.01/DOC_1 dual-use potential", 2024.

trajectories, preferably with dual-use[23]. Many research success stories in Europe's competitors depend on dual-use (e.g. DARPA in USA). These consortiums would tackle key technological challenges collectively and position themselves as global players, driving innovation and propelling the EU to the forefront of emerging technologies, such as Artificial Intelligence or quantum technology. We need to invest more in key technologies and, above all, ensure a real quantum leap in terms of digitalisation – for more technological sovereignty for Europe. It is crucial that once established, consortia operate smoothly without hindrance from member states, as seen in the dual-use research sector where national policies impeded progress despite Commission support[24].

Another approach could involve establishing specialised organisations or collaborating with existing established intergovernmental organizations, such as the European Space Agency (ESA), which has significantly advanced Europe's capabilities in space technology. The ESA has successfully demonstrated how blended technologies can be beneficial across various policy sectors, including security, agriculture and forestry. For example, technologies developed by the ESA, at the forefront of which Copernicus developed, have facilitated the monitoring of the Common Agricultural Policy (CAP), drought prediction, deforestation activities, disturbances affecting wildlife and the management of forest carbon storage.

Relying on entities modelled after the ESA could prove immensely valuable due to their expertise in planning and achieving European policy goals and priorities, as exemplified in the Accelerator programme. Moreover, their close connections to the business sector make them ideally positioned to integrate both fundamental and advanced research. An independent and multidisciplinary advisory body in such agencies can help their boards of governance with this task.

8. Facilitate the emergence and functioning of innovation ecosystems

The EIC needs to be broadened in scope and to include a wide range of instruments. Testbeds and demonstration facilities are very different from research infrastructures, and many are very focused and depend on a company or narrow sector. While broader demonstration facilities are needed at European level, it is essential to consider that visibility, prioritization and accessibility for businesses have emerged as principal challenges. The task extends beyond merely constructing new facilities, it also entails their integration into the wider ecosystem and ensuring accessibility to businesses, particularly small and medium-sized enterprises (SMEs). There is a functioning research ecosystem with the ERC, MCSA and Research Infrastructure; it needs to be complemented to become an Innovation Ecosystem with appropriate Knowledge Transfer Mechanisms and Technology Infrastructures.

Ecosystem development can also be facilitated by significantly reducing the complexity of adopting the FP to publish calls. It is not sustainable to spend so much time on the work programmes which need to be shortened and simplified. More open calls will facilitate this. The simplification of the work programs will also facilitate efficacy in the relationship between the Commission and the Executive Agencies. In principle, they should take over the WPs.

Creative initiatives such as the classification of climate-neutral cities need to be stimulated. There is a need for other cities to 'access' the knowledge of these cities and they can be seen as demonstration facilities. Support is needed both to other cities to access these facilities and also funding for these cities to open up their facilities. The focus should be on the system demonstrators.

This also requires dealing with the serious gap which has emerged between policymaking in the European Commission and implementation by the Executive Agencies. Previously, DG RTD was responsible for the whole

[23] As also suggested in the recent European Commission's White Paper, "On options for enhancing support for research and development involving technologies with dual-use potential", 2024.

[24] *Ibidem.*

chain of events, from preparing the framework programme to the implementation of projects. Today, two types of bodies are involved: DG RTD and the Executive Agencies. A way to solve this is to make the executive agencies more similar to many agencies in member states, where the governments are responsible for the overall policy but the agencies have the power to design the implementation and monitoring. In addition, the feedback loop between the agencies and the Commission services must be improved.

9. Strengthen technology infrastructures

A renewed focus on pre-competitive RTD also requires a new concept of Key Enabling Technologies and deep tech. The EU, together with member states, should be more ambitious, exploring with business a shared vision and jointly developing a European strategy for technology infrastructures to support industry scale-up and technology diffusion across Europe. These physical or virtual facilities and equipment, such as demonstrators, testbeds, piloting facilities and living labs, are used to develop, mature, test, demonstrate and upscale technology to advance through industrial research and experimental development activities from proof of concept to technology validation in relevant environments. There is a need to have a European policy to ensure that testbeds, which can be very expensive, are available in Europe and the FP could support access to testbeds.

However, one must be aware that implementing a research policy is very different from implementing an innovation policy. This needs to include social innovation alongside technological innovation, taking careful account of human and social rights and civil liberties to avoid problems such as those created by some internet platforms.

A European strategy for Technology Infrastructures should be integrated within the FP10. Launching such support is also a strategic policy for linking the EU´s industrial policy with its research and innovation policy, where a dedicated funding line for Technology Infrastructures could be included and in connection with each cluster (supporting different, targeted industrial sectors' needs of access to technology infrastructures). In the preparatory stages of FP10, attention should be given to the ongoing activities, such as the TI pilots initiated by the new EC Advisory Group on Technology Infrastructure and the recommendations of the Horizon Europe CSA-project Research Infrastructures, Technology Infrastructures for Impact.

10. Align education systems and complete the ERA

The role of so-called Research & Technology Organisations (RTOs), and of the Knowledge and Innovation Communities of the European Institute of Innovation and Technology needs to be enhanced and synergized with other pillars of Europe's Research Area. The promotion of STEM and of greater variety of researchers is also part of this overall strategy.

A serious effort to ensure real mobility of researchers (as in the USA) still requires a new strong commitment in all action plans for researchers to be able to become permanent members of the team in another research centre[25]. The main barriers are mostly national bureaucratic requirements and differences in salary levels for those researchers when participating in new projects; with goodwill and creativity, they can be eliminated quickly. The lack of real mobility causes a continuous loss of talent for Europe, an obstacle to attracting talent globally[26], and it delays improving our competitiveness.

[25] As pointed out in the report "Mobility of Researchers between Academia and Industry. 12 Practical Recommendations" by the European Commission, 2006, p.8, https://euraxess.ec.europa.eu/sites/default/files/policy_library/mobility_of_researchers_light.pdf

[26] Bureaucracy should be minimized to facilitate contributions from global researchers to the innovation of EU policies, particularly within the sectors of green technology, health, and cybersecurity. This reduction in administrative barriers is essential to harness the full potential of international expertise, thereby enhancing the development and implementation of forward-thinking solutions in these critical areas. High Level Group Citizenship Innovation, Report May 2022.

Commission and governments should also incentivize universities to modernize rigidly defined criteria which are hampering the freedom of researchers to follow their own lines of investigation and limiting the scope of research and experimentation as well as cooperation with industry. More freedom of research and experimentation is needed as well as the independence of universities to mitigate this phenomenon. Cooperation with research organisations such as RTOs can help to improve performance.

There are unresolved issues of mutual recognition of diplomas, that some member states do not apply[27]. Commission and peer pressure are required to harmonise implementation urgently. However, this still falls short of real mobility, because two other important matters remain unresolved: the harmonisation, or at least synergy, of the definition of an academic career, and the retirement systems.

Harmonisation of key elements of academic career patterns can be done as for the academic courses pattern (Bologna process). It should offer young post-PhD students the possibility to pursue an academic career at any university in Europe. Academics want a complete retirement cycle. A directive exists for partial work in another member state, why not extend it to situations of full work?

Cooperation between industries is very much about 'competence supply'. The industry is in constant need of engineers and close cooperation is a first step in this chain. In this context, it should be easier to combine cooperative projects with the MSCA -mobility scheme. The cooperation between technical universities and companies is very much about making sure competence is available for the companies. This means that many companies are forced to locate development in the USA and Asia where qualified engineers are available. This should be addressed urgently at European and national levels. In this context, the proposal to introduce the 5th Freedom in the internal market to Enhance Research, Innovation and Education in the Single Market would really make a difference. In this way research could become a priority on its own.

11. Bring an attractive narrative

Citizen acceptance is an issue. It starts in education, explaining the basic benefits of research and innovation throughout the school system, to transparency and openness about the innovation value chain, to addressing primarily benefits and honesty about risk/benefit relationship. However, it is related also to the more comprehensive problem of declining citizen trust in public authorities, except at local levels[28].

It is important to courageously counter-act anti-science populism, which feeds the neglect of the Innovation Principle. The EU communication policy is inadequate for this purpose. Only with better communication towards citizens, will Europe be able to deliver on a balanced transition. Instruments to effectively engage citizens should be set up, while also fully involving them in the policy-making process.

12. Strengthen the role of public procurement

A remaining weakness is the absence of a link to the demand side, in particular public procurement. It has an important role in fostering innovation. Public procurement can also help to develop open innovation ecosystems through cooperation across borders between regional and local authorities to help create and rapidly enlarge the markets for innovation[29], to enable user engagement and co-creation in the spirit of the quadruple helix innovation

[27] European Commission, REPORT on the implementation of the Council Recommendation on promoting automatic mutual recognition of higher education and upper secondary education and training qualifications and the outcomes of learning periods abroad, COM/2023/91 final, 2023, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2023:91:FIN

[29] Fellnhofer, K., Angelidou, M., Bakratsas, T. et al. Citizens' Perceptions of Research and Innovation Dilemmas: Insights from a Large-Scale Survey in Four European Regions. Sci Data 10, 473 (2023). https://doi.org/10.1038/s41597-023-02384-9

[29] Lember, Veiko & Kalvet, Tarmo & Kattel, Rainer & Penna, Caetano & Kirs Margit, Public procurement for innovation in Baltic metropolises. Tallinn: Tallinn University of Technology, 2007.

(Dublin Declaration on Innovation). Criteria and targets should be better used by public authorities to ensure that a certain part of public procurement budgets is targeted directly at innovative solutions together with measurement indicators. The procedure in the Commission should be simplified in order to use Procurement where necessary. At present, procurement cannot be used in the Framework Programme as the procedure is too complicated.

It should support innovative solution finding since it allows suppliers to be more creative. A clear identification of these public procurement offers within public budgets as 'innovative public procurement' can raise awareness of their relevance among stakeholders.

A committee could be set up with the member states to examine how public procurement can be made more innovation-supportive by playing a role in the rapid entry to the market of the outcomes of research & technology development. It should work with the proposed platforms of innovation ecosystems to find the best possible public-private clusters for the experimental phase and for the early entry in the single market, as a test case and example for other public authorities. The Committee of the Regions could play a useful role here too.

Start-ups and SMEs play a pivotal role in driving innovation, offering dynamic solutions that respond to evolving needs. Public buyers can serve as accelerators, providing opportunities for testing and scaling innovative solutions, being early customers. Collaborating with start-ups and SMEs not only introduces fresh perspectives but also promotes agile thinking within organizations. Furthermore, joint procurement initiatives, especially in defence, have the potential to spur innovation and strengthen European industrial bases.

13. Facilitate commercialisation of research output

Europe is lacking incentives to commercialise research results. This is a horizontal problem. Commercialisation often occurs in the USA and Asia. This value drain must be stopped urgently. It may not be the role of the framework programme, but of other instruments such as the Innovation Fund or Digital Europe, and of course member states's fiscal policies.

RTOs are a useful source of more inclusive, scientific-economic thinking, as are business schools which have an equally direct understanding of business and markets. Both kinds of institutions should therefore become more involved, alongside universities. The new ERA Forum has meant a broader responsibility for ERA and ERAC but ERAC opinions are often too abstract and removed from real economic and social issues to fulfil such roles; they should be fundamentally reformed and also include more innovation aspects.

RTOs with their multidisciplinary approach to technologies are key to support the industry to integrate technologies into their products and services. The specific business models of RTOs (non-profit, strong link with industry, yet independent from specific corporations, institutionally supported governance) can make a difference in activating the wide innovation partnerships needed to drive the convergence towards these complex integrated solutions and systems. They offer a direct link with business research aimed at commercialisation. This will bring more diversity in thinking and policy design, more inclusiveness with the real world of research application (in market and society), more inter-disciplinary thinking (social sciences are often undervalued) and more stimuli for scientific connectivity and collaboration across Europe.

14. Improve the quality and use of impact assessments

An issue largely overlooked until now, but of crucial importance is impact assessment. The review by the Court of Auditors is primarily a classic financial control; it is not aimed at providing an in-depth analysis of the expected (*ex ante*) and actual (*ex post*) impacts of a policy. What is truly needed is an independent, science-based and methodological impact assessment framework, which would apply to a broad range of societal activities from governments' public policies and legislations, to public-private research and innovation programmes and corporate disclosures from the private sector.

A European body composed of a limited number of top academics and experts in business innovation (2/3) and officials (1/3), operating *ad personam* and fully autonomously, with its own budget and defining its own working methodology, should make a proper calculation of the impact of public policies and public-private projects, while keeping in mind the main funding principle of excellence. This is different from a simple cost analysis or a procedural control.

The International Association for Impact Assessment (IAIA)[30] can provide valuable insights in the design and use of impact evaluations. To enhance proficiency, the EU should consider implementing a certification programme that entails ad-hoc training for officials. Such a programme would be beneficial in providing structured skill development and could significantly improve assessment outcomes.

Impact assessments are required to analyse the internal purpose and functioning of a project, as well as its external impacts and the surrounding societal demands (e.g. related to public health, the transition to climate neutrality, economic resilience and competitiveness, etc.). It involves a careful check on the methodology followed by the different actors in a project. Ex-post evaluation is an important element of a learning process and of efforts to continuously improve future policy designs. It helps improve professionalism and accountability and makes policy less dependent on political whims.

[30] International Association for Impact Assessment, https://www.iaia.org

VI. Trade Policy Innovation

Trade is key for economic security, social prosperity and fairness

Executive Summary

The EU should use trade as a catalyst for competitiveness and social progress, at home and abroad. Therefore EU trade policy should become a horizontal policy framework that coordinates the vertical clusters of other EU policies. To become an overarching policy with maximum synergy and coherence, the role of DG Trade and all the other Directorates-General playing a role in shaping policies that intersect with trade and with external affairs should be upscaled.

Trade is also be a cornerstone of Europe´s resilience, autonomy and economic security. It is an instrument for economic diversification, innovation and competitiveness. In a world of regional blocs, Europe's relative importance is declining. In this context, changing the concept from trade to partnership can bring geopolitical benefits.

Reduced trade barriers provide EU firms with a competitive edge, facilitating market expansion and increased competitiveness. FTAs stimulate innovation and productivity growth by promoting technology transfer and knowledge exchange. Less trade liberalisation is not the answer to current predicaments, but a transformation of global trade governance to deal effectively with the potential negative impact on countries and large groups of people. Globalisation must serve the people.

The survival of the multilateral trade system is essential for Europe and for developing countries. When addressing the WTO reform, flexibility is needed and exceptions and specific derogations should be accepted for the system to work. Environment and social concerns must find a place in the system.

[1] Enrico Letta, Much more than a Market, April 2024.

[2] Schemeil, Y. (2023). The Making of the World: How International Organizations Shape Our Future. Verlag Barbara Budrich.

[3] One of the reasons for the success of EU internal trade liberalisation is precisely the existence of such mechanisms since the beginning of the economic integration process, now grouped together under the Cohesion Funds. It is an exemplary application of the Kaldor-Hicks paradigm (1939).

[4] Montmasson-Clair, G. (2021). A Policy Toolbox for Just Transitions. Trade and Industrial Policy Strategies.

Introduction

Trade has a transformative power that, if managed comprehensively, can act as a catalyst for economic growth, security, and social progress, both in the EU and abroad. The completion of the Single Market is essential for these purposes.[1] But trade it is other key instrument. It is a cornerstone, with research, of Europe´s strategic autonomy and its ambition for greater resilience and further geopolitical engagement in favour of an international rules based order, which is itself essential for Europe security and prosperity. Trade should become therefore a horizontal policy framework that informs, shapes and coordinates the vertical clusters of all EU policies, driving and supported by foresight, strategic awareness and impact assessments. It must pay particular attention to fairness in order to avoid structural losses in other economic systems which, in an interdependent world, will inevitably cascade.

The resources required for the Green Transition have been underestimated, and its effects on the competitiveness of EU companies as well as on EU relations with third countries have been overlooked. With the European Economic Security Strategy (June 2023), the EU made a new attempt to respond to the context of increased geopolitical tension, avoid strategic economic dependencies, and help to adapt to technological shifts which are essential to avoid transition failures. However, the EU has no choice but to preserve maximum levels of economic openness. Trade is an instrument to optimize EU competitiveness. However, it requires new trade policy management.

The multilateral, rules-based order is not fit for the challenges of the current world, not least because the Western-created post-war system is no longer apt to deal with the new global context. This has fueled the appetite for unilateral measures that constitute trade barriers and which challenge the multilateral trade order and its flagship represented by the WTO[2]. Societies are also questioning the virtues of globalisation and free trade, not least because compensatory mechanisms between inevitable 'winners and losers' have been overlooked.[3] Now protectionist policies, with an environmentalist, industrial or social excuse, proliferate. They will delay much-needed innovations and increase costs.

A socio-economic transition is underway, underpinned primarily by climate change and the Fourth Industrial Revolution. People, communities, companies and countries, however, have a different ability to respond and adapt to the disruption. This is compounded by the very different political and economic systems. This has led to calls for a "just transition" to an inclusive green economy, to ensure that vulnerable stakeholders are better off through the transition process, or at least not negatively impacted by it in the long run.[4] EU policies on the environment, consumer protection, due diligence, etc. have led to the establishment of legal instruments with trade-related measures as implementation tools. These are an important part of the EU's policy goals but the way in which they will be implemented raises questions about their effectiveness and impact on the EU's competitiveness and on other countries' economic capabilities.

At a time where Europe faces an important political challenges and change, the EU needs to maintain its openness to trade, not least because its economy is more dependent on it than on any other. At the same time, it needs to adapt, deepen and widen the substance of its trade relationships to future planetary needs. It needs to capture the vacant position of a 'benevolent power' by seeking fairness when dealing with different societies and contexts. Fairness, however, must be based on potential scenarios of outcomes likely outcomes for all parties. At the same time, the EU needs to keep building the political assertiveness, especially with regard to China, because of its overcapacity, and with the USA, whose public spending under IRA and other programs, which both pose a risk to European competitiveness.

Trade is one of the few full EU competences and constitutes "the main connector of the Union with the outside world, with the ensuing legal and policy ramifications going well beyond trade stricto sensu".[5] The EU is no longer making

[1] Enrico Letta, Much more than a Market, April 2024.

[2] Schemeil, Y. (2023). The Making of the World: How International Organizations Shape Our Future. Verlag Barbara Budrich.

[3] One of the reasons for the success of EU internal trade liberalisation is precisely the existence of such mechanisms since the beginning of the economic integration process, now grouped together under the Cohesion Funds. It is an exemplary application of the Kaldor-Hicks paradigm (1939).

[4] Montmasson-Clair, G. (2021). A Policy Toolbox for Just Transitions. Trade and Industrial Policy Strategies.

full use of its trade potential. The EU trade agenda, and with it, the EU´s external policy, has diluted substantially, as other policies have displaced trade.

A new EU Trade policy in the EU should therefore overarch all other policies because it, together with research & innovation policy, is essential for Europe's economic and geopolitical security, social prosperity and competitiveness, as it was for centuries. It is also the only significant instrument which the EU has for constructive geopolitical engagement in the world.

1. Trade as an overarching EU policy: institutional and procedural improvements for the EU to thrive as a commercial and geopolitical actor

Trade, along with Research and Innovation (R&I), has a transformative power and if managed comprehensively it can act as a catalyst for economic growth, job creation and social progress, both in and outside the EU. Throughout history, the exchange of goods and ideas between societies, even over long distances, has been the principal engine for human progress.[6]

Trade should become a horizontal policy framework that informs, shapes and coordinates the vertical clusters of EU all policies, driving and supported by foresight, strategic awareness and impact assessments and evaluated regularly. Trade should also be the cornerstone of Europe´s resilience and autonomy. This requires upscaling of trade inside the Commission, in particular:

- Increasing synergy and efficacy between various policy areas within the EU under a single trade policy framework, aligned with broader economic objectives, in the first place the EU's Single Market and its research strategy.

- Reduce redundancy and conflicts, avoiding duplication of efforts and conflicting objectives among member states and within EU institutions, streamlining processes and harmonising regulations and promoting smoother intra-EU trade and economic cooperation.

- By addressing the full contextual conditions for competitiveness of all economic scetors and cross-fertilisation between various sectors and policies.

- Improved flexibility and responsiveness to global dynamics, enabling quicker responses and strategic agility.

- Design innovative approaches in international trade negotiations to contribute concretely to the ESG Goals, coordinating trade with other macro-policy goals, helping to promote inclusive and sustainable growth, and increase the level of welfare as measured by tools like the Human Development Index.

- Facilitate regulatory cooperation among policy areas, leading to full harmonisation of standards and regulations, eliminating trade barriers (digital barriers) within the EU and enhancing market access.

- Promote Innovation and Technology Transfer across different sectors and member states as an integral part of reducing inequalities and creating new clusters of growth.

[5] Larik, J. (2011). Much more than trade: the common commercial policy in a global context. in Beyond Established Legal Orders: Policy Interconnections between the EU and the rest of the world, P. Koutrakos & M. Evans, eds., Hart Publishing.

[6] Josephine Quinn, How the world made the West, 2023.

1.1. Improve coherence between external and internal policies

For trade to operate as an overarching, horizontal policy, all the institutional actors that shape its trade policy must upscale mechanisms for synergy. The competitiveness of European business and of the EU as a geopolitical actor depends on it.

Coherence should be fostered between the role of DG Trade and all the other Directorates-General playing a role in shaping policies that intersect with trade and external affairs. Particular attention must be paid to avoid trade-distorting impact or unintended negative economic impact on other countries. By ensuring that the external dimension of a policy considered in the very first stage of the internal process to design that policy.

Within the Commission, a modular approach to EU policy-making can be promoted, where policies are tested in trial projects and policy laboratories, using economic scenario gaming. Like in other domains, trial and error is important in policy-making and several outcomes and reactions should be tested to design a given regulatory or trade instrument.

For this to happen, teams within the Commission should work collaboratively, not competitively, and sharing and pooling should become the norm and not the exception. Numerous successful corporate policies from private companies can be replicated to develop this team-spirit principle.

1.2. Complete the Single Market

Although the focus of this paper is the external dimension of trade, the single market is often the first export market for EU firms. In other instances, too, a company in a member state will be part of the value chain of another company also in the single market which will be shipping the product or service to the external world, hence the link between the single market and external trade.

The progressive implementation of the Single Market has procured an improvement of standards of living in all EU countries. Trade in the single market is still not seamless. There are still obstacles that hinder the smooth and unrestricted flow of goods, services, capital, and people across borders. Member governments must resist pressure for short term measures with negative long term impact on the Single Market and explain citizens how its fluid functioning contributes to their welfare.

1.3. Synergise and scale up diplomatic capacities

To ensure improved coherence between the EU's internal and external policies, there needs to be a more organised and transparent collaboration between the Commission, the member governments and of course economic actors which have the concrete market know-how. The aim is effective synergy-building mechanisms between foreign policy and trade diplomats and regulatory experts in the institutions. This is an important issue during impact assessment and regulatory scrutiny.

The diplomatic capacities of 27 member states should be used systematically. Operational coordination between them should be the norm imposed by each government and by the Commission on its own missions abroad. An

individual country, or a small group of countries, could be given a mandate by the Council to operate on behalf of the EU in particular countries or dossiers.

The TPC is well placed to ensure planning, coordination and implementation of trade policy. However the Commission and the EEAS should further enhance this by including it within the overall external policy strategy.

An Vice President for Trade should have clear overseeing authority, supported by the High Representative and by a Commissioner for Trade and all other Commissioners with portfolios depending in fact on trade (in particular neighbourhood and international cooperation).

1.4. Support capacities building

The Commission must design ways for effective dialogues with businesses to seek alignment of long-term vision and to design better, evidence-based, anticipatory policy-making. In addition, officials and diplomats should receive a dedicated budget to work to obtain independent scientific and analytical inputs for impact assessments and scenario development.

Specific training on how to manage future challenges and opportunities must be provided, and how to deal with different cultures and systems. Executive development for crisis preparedness, impact and the use of Artificial Intelligence, etc. should be provided by the Commission. Think tanks should be asked for assistance in this sense.

1.5. Boost public-private cooperation for European resilience

Economic and ecological resilience is a more comprehensive concept than the narrow concept of geopolitical de-risking. It can be achieved by a combination of policy and firm strategies.

The first step is the classification and assessment of the likelihood of different risks and their potential impact. This could be a joint public-private undertaking under the guidance of the TPC and DG Trade.

Second, firms need to design specific risk management strategies, such as diversification of supply options, avoidance, postponement or speculation, hedging, control, risk sharing and enhanced security. Member governments and/or the EU could incentivise this.

The EU should play an important role in developing risk management and resilience strategies. The EU can work with firms to address potential concentration and bottlenecks upstream in supply chains. This can be done by reducing the asymmetry of information in complex value chains, through collecting and sharing information with the coordination of DG TAXUD, DG Trade and governments.

In general, the EU should create a regulatory environment which is not a source of additional risk or bureaucratic burden. At the EU´s borders, the EU should promote the adoption of digital technologies to improve information systems and facilitate trade flows.

1.6. Upgrade policy planning through improved data-collection

Conventional gross trade statistics do not keep up with the dynamics of economic operators active in international supply chains. The EU needs more data to be well-equipped to analyse to respond to changes in international trade and economy. Customs authorities and other EU and member state authorities, in collaboration with private entities, should improve their data-gathering capacities, amongst others, on country-by-country analysis of the value composition of our imports; the impact of exports in terms of employment and company size; a country whose final demand our exports are intended to satisfy or other countries downstream in the value chain, etc. For this data-collection exercise, public authorities can be supported by private experts.

The role of new technologies, especially Artificial Intelligence and automatic data collections systems, should be bolstered to achieve this, complying with EU Privacy and Data Protection Laws, to avoid any extra burdens on European economic operators. This includes the avoidance of extra bureaucratic burdens.

2. Trade as a cornerstone for European Economic Security

Today, a complex international landscape poses many challenges to the EU's multilateral ethos and objectives. The still limited common foreign policy often comes into conflict with its prominent role in policy fields with important external dimensions, like trade policy. This makes its geopolitical interplay with other major global players like China, the US, India, Russia and emerging groups or countries, complex and difficult.

Trade is above all an instrument for economic diversification, innovation and competitiveness. But in a world of different systems, it is inevitably also a geopolitical instrument. This is an important reason to bolster joint thinking and coordinated actions between EEAS and DG Trade. The work of the TPC should be deepened therefore beyond trade stricto sensu and be supported by the EU policy preparation mechanisms[7]. The TPC was not without reason set up as the only Treaty-based committee. But trade policy cannot be designed and implemented independently from the EEAS, which has, or should have, the capacity to serve coordination and synergy between trade and other policies with their specific expertise.

2.1. Promote Resilience

Broadening trade links and allies must be a priority for the EU, while at the same time the EU should de-risk where critical interests are concerned. The best strategies for de-risking will be diversification of supply, though this may bring a cost, and ensuring mutual dependence, which can reduce risk too.

The EU must assess the role of geopolitical powers on the technological, critical mineral/resource and geopolitical chessboard and evaluate how its role conflicts with Europe's interests and objectives. Europe should explore alternative solutions and substitutes to work with like-minded partners willing to commit to enhanced cooperation while simultaneously working to create interdependency and strengthen its position based on the principles of multilateralism. It must see global issues through the lens of other countries' interests and background conditions.

[7] See chapter on governance.

2.2. Promote supply chain diversity and openness to ensure security

There is no evidence that re-nationalising value chains could reduce dependencies on foreign suppliers and thus improve the crisis resilience of the domestic economy. The localised regime generally offers less flexibility for adjustment in the face of shocks and has higher costs. Security is found in supply diversity. However, the businesses that wants to increase regional value chains needs efficient single-market functioning and solid and fair FTAs with the countries concerned.

Reshoring means greater reliance on own production, which limits the scope for cushioning shocks, particularly those of domestic origin. On the contrary, international trade helps smooth shocks to the supply of globally consumed products.

At the microeconomic level, it is possible to effectively restore a specific, crucial element of the supply chain. This may be positive for the resilience of a given supply chain. It can be the case with an essential raw material or a crucial industry segment. That said, a specific vulnerability can also be overcome or mitigated through innovation.

2.3. Link Trade and Industrial Policy

Industrial policies are equally relevant to mitigate these vulnerabilities. Linking EU trade and industrial policy is imperative for maintaining the competitiveness of European industries in the global market. By aligning these policies, the EU can support its businesses in accessing international markets while shielding them from unfair competition. Moreover, coordinated efforts ensure that trade agreements negotiated by the EU open up new opportunities for European businesses. Ensuring coherence between trade and industrial policies prevents conflicts and maximizes synergies across different policy areas. This holistic approach enhances the EU's ability to navigate the complexities of the global economy, promote sustainable growth, and strengthen its position as a global economic player.

2.4. Review the EU China Policy

When considering the relationship with China, there are many divergent interests, strategic mindsets and dependencies. Each actor has its own interests in terms of trade, security, environment and other areas, as well as different strategic mindsets regarding the interaction between politics, economics and security.

The balance of challenges and opportunities shifts over time. The EU and China should work together more closely to tackle global and regional challenges and remain committed to reciprocal engagement in mutual and global interests. The EU and China are two of the three largest economies and the two principal traders in the world. Therefore, promoting mutual understanding, ensuring reciprocity, achieving a level playing field and addressing asymmetries in the relationship is a matter of priority. This does not exclude to address the Chinese industrial overcapacity which is not just a treat to Europe.

3. Trade liberalisation for the European and global economy to thrive

The EU pursues an expansive agenda focused on liberalising trade through Free Trade Agreements (FTAs) and various other modes of cooperation. FTAs with other regions offer numerous benefits. They foster increased trade and economic growth while creating new export opportunities for EU businesses. They improve market access for EU goods, services and investments in other countries, enhancing export potential and competitiveness and vice versa.

By diversifying export destinations, the EU reduces reliance on any single market, thereby enhancing resilience against economic disruptions. Diversification and mutual benefits are the best forms of de-risking and have the added benefit of stimulating economic growth with all parties. FTAs foster closer economic ties and cooperation beyond trade, contributing to mutual benefits and shared prosperity.

Moreover, reduced trade barriers provide EU firms with a competitive edge, facilitating market expansion and increased competitiveness. FTAs stimulate innovation and productivity growth by promoting technology transfer and knowledge exchange. Finally, by deepening economic relationships, FTAs bolster the EU's geopolitical influence and position as a key player in shaping global trade rules.

But circumstances force the EU to recalibrate its trade policy, enhancing its endeavours to uphold and strengthen its role as a key global player in trade, economics, ecology and social development. The conclusion of more and more modern, inclusive and fair FTAs should again become a political priority. This must be accompanied by the conceptual reforms outlined previously.

Nearly every possible regional FTA has already been signed. Thus, sectoral arrangements, like Cross-Regional Inter-Sectoral Trade and Innovation Agreements (CRISTIAs), can offer a solution for the EU[8]. These agreements go beyond traditional trade agreements by incorporating provisions that facilitate collaboration and exchange of knowledge between sectors. This is why they are of great importance to upscale research and technology needed for the transition to a climate-neutral economy.

Sectoral FTAs might be more advantageous than territorial agreements. They can focus on sophisticated products and services, which implies innovation.[9] CRISTIAs aim to create a conducive environment for economic growth and innovation by fostering closer cooperation and integration between regions, thereby unlocking new opportunities for businesses and promoting prosperity for all the partners involved.

3.1. Promote flexibility

The slowdown in finalising significant new FTAs is caused by factors within both the EU and our negotiating counterparts. Without compromising core objectives, adopting a more pragmatic and strategic approach will bolster the EU's global standing and benefit European economic stakeholders.

This approach should involve a thorough, multi-disciplinary examination of non-trade topics to be included in the context of trade agreements. There are fundamental rules established in international labour and human rights conventions that both the EU and the third country need to observe. But there are also EU rules which respond only to a European social-cultural context and economic conditions that cannot simply be transferred to third countries. To regain trust and global influence, the EU has no choice but to acquiesce that other governments will use different standards to address different contexts.

[8] Therefore, it would be better to speak of intra-sectorial. A single territory leads to a regional treaty, while a specific sector leads to a sectorial agreement.

[9] Yves Schemeil, op.cit.

3.2. Stimulate regulatory alignment

A delicate equilibrium needs to be achieved between the broader significance of reaching an agreement and the significance of each individual negotiating sector within that agreement. This equilibrium needs to take economic and political factors into account. Considering that enhanced integration into international trade and improved market access often positively influences systemic factors such as human and labour rights, albeit not immediately, it warrants careful consideration whether the EU should persist on provisions if doing so jeopardises the completion of the entire package of agreements. The same principle applies, for instance, to digital trade which is becoming ever more important.

There is a need for more transparency and impact assessment of intended trade rule amendments and for more regular consultation and cooperation with other countries' embassies. Efficacious consultation benefits everyone and aligns long-term visions and interests.

A proactive role by the EU in international standard setting bodies should be important for trade, and to ensure good regulatory practice.

3.3. Enhance tariff reductions in Free Trade Agreements

The concession of tariff reductions should be designed in a manner that rewards improved implementation of, for instance, environmental or social objectives through expedited granting of zero tariffs, possibly based on production methods of specific goods or overarching features of our trading partners' environmental policies. Instead of lecturing about values, this could stimulate other partners to improve by giving them a concrete incentive.

Further, there should be a renewed endeavour to build momentum for a liberalisation package of environmental goods and services. The EU could also consider promoting more narrow packages in specific fields or sectors.

4. Fair and inclusive trade to promote openness and global welfare

It is often apparent that there are cognitive gaps which hinder people and societies from having a meaningful exchange, one which goes deeper than statistics and figures, that can touch the hearts and minds of people both here and there. Erroneous perceptions linger on which lead to distorted views about the past on both continents and to destructive attitudes towards the future. The main problem results from one-sided historical narratives about the period of colonisation. The EU should revisit its conception of the Global South in general, Asia, the Middle East, Latin America, and not least of Africa.[10]

It is a mistake to suggest that the EU should give up its attempts to shape global developments. On the contrary, it is very much in its own interest to double down but to reform its own ways of operating which are a cause of its current predicament. Reform rather than retreat. But it must develop its own vision, fit for the 21st century, new roles and methods for global affairs' governance and an attractive narrative spread worldwide based on the SDGs.

[10] Adeyinka Adewale & Stefan Schepers, Reimaging Africa, lifting the veil of ignorance, 2023

4.1. Pursue overall welfare gains

Externally, our proclaimed regulatory superpower status will become less and less a tool that can be used easily in international negotiations, nor is it in the interests of other countries, particularly of developing ones. They have alternatives now.

In its relations with the rest of the world, the EU needs to change the stakes and use a new cornerstone to include in its policy impact analysis and management of collateral impact on other countries[11]. EU policymakers should evaluate their policy interventions based on their potential to generate overall welfare gains, fostering cooperation and mutual benefit among nations. This was actually the political foundation behind the EU cohesion funds, which were meant to guarantee that the peripheral regions would benefit from the process of European economic integration.

There is much economic theory (such as Kaldor-Hicks paradigm and its various modern variants)[12] that offer a constructive and forward-thinking approach to policy analysis, emphasising the potential for positive societal outcomes and the promotion of overall welfare through informed and efficient decision-making. It led modern economists to state that unequal trade between equal partners leads to unequal outcomes. The costs of dealing with the effects of climate change have worsened this. This creates the political space that the EU can occupy.

4.2. Seek a fair partnership with Africa and the Global South

In a world of more equal partnerships between regional blocs, Europe's relative importance is declining. In this context, seeking a real partnership with Africa (while also competing with other players such as the US, China, Russia or India) is not limited to the economic sphere but also has a geopolitical dimension.

The same arguments apply to cooperation with the Asia-Pacific, where the EU is seeking a bilateral country-to-country approach. The EU should deepen regional cooperation with the Asia-Pacific.

The EU's other major unfinished business is its relationship with Latin America. This region, like Africa, is intimately linked to our history. However, our current commercial and political relationship is limited, with bilateral agreements that are not ambitious enough. The EU needs a regional rapprochement with Latin America and its most important trading bloc, Mercosur. This would contribute to the achievement of climate objectives such as the fight against greenhouse gases.

4.3. Avoid double standards and Green protectionism

The EU is one of the most important markets for developing countries, and trade policy has long been one of its most important instruments for promoting development. There is, however, a paradox at the heart of the relationship between the EU's trade policy and development. On the one hand, the EU's has shifted from supporting the former colonies of the EU's member states to addressing poverty and with a greater emphasis on reciprocal liberalisation, though with unproven outcomes.[13] On the other hand, the EU's conventional trade policy initiatives—particularly its market access objectives in the Doha Round and in commercially motivated bilateral trade agreements—have adverse consequences for developing countries, as does its tendency to adopt stringent product regulations[14].

[11] Gruber, J. (2005). Public finance and public policy. Macmillan.

[12] The Kaldor-Hicks paradigm (1939), a further elaboration of the Pareto improvement criterion, states that those who become better off should compensate those who are losing out and that this can lead to overall welfare gains.

[13] See chapter on Africa

[14] Alasdair R Young & John Peterson (2013) 'We care about you, but …': the politics of EU trade policy and development, Cambridge Review of International Affairs, 26:3, 497-518.

The EU must interiorise the needs of other, in particular of developing countries as their own European needs. Their prosperity is our prosperity. Trade is the best way to uplift third regions that the EU wants to see develop.
Double standards must be avoided. The EU portrays itself as a value-driven organisation, but our values are not necessarily theirs. But it is inconsistent to advocate for development of third countries while promulgating EU rules with an extraterritorial impact which hamper their development.

While the intention to promote sustainability is commendable, the execution of these policies risks exacerbating global trade tensions and perpetuating inequalities. By imposing stringent environmental standards and tariffs on imports from countries with less stringent regulations, the EU creates trade barriers which in particular affect SMEs in developing countries.

At the same time, SMEs in developing countries and other strategic operators should be proactively supported financially, technically and operationally to meet higher standards. Dedicated units in the Commission should be established to channel EU capital investment to finance SMEs, focusing on strategic regions and specific areas, like ICT or critical technologies[15].

4.4. Consider extra-territorial impact of EU laws and provide transition support

Promoting environmental sustainability and addressing climate change in other countries should be done primarily with incentives to encourage compliance with high standards in parallel to (or instead of) restrictive measures, and accompanied with concrete jointly designed transition processes including technology sharing.

Providing an incentive alongside the implementation of CBAM involves offering improved market access to countries and operators that demonstrate comparable efforts in reaching the Paris Climate goals, despite potential variations in their approaches due to local conditions.

Beyond providing financial support to those operators and countries most affected by the EU autonomous measures, the EU should create and further equip teams of civil servants to work on the field with business operators and third countries, like customs authorities or environmental agencies, to provide them with technical and regulatory support and to get insight in the field on the shortcomings and impacts of EU regulations having an extraterritorial impact.

For example, the EU could assist Africa in developing a regional carbon market to leverage the biodiversity and availability of high-quality carbon credits on the continent. This market can be used to collect revenue to finance climate action on the continent. Also, the market can be used to get carbon border tax incentives, such as a carbon border tax discount for exporting goods covered under CBAM into the EU.[16]

5. WTO reform: flexibility and openness for the survival of multilateral trade

The key challenges today are global inequality in and between countries and the asymmetric impacts of climate change. They have both a very destabilising effect globally. They are the new common problems of the 21st century.

[15] See chapter on Africa

[16] Seutame Maimele, 2023. THE EUROPEAN GREEN DEAL (EGD) AND ITS IMPLICATIONS FOR AFRICAN TRADE. Trade & Industrial Policy Strategies (TIPS).

However, the WTO was not designed to deal with them[17]. As the successor of the GATT, it was driven by the key challenges of that time, dominated by the impact of two world wars and the great depression in the first half of the 20th century. Its main purpose was to restart economic growth and hence it focussed on the production increase and efficacy which trade could help to bring. National governments could use them to ensure the welfare of their citizens.

Historically speaking, GATT and WTO largely served their purpose. But in their present form, they are unable to deal with new challenges which emerge as a consequence. The interdependent impact of rapid population growth and the first and second waves of industrialisation on climate were not foreseen. The impact of free trade between (very) unequal partners was not foreseen either, though warnings by economists have existed since the 1930s. They were taken into account when designing the European Single Market but ignored in the global system. At a time when even the reverse consensus practice no longer works and the single undertaking rule becomes excessively demanding, the EU is looking in its own governance toolbox and offering new concepts to the WTO based on its multi-national and international decision-making experiences. The EU should not shy away from leading coalitions of the willing.

5.1. Promote further and fairer trade

Trade liberalisation without appropriate regulation leads to destructive tendencies. The solution is not less trade liberalisation, because then also the benefits become smaller, but a transformation of global trade governance to deal effectively with the downsizes which can affect countries and large groups of people. It is ensuring that globalisation serves the people.

In practice this means that the benefits, high productivity and efficacy and higher material living standards, are more widely shared and that negative externalities, in the areas of environment, health, social and cultural issues, are recognised and dealt with. Structural reforms and technology sharing should therefore become part of trade policy.

The lack of involvement of the private sector in the WTO remains a key deficiency of the current system. Windows of opportunity and consultations for private operators are still the exception. However, businesses should commit to CSR and UN Global Compass to be partners.

It is also a weakness in EU trade policy if it does not fully use the knowledge available about technology's future and market developments. Meaningful and regular dialogues must be organised between the TPC and business sectors, including experts on SMEs, start-ups and scale-ups.

5.2. Find a balance between an operational and flexible organisation

While challenges may arise in navigating the WTO reform process, it is essential to keep the ultimate goal of the WTO, which is operating a global system of trade rules, helping developing countries build their trade capacity, providing a forum for its members to negotiate trade agreements and resolve the trade problems they face with each other.

When addressing the WTO reform, flexibility is needed and exceptions and specific derogations should be accepted for the system to work. One of the key challenges is to strike a balance and identify transactions that can garner

[17] ICC (2023), How to fix the WTO: A holistic framework for reform.

consensus among WTO members, including major players. The aim is to create a set of norms that can be accepted by the majority, ensuring a level playing field and equitable trade practices. The EU can be a mediator. The EU´s position should be to be open to international trade, and remain fully committed to the WTO and do whatever is in its hand to help the WTO to weather the storm of current challenges. At the same time, the WTO must be modernised, or rather tasked to find solution to modern challenges including climate and new industrial policy.

[17] ICC (2023), How to fix the WTO: A holistic framework for reform.

THREE TRANSITION POLICIES

VII. Clean Energies & Supply Security

Towards an optimised energy mix for Europe

Executive Summary

The EU stands between two major challenges: decarbonisation and the transition towards climate-neutrality, and energy security of supply and the pursuit of more European strategic autonomy.

The EU has committed to become the first climate-neutral continent by 2050 and to achieve important greenhouse gas emission reductions by 2030. A new intermediary climate target for 2040 may be formally agreed at the beginning of the 2024-2029 term. Decarbonisation is a gradual transition process towards relatively more sustainable energy sources and technologies, which requires joint efforts between energy producers (supply side) and energy users (demand side).

Energy security of supply gained more political interest since the Russian invasion of Ukraine (2022) and rising energy costs for users. Although energy mix decisions are national competences, more coherence and strategic synergy of energy supply is necessary. Common European purchases of liquified natural gas (LNG) and common funding for green hydrogen are positive steps. Targeted electricity market reforms aimed at limiting volatility risks through industrial energy contracts and subsidies are another step, yet without fundamentally changing the structures of the market.

However, more attention should go to research and the multiple potential of new technologies, to an energy mix of all available technologies, to trade policy and energy supply, and not least to the social cost of the transition.

Introduction

The EU is at the crossroads of two major challenges: decarbonisation and the transition towards climate neutrality on the one hand, and security of energy supply and the pursuit of more European resilience and autonomy on the other. Achieving these two interlinked objectives is and should remain a top political priority for the EU in 2024-2029 though the methods require revision.

Decarbonisation has been enshrined in many EU policies since the early 2000s, but the strongest push began after the adoption of the Paris Agreement (2015) and the publication of the European Green Deal strategy (2019). Since then, the EU has committed to becoming the first climate-neutral continent by 2050 and achieving important greenhouse gas emission reductions by 2030. A new, intermediary climate target for 2040 is under discussion and will be formally agreed upon at the beginning of the 2024-2029 term. Decarbonisation is a gradual transition process towards relatively more sustainable energy sources and technologies, which requires joint efforts by both energy producers (supply side) and energy users (demand side).

Security of energy supply is one of the historical building blocks of the EU energy policy, but it has gained a significant resurgence of political interest since the Russian invasion of Ukraine (2022). Although energy mix decisions are national competences, it has become obvious that the EU, being a single market, needs more coherence and strategic steering in its energy supply decisions. Common European purchases of liquified natural gas (LNG) began as from 2023, as well as common funding of green hydrogen. Targeted electricity market reforms were conducted with an eye to limiting volatility risks through industrial energy contracts and subsidies, yet without fundamentally changing the structures of the market.

Future EU policy relating to decarbonisation and security of energy supply, in view of building a more environmentally sustainable and autonomous European energy mix, cannot be developed without focussing on economic competitiveness too and without coherence with trade and neighbourhood policies. Moreover, energy policy and security policy need to be aligned. This poses policy design and implementation challenges which require systemic governance innovation, including enhanced coherence and synergy between national policies.

1. Navigating Europe's Energy Transition: Challenges and Strategies

Following the Russian invasion of Ukraine, energy security has become a key topic in the policy debate. Volatile energy prices and the fear of not having enough supply through the winter have caused worries among businesses and citizens. This all triggered a wave of market interventions and new initiatives that have had and will continue to have a lasting impact in the years to come.

Launched in May 2022, the REPowerEU Plan is the key pillar driving the reform of the EU's energy system. Not only does it lay the foundation for Europe's energy independence, it also brings about significant measures to eliminate the use of fossil fuels and increase the uptake of renewables altogether. However, despite the very best intention of these measures, given the fast-paced nature of the transition, the EU could benefit from adjustments.

In particular, to ensure the efficacy of REPowerEU goals and achieve a desirable energy mix in the years to come, the EU will have to work on:

- ensuring the wide application of the technology openness concept in policy-making;
- social and financial costs associated with the transition;
- power system flexibility to enable a 24/7 carbon-free energy (CEF) supply;
- improving interconnectivity and grid infrastructure to better reflect renewables production;
- increasing energy storage capacity;
- long-term priced delivery contracts of renewable fuels.

1.1. Technology openness to fast-tracking the uptake of new and emerging technologies

Decarbonisation can only be achieved through a diverse set of technologies adapted to each individual situation, including fossil fuels where applicable (provided their emissions are captured and permanently stored). Despite their relevance, solar and wind alone will not be enough to supply the EU with all its energy needs by 2050. A successful transition relies on a combination of renewable energy sources, electrification of various applications and improved energy efficiency. Technologies such as CCUS, nuclear, biofuels, biomass, geothermal as well as short and long-duration storage will be equally important in this logic.

Technology openness advocates that all technologies that contribute to low carbon should be supported and the market, with policy support, decides where they get deployed. Technology openness is backed by economic literature which suggests that certain R&I investments are not rewarded by the market because technologies become freely available before private investment can make a profit from them. At the same time, infrastructure costs of competing traditional technologies are usually paid off making it expensive for new technologies to compete (e.g. EVs).

A good example of technological openness in policy-making is the Net Zero Industry Act (NZIA). In particular, the flexible approach towards various technologies presented in the text is positive. However, external (e.g. foreign competition) and internal challenges (e.g. the need for faster permitting procedures) cannot be neglected in the policy debate. The Commission's role should be calibrated to reflect on the wider implications of its legislative proposals, notably through solid, evidence-based impact assessments and financial data.

Often praised for its importance, digitalisation remains underemphasized within the NZIA and in EU energy policies more generally. The European Commission's "Digitalising the energy system - EU action plan (COM/2022/552)[1]" appears to be somewhat sidelined. Technologies like ICT, sensors, big data, AI and IoT are crucial for enhancing energy efficiency and decarbonizing energy systems. Additionally, the need to combine digital climate and business models should be highlighted.

1.2. Social and financial costs associated with the transition

The energy transition will be expensive, both financially and socially speaking. The biggest challenge lies in finding creative solutions to support industry efforts (see Section 4.1) while at the same time not penalising citizens in this process. Expected grid investment through 2040 range in the order of EUR 80 – 90 billion annually. Likewise, costs for the integration of variable energy into the system are expected to increase due to limitations in the expansion of biomass and hydropower. Both such issues raise important questions as to who should ultimately be paying for this.

[1] For reference: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022DC0552

1.2. Social and financial costs associated with the transition

Tools such as green bonds issued by the EU can support this endeavour, in particular within a fully integrated capital markets union. In addition, implementing carbon pricing globally would enhance transparency, motivating consumers and investors to transition toward sustainable and energy-efficient goods and investments.

When setting up new financing instruments, the following two options can be considered:

- EU Low-Carbon Fund: There is a recurringt argument that only some member states can give state aid at the required level (in absolute terms). However, many Central and Eastern European countries have a healthy fiscal position and could 'afford' financial support for low-carbon technologies. But they lack size (scale). This shortcoming could be addressed by a combination of an EU Fund (EU Low-Carbon Fund) and EU-wide ex-ante rules. The Fund would most likely need to have national shares (quotas). This would make it politically acceptable for member states while it could give the necessary firepower to smaller member states that could, for example, combine their annual shares in support of a major project.

- EU Clean Tech Fund: In the absence of a more integrated EU capital market, the EU Clean Tech sector as well as start-ups suffer from a lack of equity investment. An EU Clean Tech Fund could accelerate the capitalisation of the sector. The fund would take equity and divest as the start-up starts growing. Given the need for speed and simplicity, the Clean Tech Fund should be set up as a private investment vehicle comparable to the European Stabilisation Mechanism (EMS) but with the aim of attracting private money willing to invest in promising start-ups. It can operate under an EU mandate, but must be managed by a private fund manager.

1.3. Power system flexibility to enable 24/7 carbon-free energy (CFE) supply

In the transition, the imperative of maintaining a delicate balance between supply and demand becomes increasingly pronounced. This balance is crucial for averting disruptions such as brownouts and blackouts. Variability being a key concept, the need for technological independence and concerns over geopolitical and energy sovereignty are challenges that require attention. Navigating these complexities takes a nuanced approach that addresses both the immediate concerns of supply-demand balance and the broader strategic imperatives of security and sustainability.

While short-term supply-demand imbalances can be managed with existing backup power sources like natural gas turbines, longer periods of low renewable energy output pose more intricate challenges. During prolonged events such as 'wind droughts', interconnectors between regions lose effectiveness, necessitating alternative strategies for grid stability. As coal and gas turbine generators are phased out, new mechanisms must be established to address this issue.

With current targets aiming at a substantial increase in renewable energy by 2030, reliance on dispatchable power sources diminishes. While lithium-ion batteries are effective for short-term balancing, they prove inadequate for longer durations, raising concerns about grid affordability. Additionally, interruptions in power generation due to weather events like volcanic eruptions highlight the vulnerability of renewable energy sources.

1.4. Improving interconnectivity and grid infrastructure to better reflect renewables production

The benefits of greater internal market integration have already been pointed out in the Letta report[2]. In the case of power markets across Europe, there are very substantial benefits to be gained from a more integrated power system. When projects are undertaken based on the whole European market, there are potentially considerable benefits from 'portfolio effects' of countries with different energy attributes specialising in particular aspects of the energy market, for example, solar in Spain and Portugal and wind in Northern European countries. This should lead to substantially less capital having to be invested in additional power plants and less fossil fuel to be burned than if each EU country optimises its system domestically.

A thorough and comprehensive sector integration strategy should be created. The strategy should take into account all sectors that can offer the system flexibility and chances for optimisation, not just electricity and gas. Among the main ways to increase grid flexibility, the EU should coordinate efforts to finance transmission lines to connect areas endowed with plentiful renewable resources with areas of high electricity demand and combine different renewable energy sources to balance out variability of production of one resource type. The EU should update its electricity interconnection targets, extend them beyond 2030, and ensure they are consistent with the integrated strategy.

Infrastructure is an area that requires particular attention within that wider strategy. In the past, infrastructure construction was done sector by sector in areas closely linked to demand projections. With the energy transition, the various infrastructures, electricity, gas, hydrogen, CCS communicate with each other.

A necessary and simple step is to enlarge the mandate of ACER (and national regulators) to include cost-effective, long-term decarbonisation in its mandate. ACER's mandate is still to ensure that infrastructure is built and operated cost-effectively in the short term.

1.5. Increasing energy storage capacity

A successful clean energy transition requires energy storage solutions – both short and long-duration:

- Short-duration energy solutions will be essential for the EU to meet the increasing demand for renewables, helping Europe to further reduce its reliance on fossil fuels. On top of that, they are essential to support in the adaptation of existing energy infrastructure towards more efficiency in the short term.

- As in the case of short-duration storage, emerging long-duration energy storage technologies are crucial for facilitating the widespread adoption of renewable energy sources, particularly solar and wind power. This is important as, unlike traditional energy sources, solar and wind energy generation does not always coincide with peak energy demand periods.

- New, 4th -generation Small Modular Reactors (SMRs) provide reliable, dispatchable low-carbon energy, complementing the intermittency of renewable sources.

- An additional solution could be the use of hybrid storage, combining wind and solar with battery storage to enhance grid stability.

[2] For reference see: https://www.consilium.europa.eu/media/ny3j24sm/much-more-than-a-market-report-by-enrico-letta.pdf

Commission recommendations on how to exploit the potential of energy storage published on 14 March 2023 are a step in the right direction. However, their non-binding nature leaves concerns about its effectiveness. For the future, any new policies aiming to incentivise storage should take into account the different realities across regions, in particular when it comes to energy needs and renewable power availability. Not doing so would undermine the efficacy of adopted policies.

Finally, targeted green Public-Private Partnerships (PPPs) should be encouraged as a way to reduce financial risks associated with energy storage. The EU currently has several PPPs in energy, including the Fuel Cells and Hydrogen Joint Undertaking, the European Green Vehicle Initiative, and the Shift2Rail Joint Undertaking. However, none of them properly addresses the issue of energy storage. Specific PPAs on energy storage should therefore be created.

1.6 Long-term delivery contracts for renewable fuels

With the disappearance of cheap Russian gas from the European market, some heavy industries such as chemicals and steel are in need of renewable fuels that allow them to compete on a global market. Gas prices in the US are 1/3 to 1/5 of those in Europe. Electricity prices in China are half those in Europe. On a global market, renewables in Europe will never be able to compete with renewable energy elsewhere in the world.

Long-term delivery contracts for renewable fuels[3] can help circumvent this. These contracts aim to secure a stable and predictable supply of renewable energy sources, such as biofuels, wind or solar energy, at competitive prices. They enable renewable energy projects to secure financing by providing long-term revenue streams, thereby facilitating investment in new infrastructure and technologies to further expand the renewable energy sector.

2. Security of Supply: underlying concept to ensure the resilience of the energy system

To enhance energy independence, Europe will need a significant increase in power generation – always recognising the potential of energy imports to compensate for lack of internal capacity.[4] Current reliance on the import of EVs, batteries, fuel cells, solar PV, aluminium and lithium – all of which are relevant for the transition – is an issue that requires thoughtful consideration. Moreover, some renewable technologies are relatively expensive and/or face specific market challenges, thus requiring more targeted policies to drive their widespread adoption.

Whereas some of these issues are being dealt with by different initiatives (e.g. Critical Raw Materials Act, Chips Act, etc.), the HLG believes work has to be done in relation to:

- promoting skills necessary for the transition;
- boosting energy savings through energy efficiency;
- balancing China and the issue of supply chain diversification;
- addressing key issues for the energy system often overlooked in the policy debate.
- balancing China and the issue of supply chain diversification;
- addressing key issues for the energy system often overlooked in the policy debate.

[3] These are agreements between suppliers and buyers for the consistent supply of renewable fuels over an extended period, typically several years.

[4] This is also important from the point of view of energy use. A substantial surge in electricity demand by 2030 is projected across key industry sectors, and +400 TWh for the electrification of the total EU industry will be needed in that sense. Bridging regional electricity gaps through grid reinforcement and interconnections is crucial, yet there is a looming risk of renewable energy shortages in specific countries by 2030, questioning the pace of such development in light of electrification ambitions.

2.1. Promoting skills necessary for the transition

The energy sector employs a greater number of highly skilled workers, with 45% requiring tertiary education, compared to the economy-wide average of 24%. Many energy firms are already facing a very competitive environment for hiring candidates with the necessary skill sets, particularly for positions in the field of science, technology, engineering and mathematics (STEM), followed by project managers and other technical roles.

More focus should be placed on skills as a cost-effective solution for the transition. Currently, it is estimated that there is a global market opportunity for key, mass-manufactured, clean energy technologies worth around EUR 630 billion a year by 2030 if countries worldwide fully implement their announced energy and climate pledges. The energy industry is presently facing challenges in recruiting an adequate number of candidates from Europe to meet its workforce needs. This situation raises the possibility of job opportunities being relocated to other regions.

Investments in vocational training are important. An easy solution would be the creation of specific courses for power/nuclear engineering in colleges across the EU, largely bridging the current shortage gap. In addition, member states should work on creative strategies to attract qualified a work force from third countries, especially qualified people who need to relocate due to humanitarian or crisis-related problems.[5]

Furthermore, it is imperative to recognise the need for a certain flexibility in labour market rules to enhance the attractiveness of hiring by EU companies. Fostering a regulatory environment that encourages talent acquisition and mobility can bolster the competitiveness of the energy sector.

2.2. Boosting energy savings through energy efficiency

In literature, energy efficiency is often referred to as the “first fuel” in clean energy transition. It offers rapid and cost-effective ways to reduce CO2 emissions, lower energy costs and enhance energy security.[6] Climate change raises important questions as to the potential of energy efficiency to address the expected rise in energy demand in various sectors, including households.[7] As previously highlighted, while electrification holds significant potential to enhance efficiency and reduce CO2 emissions, it also requires significant investments both in technology and infrastructure.

In March 2023, the European Union adopted more stringent rules[8] aimed at enhancing energy efficiency. The Energy Efficiency Directive as it is known entails almost doubling the yearly energy savings target that EU member states must achieve on average between 2024 and 2030, rising from 0.8% to 1.49%. Consequently, the energy savings objective for the entire EU is now set to reach 11.7% by 2030 compared to a projected baseline from 2020.

Taking into account further strategies to enhance energy efficiency and boost energy savings, action to be considered includes:

- Legislation: In preparing new legislation, the EU should focus on creating greater demand for energy efficiency solutions, including products and services. Regulation is essential in that process, especially when it comes to excluding the worst-performing equipment and practices from the market. By creating minimum energy performance standards for different sectors, the EU can support the market in adopting the

[5] HLG on Citizenship Innovation, report Towards an updated concept of citizenship, 2022.

[6] Energy-efficient technologies contribute significantly to curbing the rise in energy demand. For instance, energy-efficient vehicles like cars, trucks, and aircraft help decrease oil demand in transportation. Similarly, more efficient methods in steel, cement and chemical manufacturing reduce the reliance on fossil fuels in industrial processes.

[7] For instance, different studies point to an increase in household electricity consumption following a shift to home office during the pandemic. In addition, warmer temperatures will also require more energy, especially in cooling.

[8] For reference, see: https://energy.ec.europa.eu/news/new-energy-efficiency-directive-published-2023-09-20_en

best available technologies. Inspiration can be drawn from Japan's TopRunner Programme[9], where constant updates to legislation – matching the latest technological advancements – allow for the faster introduction of groundbreaking innovations to the market.

• Consumers: People are at the centre of energy efficiency action, benefitting from greater access, lower costs and more comfortable, healthier environments. For consumers, it is important to provide transparent and accessible information on the efficiency implications of the technologies they purchase. Doing so support efforts to drive demand up while at the same time helping consumers to make informed decisions about the energy costs of what they buy.

• Government engagement: Governments can foster experience, markets, knowledge and confidence in energy efficiency solutions by investing in public sector efficiency and championing innovation and high standards. Likewise, dialogue and exchange of best practices with partner countries can support the uptake of new measures/solutions in the market while promoting harmonisation of standards where appropriate.

2.3. Balancing China & the issue of supply chain diversification

Both the COVID-19 pandemic and the Russian invasion of Ukraine shed light on the fragility of global supply chains and the risks of increased dependency on third countries. While Europe managed to address its dependence on Russian oil and gas, the increasing demand for renewable technologies risks exchanging one dependency for another. No secret in this debate, overdependency on China requires particular attention,[10] whilst remaining mindful of the potential of Chinese technologies to contribute to Europe's long-term objectives.

When it comes to China, the EU must navigate a trade-off between pursuing self-sufficiency and reaping the benefits of Chinese products to meet climate objectives. While measures such as raising tariffs on EVs and batteries may support EU manufacturers, they also have the potential to harm other industry sectors. Therefore, it is crucial to balance protectionist policies with leveraging international partnerships to bolster supply-chain resilience and meet renewable energy goals effectively.

Considering prevailing technological advancements and trends, it is becoming increasingly evident that the potential for renewable production extends beyond Europe's borders. Embracing partnerships that leverage the renewable energy potential in Europe's vicinity – especially North Africa and the MENA region – can grant the EU a broader range of resources while at the same time promoting regional collaboration in a mutually beneficial energy landscape. As part of a renewed neighbourhood policy, Europe needs to fundamentally review cooperation with these regions.

Trade and investment agreements can play a role in this logic.[11] However, when negotiating such agreements, it is important to take into account the impact they might have on the competitiveness of the EU economy and, where appropriate, consider the adoption of mirror clauses to balance them out. In this context, maintaining an export-oriented economy is key.

[9] For reference, see: https://www.iea.org/policies/1945-top-runner-programme

[10] Currently, China supplies more than 70% of solar cells and module components and 66% of finished lithium batteries.

[11] When negotiating new trade agreements, the Commission should further consider the possibility of applying mirror clauses so as not to undermine the competitiveness of EU industry in that process.

2.4. Issues requiring urgent attention

Among other things, security of energy supply encompasses the reliability of renewables, availability and accessibility of critical raw materials, and the resilience of energy infrastructures in the face of physical and cyber threats. In 2020, the World Energy Council (WEC) started exploring 'dynamic resilience' as a concept of energy security as an integrated approach to risk management that includes adapting to climate change, dealing with physical and digital threats to infrastructure, diversifying energy supply and coordinating energy systems across barriers.

Against this backdrop, three major issues, that are often overlooked, need urgent attention from the security of supply viewpoint:

- Scarce access to critical raw materials and their circularity: Critical raw materials like nickel, cobalt and copper are pivotal for powering our electrification drive, yet most of them are sourced from outside the EU. Any disruption in this supply chain could have widespread consequences for grid development. While trade diversification can be a solution to address this issue, thinking about innovative ways to increase the circularity of such materials needs to be considered in EU legislation. Similar considerations must be made with regard to electronics, especially semiconductors.

- One could also consider giving more attention to mining options in Europe as a complement. At least research in environmentally acceptable mining technologies and practices could be undertaken. If the industry does not yet c local supply an economically viable option, governments should study the options nevertheless.

- Physical and Military threats: Sabotage actions severely damaged the Baltic Connector gas pipeline, triggering a 12% hike in gas prices. This event underscored Europe's vulnerability in maintaining physical energy security. Improved surveillance and the development of crisis resilience strategies become crucial in such cases. While absolute security is not a given, preparing risk management and crisis scenarios can mitigate the risk of power shortages.

- Cybersecurity: Ensuring protection against cyberattacks is crucial and a relatively new concern. Today, all TSOs rely on advanced AI systems, including satellite usage, to manage grids, while individual solar and wind farms utilise AI to control their assets. Breaching any of these networks could severely impact power supplies in affected areas. The same applies to physical infrastructure, where successful hacking could lead to catastrophic consequences, especially in massive single-generation stations.

On a final take, the following should be considered with regard to CCUS and CCS technologies:

- It is important to clarify that Carbon Capture, Utilization and Storage (CCUS) is not a one-size-fits-all solution, particularly for energy-intensive industries facing significant decarbonization challenges. It can still be a viable reduction measure, but higher carbon costs should be ensured to deliver a real transition.

3. Onboarding citizens and industry to support future policy work

Beyond government policies and industry efforts to achieve decarbonisation targets, the global – and European – landscape is undergoing a significant transformation, which above all impacts industry and consumers.

Changing behavioural patterns among citizens is an important step to guarantee that measures proposed by the EU are properly implemented and that the transition can be sustained in the long run. A compelling story is also needed to retain the industrial backbone of Europe. As the 2050 net zero deadline approaches, the EU and its member states will have to work harder to convince citizens and industry of the relevance of its (restrictive) measures and to ensure fairness. Targeted policies are needed to:

- develop a compelling narrative that resonates with people and businesses across the continent;
- decarbonise heating and cooling;
- empower electrification: geothermal energy;
- promote cleaner transportation.

3.1. Develop a compelling narrative

Still highly dependent on certain fossil-derived sources, the EU faces a scarcity of successful models to inspire and shape a compelling narrative for citizens. For the HLG, crafting a persuasive story that focuses on the security of supply can be more intuitive than the one currently used focussing on decarbonisation. An important reason for resistance is the lack of proper compensation for citizens who have to accept a permanent burden (e.g. visual pollution) or cost (e.g. decline of property value) while others do not, though it concerns a common good. Innovative solutions need to be explored to ensure fair compensation (as is the case for expropriation).

Developing a compelling narrative starts with transparent information and evidence. Overall, citizens and businesses are very supportive of the transition, despite having different levels of awareness, understanding and readiness. For citizens, lack of information is one of the main causes for barring the concrete finalisation of local projects. Often, diverging opinions diminish the credibility of political decisions and get in the way of permitting authorisations due to citizens' opposition.

To circumvent this, the EU should consider either boosting the role of ENTSO-E or creating a specific European Energy Agency. Whereas the first is relatively straightforward, the proposed agency would serve as a centralised hub for extensive energy-related data, conducting impact assessments, facilitating comparative analysis, generating forecasts and scenarios and enhancing data visualisation and communication. Ultimately, this would lead to much-needed, integrated and science-based policy support, as has also been recognised by EERA[12]. more importantly, it would also help mitigate the tendency to attribute energy challenges solely to "Brussels," fostering a more collaborative and constructive approach to addressing these pressing issues.

Finally, the EU should find ways to better showcase good examples of local projects as a tangible proof of concept to build confidence and credibility whilst at the same time overcoming resistance. This helps bridge the gap between aspirations and reality, encouraging citizens and avoiding a negative image of the transition as a top-down approach.

3.2. Decarbonise heating and cooling

With heating and cooling dominating energy consumption in EU buildings, air temperature becomes the key factor influencing short-term energy demand in this sector.

[12] Vingerhoets et al., 2023, EERA vision paper – Towards a more collaborative energy system modelling for addressing Europe's energy transition challenges. Reference available on www.eera-set.eu

The 2022/23 season was the second warmest on record for the EU, with the average air temperature 1ºC above the previous 10-year average, and 9% fewer heating degree days. With a drop in heating demand (i.e. a drop in gas consumption), cooling then becomes more relevant and its contribution to climate change is equally relevant to consider.

District heating presents a promising opportunity for seamlessly integrating low-emission energy on a large scale, offering efficiency, cost-effectiveness and flexibility. In addition, the utilization of renewable energy sources through electricity, coupled with enhancements in energy efficiency and conservation efforts, has the potential to notably reduce gas demand in the near future. Nevertheless, policymakers should also focus on regulating home design and implementing policies conducive to natural ventilation and stack ventilation[13] to address these concerns effectively.

The rapid expansion of renewable energy technology use in buildings can ease natural gas demand in the years to come. However, the sustained growth of annual heat pump sales and limitations regarding the use of biomass stoves and boilers as well as solar thermal and geothermal development in buildings anticipates a long road ahead.

Harnessing the potential of innovation in the sector and promoting energy efficiency requires comprehensive policy action. Improving consumer awareness, further diversifying supply chains, supporting R&D and training programmes, reducing upfront costs for producers and accelerating permitting procedures are some of the points to bear in mind within this context.

3.3. Empower electrification: geothermal energy

In Europe, deep geothermal energy is gaining momentum, with 30 countries actively utilising it. Specifically for electricity generation, there were 142 geothermal power plants in Europe in 2021, with a total installed capacity of 3.4 GWe. Despite the minor contribution that geothermal energy provides to the total gross energy use in the EU, around 1%, optimistic forecasts by IEA suggest a substantial surge of global electricity generation from 92 TWh in 2019 to 282 TWh in 2030.

In Europe, geothermal power is gaining ground in mid-enthalpy (100-150 °C) countries such as Germany, the Netherlands and Belgium. The region around Munich already harbours 30+ geothermal plants largely or exclusively used for heating purposes. The Netherlands has launched an ambitious, deep-geothermal action plan to replace the Groningen gas for heating purposes and produce electricity at the same time.

Geothermal energy's efficiency, like that of wind and solar, is influenced by its location, with some regions requiring more exploration to assess their viability. Despite this, many EU regions offer favourable conditions, such as high heat flux and permeability, making geothermal energy a versatile option.

Key trends in the sector include a shift to larger plants with mature binary technologies (e.g. power and district heating) and a growing interest in smaller-scale plants for combined heat and power generation. Globally, geothermal electricity has the third-lowest global levelized cost of electricity (LCOE), after solar and onshore wind. What sets geothermal apart, though, is its ability to provide steady baseload dispatchable 24/7 carbon-free energy, fostering innovation and contributing to grid stabilization. Recovery of critical materials from geothermal brines can offer an additional boost to the business case. Yet, prevailing challenges, including resource localisation, exploration and drilling costs and financial risks, must be addressed through heightened awareness, collaborative research and strategic planning, as emphasized by the European Technology & Innovation Platform on Deep Geothermal (ETIP-DG).

[13] Stack ventilation is a passive ventilation method that uses temperature differences to move air through a building. It's also known as chimney effect or buoyancy ventilation.

3.4. Promote cleaner transportation

With steady economic growth over the years, the transport sector has become one of the biggest emitting sectors in the EU. Little has been done to reverse that trend, besides the fact that the EU has opted to phase out internal combustion engines in the next decade.

EV cars have a better TCO (Total Cost of Ownership) than regular vehicles. The more so if they can be cheaply produced, though competition from China is now growing. Also, the impact of unsustainable mining for the necessary minerals in the Global South and of recycling the batteries remain issues to be taken into account. The current focus on EVs can serve as an inspiration to: I) Use renewable fuels as a transition method. This should include biofuels, as their potential to contribute to emission reductions has been more scientifically proven; and II) Promote cheap European production or import of newer types of batteries.

Finally, energy-saving campaigns are important to inform citizens about the benefits of public transport and the use of bicycles and other means of non-polluting transportation.[14] Other initiatives such as the European Year of the rail are also good examples of how the EU can convince citizens about the importance of taking action for the benefit of the planet.[15] These should continue in the years to come. But there need to be incentives to do so.

4. Better streamlining policy-making towards transition needs

It is clear that the future of the continent lies in ensuring the security of supply. A more comprehensive analysis of this situation calls for businesses and governments to strike a balance between immediate energy needs and long-term goals, or in other words, to balance the energy trilemma. This is particularly important in light of the ever-increasing regulatory pressure on businesses to operate and the lack of proper solutions to decarbonise, which is the ultimate goal. Some priorities in the next 5 years to achieve that include:

- aligning the current financial framework with industry needs;
- rethinking the roles of the market and state aid in EU policy-making;
- climate diplomacy as an important step for policy coherence.

4.1. Aligning the current financial framework with industry needs

As the EU moves forward with its decarbonisation efforts, public financing becomes all the more relevant to steer businesses in the right direction. Drawing inspiration from the Inflation Reduction Act (IRA) in the United States, EU funding should be subject to a more precise, transparent and flexible process for companies.

Efforts should be made to expedite application processing and to provide greater assistance in implementing low-carbon projects, instead of exclusively prioritising funding for R&I. Inspiration should be drawn in the United States' IRA where enough flexibility is provided for companies in financing their projects while at the same time ensuring the competitiveness of business in the internal market.

[14] See for instance: https://www.iea.org/reports/playing-my-part

[15] As a side note, concepts such as the hyperloop should be more closely studied to improve "rail" transport.

To untap the potential of private financing, the EU should explore the offer of market-stabilisation instruments and risk-absorption instruments. Contracts for Difference (CfDs)[16], and combining PPAs with government credit guarantees are good examples of such instruments. By doing so, the risk profile of decarbonisation projects can be reduced by long-term visibility and predictability of incomes, making risk management decisions easier.

Upcoming negotiations on the new Multiannual Financial Framework (MFF) offer the EU the possibility to address such issues.

4.2. Rethinking the roles of the market and state-aid in EU policy-making

When taking stock of different initiatives, the HLG highlighted the top-down approach used in adopting energy-related policies so far, especially since the publication of the European Green Deal. In order to foster an environment conducive to innovation, the EU should now focus on effective policy coherence and implementation instead of continuous policy creation. Doing so requires streamlining existing regulations, addressing infrastructural gaps and dismantling barriers hindering market solutions. No easy task, the EU Action Plan for Grids is a good example of such a process.

Also important in this debate, the role of national state aid should be reviewed. Crisis-related interventions by member states raised concerns about the integrity of the EU's single market. While measures have addressed immediate socio-economic challenges, they have also introduced complexities, potentially distorting fair competition across borders. Achieving a delicate equilibrium between pressing societal needs and upholding fair market practices should be considered as a critical endeavour for the EU moving forward. Evidently, this is not easy to implement and requires further consideration.

Such recommendations are important in the face of Russia's invasion of Ukraine and the financial constraints it is generating on the EU budget overall.

4.3. Climate diplomacy as an important step for policy coherence

Widely perceived as a soft regulatory power, the EU needs to take a firmer stand on climate diplomacy. Recent geopolitical shifts underscore this necessity, in particular:

- At recent UNFCCC meetings, there has been a conspicuous demand from developing nations, particularly those in the global south, for financial assistance from wealthier countries to tackle climate-related challenges.

- Allegations of double standards and criticisms regarding insufficient funding have cast doubts on the EU's ability to effectively lead the charge towards a sustainable future.

- The race for raw materials carries a risk of increasing deforestation in certain continents.

- The introduction of a different funding model by the United States, the IRA, has injected new dynamics into the global arena. This model prioritizes investment in green technology through mechanisms such as tax breaks and subsidies, intensifying competition among nations striving to transition to greener economies.

[16] Possible fiscal liabilities associated with CfDs should be taken into account so as to minimise the impact of such schemes on public finances.

Tensions around global crises have strained international cooperation, making EU climate leadership more complex. Notably, within the UNFCCC, each country now assesses its national plans for climate action as part of its wider economic security and builds alliances accordingly.

The EU has to further increase its climate diplomacy, also in the context of its trade policies, with third countries, notably big global players like China and the US, but also neighbouring countries who will be pivotal in ensuring abundant, renewable supply in the coming years.[17]

In a single market of 27 countries, the EU has an important role in ensuring policy coherence across different national jurisdictions. However, increasing red tape and changing priorities – especially at national level – are getting in the way of businesses' capacity to operate within the single market. While certain competences remain a national issue, it is important to promote a holistic approach to policy-making; one that does not contradict itself and one that is efficient in adapting to the fast-track demands of the transition. While there is no answer to how exactly this could be achieved, adapting Commission working methods through the use of foresight and proper impact assessments is a good starting point.

[17] Broadly speaking, diplomacy should include capacity building, financial investments and dialogue with public authorities.

VIII. Biosphere Economy Innovation

Reforming the EU Food System

Introduction

Food production is one of the economic systems in which the EU is already quite autonomous, except for certain inputs. It can play a constructive role for food security worldwide, surely an important geopolitical asset. Obviously, basic environmental goals need to be assured in view of production costs, consumption costs and export capacity, which requires a stronger focus on agricultural system innovation and research and technology. Food (and drink) is an important element of social and cultural life and it must be borne in mind that agriculture, regional economy and identity go hand in hand.

During the green transition, resilience thinking should be a key driver taking into account the multiple dimensions of the food system. It demands creativity to design alternative transition pathways that compete and cross-fertilize and offer new, entrepreneurial opportunities for farmers, e.g. regenerative agriculture, ecology and organic farming and the use of new growth technologies.[1]

It also demands objectivity: agriculture is often considered to be a large emitter, only because the figures put together agriculture production per se and the rest of the value chain, and because they do not take into account the absorption capacity in agriculture. This data confusion then affects perceptions, policy thinking and elaboration. Like in other areas, policy needs credible data to base the transition on. The Commission has proven at the time of the Paris Climate Agreement negotiations to excel in providing credible figures and this capacity should be used to its full extent again for future policymaking in the food system during impact assessments. It will create significant long-term negative economic and social effects if the assumptions used are not supported by agricultural economic models.

It is equally important to consider the food system in the interdependency with other systems. Thus the transition in agriculture needs to consider the energy transition: the land use of renewable energies (wind and solar) creates new income opportunities in rural areas. In addition, climate finance from emission trading could become an important source of funding for the sustainability transition in the farming sector. In the coming years, budget shifts will probably be more important than budget increases in the CAP.

European food systems, agriculture and land use face significant transition cost challenges in the decades ahead, both technological, financial and social-cultural. This is happening in a world facing continuous demographic growth and new geopolitical risks affecting trade, with trade in agricultural products becoming more volatile. The global dimension must be fully included for efficacious economic policy making, for geopolitical reasons, and indeed for humanitarian ones, considering the UN SDGs.

From a transition failure perspective, effectiveness, regulation and funding are important, while from a (better known) market failure perspective, efficiency, competition and taxation are important. The former should place more emphasis on system change and provide the necessary direction and identify a structured approach to support such change. Policies developed just a few years ago no longer align with the current European scenario. Therefore, new policies should support this system change with a multifaceted policy mix, facilitating multiple innovations in entire value chains, while destabilising the unsustainable ones. This requires developing collaborative capacities

[1] Their benefits should be honestly and understandably explained to the general public.

between public and private sectors, prioritising research & rapid technological innovation as well as multi-level structures of governance. Particularly the large number of SMEs in the sector are at present struggling to make ends meet, and the current CAP does not address these social and economic issues sufficiently. The uncertain economic outlook discourages the younger generation to take up the farm business.

The uptake of new, profitable, more sustainable, climate-friendly practices and technologies in the agricultural sector is far too low and far too slow. As there is no consensus and no common vision on the future of food-producing systems, the finance sector regards investing in the modernisation of agriculture as too risky. Clear political guidance, reliability in the long term and reliable financial mechanisms are missing. This is where harnessing climate change finance mechanisms to find funds for the sustainability transition must come into the discussion. As a consequence, investments in the sector have been declining and the financing gap continues to increase. Governments provide too little risk finance, and the transition process in the farming sector has been based on insufficient financial data.

The EU food system reform strategy can be clustered into two tracks, both with some overlap: the first track, agriculture and farmer-centred, is driven by the EU and implemented at national level by agriculture ministries. For the EU, this is the upgraded CAP (CAP-2023-2027), redesigned to deliver a fairer CAP and restore entrepreneurism and incentives for farmers. However, silo thinking, lack of transparency, of proper impact assessment and regulatory scrutiny are leading to hasty measures and this could create a regress in the greening process.

The other track, the nutrition system, is focused on consumers and driven by public health authorities. It aims to provide healthy food and corresponds to the EU's Farm to Fork Strategy (F2F). Shaping and implementing the relevant policies is the responsibility of member states. Both tracks aim to reduce the environmental footprint of the EU food system while providing healthy and affordable food to its population. But if developed in silos, with convenient group thinking, creative policy innovations will not easily emerge. Innovative methods will make it possible to align farmer and consumer interests and to incentivize producers.

For an Economic Green Deal in this agricultural economic system, many innovative technologies and management practices exist, which would reduce agricultural emissions, enhance carbon sinks or preserve Europe's biodiversity. But for most of them, there is simply no business case. Innovations have stayed on the shelves already for too many years and there is little further investment in piloting and demonstrating and scaling up in order to drive down their costs. This potential will remain untapped as long as farmers (and foresters) are not or are insufficiently rewarded, which requires policy to engineer a true system change.

Public budgets are - currently and most likely as well in future years - facing fiscal constraints. This goes back to the 2008 financial crisis, followed by other crises. Other policy needs do not leave much leeway for the budget of the CAP in the next multi-annual framework for which a proposal will have to be presented as early as the first half of 2025. Nevertheless, economic and ecological reasons make innovation an urgent necessity. For a start, it should be made mandatory that all member states develop a comprehensive bioeconomy strategy, including a biomethane strategy.

Governments will have to look at budget savings. A feasible option would be to contain health expenditure by incentivizing consumers to move towards healthy diets and reverse the ongoing growth in the consumption of foods with excessive amounts of salt, sugar and saturated fats. This would increase the demand for vegetables, fruit and plant-based proteins. Public policy must without delay make a dedicated effort to find a consistent and attractive policy mix to address these challenges, that have been known already for quite a number of years.

On the contrary, more recent EU policy proposals, including large parts of the Farm to Fork Strategy, have been met with open resistance leading to a further polarisation of narratives about agriculture and land use and their future.

It is urgent to make better use of the current budget of the CAP by identifying ways in which to support the uptake of new technologies, together with honest dialogues with farmers in Europe before the next EU policy cycle.

Ultimately, the EU will have to reset its approach to agricultural and land use policies in a more synergetic way. A renewed policy will need to deliver an attractive farm income that evolves over the years by implementing innovation and new business models. These need to deliver food security, strengthen the resilience of the EU economy, promote the sector's international competitiveness, address climate change and reverse the declining trends of Europe's biodiversity for the decades to come.

1. Develop a more inclusive and integrated systemic policy approach

In the EU's economy, the food system plays a crucial role. In 2022 alone, it generated a turnover of over € 1000 billion and an added value of € 229 billion. But food and agriculture transcend the mere delivery of calories and nutrients; they enrich society by enhancing health, fostering social bonds and providing pleasure. Similarly, agriculture contributes to landscape management and community preservation.

While highly efficient — historically reducing the typical household food expenditure percentage significantly, from 40% to 20%, thanks to agricultural advancements and increased real income — food systems' inefficiencies persist. For instance, food waste (food fit for use but discarded) and losses (food not reaching consumers)[2] occur along the chain (probably around 30% globally but 20% in the EU[3]), or consumption of the wrong kind of food, especially in developed economies[4].

On the other hand, the food system significantly impacts the environment. Its external costs are significant and often not included in the price setting. Estimates of the GHG emissions range from about 26% to 34%[5] and of water usage at about 70%[6], causing global yearly externalities of $12 trillion[7]. In the EU, agriculture alone makes about 11% of anthropic GHG emissions, coming to a large part from enteric fermentation or the application of fertilizers[8]. However, it has or can have a role in absorption.

At the same time, while food safety has globally improved, the share of unhealthy food (high in sugar, salt, saturated fat) has also increased, with potential impacts on NDC (Non-Communicable Diseases, such as obesity, type-2 diabetes, etc.). The resilience of the EU food system should be considered as well, with diversification of crops for healthy food production becoming indispensable.

In response to the abovementioned issues, the EU is actively supporting the implementation of a reform of our food system through initiatives like the Farm to Fork Strategy (F2F), focused on the system's transformation and distribution of food, and the CAP-2023-27, designed for a greener and fairer agriculture. Additionally, the EU addresses regenerative agriculture as part of a broader European Commission effort to restore at least 20% of the EU's land and sea areas by 2030 and repair all compromised ecosystems by 2050. This initiative, i.e. the Nature Restoration Law, aims to benefit people, nature and climate alike. The EU is also seeking to develop the bioeconomy, of which 70% is made up of the agri-food system, to help the EU accelerate progress towards a circular and low-carbon economy.

[2] AO, Food Loss and Food Waste, https://www.fao.org/policy-support/policy-themes/food-loss-food-waste/en/

[3] European Commission, European Food Loss and Waste Prevention Hub - Home (europa.eu)

[4] Our World In Data, Burden of Disease - Our World in Data, 2024.

[5] H. Ritchie, How much of global greenhouse gas emissions come from food? - Our World in Data, 2021.

[6] OECD, Water use in agriculture - OECD

[7] Hidden costs of agrifood systems at the global level (fao.org). Ruggeri Laderchi, C., et al. (2024). The Economics of the Food System Transformation. Food System Economics Commission (Fsec), Global Policy Report, available at https://foodsystemeconomics.org/wp-content/uploads/FSEC-Global_Policy_Report.pdf

[8] Progress and prospects for decarbonisation in the agriculture sector and beyond — European Environment Agency (europa.eu)

However, there are signals that these reforms may be at risk of derailing. Transition failures due to a lack of clear inclusive objectives, systemic analysis and financial data, lack of priorities (i.e. poor strategies), misunderstanding of cultures, misalignment of stakeholders and insufficient resources[9]. It is essential to elevate the discussion to focus on the value creation within the food system.

Furthermore, it is important to recognise that the true cost of food - the one that reflects the externalities and hidden benefits as well - is much higher than what is presently paid. Therefore transparency and true value are essential, grouped in two clusters.

For the downstream part of the food system, including the processing, distribution and consumption of a healthy diet, and centred around the value to consumers, it becomes essential to set up a scoreboard of harmonized metrics to foster transparency and benchmarking in measuring the progress towards healthy, affordable and sustainable food and understand how citizens and consumers perceive the benefits of better food and the penalties on the environment.

For the upstream part, which is about the transformation towards a regenerative agriculture, we need to start reasoning about what we want from agriculture in Europe, the societal value it is generating, better valorising it, anticipating how climate change, demographic and economic trends can put this societal value at risk.

The foundations must be established to initiate a change management of the food system towards more sustainability and resilience, with priorities for actions generating the highest value and implemented in a decentralized, lean, participative and agile way. Crucial for a positive outcome will also be plans to protect farmers' balance sheets when accelerating digitalization, bioeconomy and uptake of new technologies, all of which have significant, positive environmental effects but they do not yet present a positive business case for the average farmer.

The comprehensive approach adopted is fundamental to (attempt to) de-risk this transition, by addressing both the food system (F2F) pillar, and also more specifically agriculture (CAP), while accelerating the delivery of positive impacts such as prioritizing healthy food, affordability, food security and circularity for the food system, with agriculture delivering more sustainability, biodiversity, reduction of chemicals, soil-health and improved long-term perspectives.

There is a general consensus that our food system should aim at providing sustainable, healthier and more affordable nutrition, including considering local diets, such as the Mediterranean diet or Nordic diet, and that it is expected to contribute positively to a reduction of obesity and NCD (Non-Communicable Diseases) while minimizing the impact on our environment.

While the directions of the F2F strategy are clear, it is key to use up-to-date analysis and financial and economic data, addressing the complexity of the system, setting priorities, dealing with unintended effects and monitoring the implementation of the agreed measures, especially since the policies and their implementation are mainly in the hands of national public health authorities.

2. Identify how the trends affecting agriculture are putting farmers' income at risk

Land use repurposing, shift of demand, climate change (temperature and water stress) and new practices will have an impact on farmers' income, and they must be anticipated. Likewise, imports, market power imbalances and regulatory burdens should be addressed. While valuable food outlooks, exploring the trends in farming and food

[9] T. Creasey, Best Practices in Change Management (prosci.com), Prosci, 2024.

systems[10], are published by the OECD, FAO and EU[11] yearly, they do not yet explore the risks related to trends in climate change.

Therefore, a research program is needed and it should be designed using modelling at a level of granularity low enough to identify the impacts of trends on income, beyond the EU Agricultural Outlook, to anticipate farmers' income at risk and provide enough time and resources to develop policies and mitigation plans.

Models[12] and transition pathways exploring the potential opportunities and effects of selected Farm to Fork and biodiversity strategies' targets in the framework of the 2030 climate targets and the post-2020 Common Agricultural Policy could be further developed in view of better anticipation of the effectiveness of achieving policies targets[13].

3. Design evidence-based mitigation plans to finance transition and protect incomes

Uncertainties relating to income will affect the ability to maintain resilient farming unless adequately addressed. It will be fundamental to support (groups of) farmers whose income have been identified as being at risk and to accompany them in a transition, either to a reconversion or to a more secure role.

A reform towards regenerative agriculture, in one form or another, has met with a general consensus, and it is mostly driven by the EU through the CAP 2023-27[14]. Additional strategies are reinforcing the transition towards sustainable agriculture: the Horizon Europe partnership on Agroecology, the Long-Term Vision for the EU's Rural Areas, the Carbon Removal Certification Framework[15], the Biodiversity strategy and the Soil strategy.

Although the specific objectives of the CAP have been published, along with a common monitoring and evaluation framework (CMEF)[16] and a kind of result-indicators dashboard[17] based on well-defined and standardized metrics[18] is available, progress reports on the implementation of this dashboard are still expected. However, it is not clear how they will contribute to the agriculture transition.

The focus must be directed towards identifying and quantifying the value generated by regenerative agriculture farming, how it can be secured and redistributed, who is benefiting from it and how this should be rewarded, i.e. who should pay for it. Additionally, the management of upcoming trends (climate, consumption, trade) will be addressed, aiming to establish a new model of governance: a less top-down and prescriptive and more participative approach.

Positive economic opportunities can also arise from the energy transition and these should be carefully analysed and supported by the EU. One notable example is the integration of new-generation, light photovoltaic systems that allow for continued farming beneath them, coupled with the restoration of unused land. This combination can offer farmers significant economic benefits . Likewise, agricultural waste can be recycled for biomass production and bioeconomy products. However, other solutions must be developed to meet the diverse needs of farmers.

Recent advancements in GMOs and New Genomic Techniques (NGTs) necessitate reconsideration as well. These technologies now significantly differ from their first iterations and could enhance crop resilience while reducing

[10] OECD-FAO Agricultural Outlook - OECD-FAO Agricultural Outlook (agri-outlook.org)
[11] European Commission, EU Agricultural Outlook 2023-35 report (europa.eu), 2023.
[12] N. Debonne, M. Bürgi, and al., The geography of megatrends affecting European agriculture, Global Environmental Change, Volume 75, 2022.
[13] Modelling environmental and climatic ambition in the agricultural sector with the CAPRI model - Publications Office of the EU (europa.eu)
[14] CAP 2023-27 - European Commission (europa.eu)
[15] Certification of permanent carbon removals, carbon farming and carbon storage in products - European Commission (europa.eu)
[16] CMEF - European Commission (europa.eu)
[17] Result Indicators dashboard (europa.eu)
[18] European Commission, Results indicators, 2024 0d0cb546-eb04-4a2a-8b08-8549e21e18e8_en (europa.eu)

pesticide usage. Additionally, changing perceptions in some member states underscore their potential to bolster food security and agricultural exports. Given their capacity to mitigate climate change impacts, GMOs and NGTs could also stabilize financial markets in regions vulnerable to agricultural decline.

Farmers should be actively integrated into these mitigation processes, through bottom-up, joint thinking processes. On the one hand, this integration would facilitate farmers' adaptation to technological innovations, accommodating those who may be less open to change. On the other hand, it would enable the joint development of mitigation plans that offer cost-efficient solutions while preserving the competitiveness of European agriculture—for instance, avoiding the need to import large quantities of inexpensive cereals from third countries—and reducing the current polarization.

Adopting a cooperative approach may be the most effective way to engage farmers efficiently. In this context, quantitative modelling scenarios and science-based evidence should be used to identify incomes at risk and gaps. This is necessary to secure transition, inspired by methods such as WTA (Willingness To Adopt technologies or practices by farmers), to quantify necessary resources while better protecting farmers' income as described in the Food Drink Europe Report[19].

4. Shift the governance of agriculture from micromanaging farms to solution-providing

Address EU-wide complaints from farmers that the control system has lost touch with common sense. A leaner, more effective and less bureaucratic control system must be designed. A culture change from micromanaging farms to the culture of a learning organisation is needed. It could be inspired by the Agile and Lean Management Techniques[20], and adapted to a food system Transformation Monitoring. But culture changes do not come about by pressing a button and they require consistent effort, with clear milestones and regular evaluation.

Because this may mean a major revision of the way of governing and administering the food system, an interdisciplinary Task Force should be set up, entrusted with the design of a process in line with the Agile & Lean Management Movement and centred on the objective cost-benefit of activities. It should therefore include a variety of experts and representatives of the main stakeholders, fully including the private sector. It should also address the necessary change of management tools, such as the design of the retraining of the administration and of the farmers that will be required to adapt the culture and the processes.

5. Anticipate the impacts of livestock farming changes on farmers' incomes

Similar to Agriculture, the livestock industry will be impacted by major transformations and new approaches[21], such as the One-Health (animal welfare, antimicrobials, epizootic diseases, etc.), the shift of diet patterns, of trade balance and potential innovations (plant-based proteins, etc.), which might be anticipated[22].

The scenarios of livestock farmers at risk due to trends (nutrition and meat, climate change, diversification of industries' output[23] , etc.) and innovation (genomics and breeding, precision farming) should be analysed to anticipate the impacts of trends in livestock farming on farmers' income, and to design mitigation plans.

[19] FoodDrinkEurope-cost-of-transition-report_v2.pdf

[20] Lean management or agile? The right answer may be both | McKinsey

[21] (PDF) Current trends and innovations in livestock production: A critical review (researchgate.net)

[22] Future of EU livestock - Publications Office of the EU (europa.eu)

[23] For instance, the pet care industry generated significant economic activity in 2023, with consumers spending over €36 billion, particularly on cats and dogs. Despite strict regulations on labelling, advertising, raw materials and additives in the Pet Food industry, concerns about its impact on human food pricing and land use remain. Increased EU-level transparency regarding the environmental and food security effects of the pet food industry is necessary.

In this context, the role of livestock farmers in EU agriculture should be more robustly acknowledged. Their responsible farming practices not only enhance human health but also play a pivotal role in maintaining environmental health. This contribution must be recognized and embedded within policy frameworks to ensure effective support for farmers. This will reinforce their vital role in sustaining ecological and public health across the EU.

The EU should develop risk mitigation plans for key scenarios and identify necessary potential adjustments. As demand for animal products is expected to increase in the coming years, the EU should ensure that even small farmers who produce healthy products can remain competitive through technological investments. Indeed, emphasizing subsidiarity will enable local farmers to grow and advance sustainability.

6. Prioritise policy choices concerning consumers' resistance to different diet patterns

There is plenty of evidence that consumers and citizens are reluctant to change habits and adopt a different diet claimed or even perceived as healthier[24]. Education, affordability, convenience, gaps of perception vs reality and product placing and pricing concur to such resistance. Thus, a clear understanding of resistance and influences is critical to bring citizen and consumers on-board and design successful intervention policies for the adoption of healthier food. By better understanding such resistance, benchmarking and assessment of policies would become more contextual and relevant as well[25].

Starting from existing studies, a broader research, meta analysis should be designed and implemented to better understand motivations, concerns and obstacles that consumers and citizens are facing when trying to adopt a better nutrition pattern.

On the one side, the EU should show support for research on food innovation providing healthy and affordable choices that meet today's consumer lifestyle and expectation to have "food on the go". Policy makers need to embrace this new reality through regulation and R&D funding and communicate their openness to new approaches among nutrition experts and academia.

On the other side, focus on consumers' acceptance and taste will be the key drivers for a shift in consumer preferences and research in this area will be crucial. Along this line, EU financial support aimed at creating healthy and nutritious food will be essential for collecting data on food preferences, creating value and delivering benefits to society, similar to the approach taken in the USA.

Indeed, partnerships between public and private stakeholders will be essential to identify innovative approaches to support behaviour change and active lifestyles. Labelling and providing consumers with food information based on nutrient density can play a crucial role as well in advancing this agenda.

7. Accelerate digitalisation and precision agriculture

Fast action is needed to meet the climate targets in an economically sensible way, and new technology provides the answer. But the investments needed are substantial and seldom have a solid business case for the average European farm. Existing programs do not fulfil this need. Therefore, a system should be put in place without delay

[24] BEUC-X-2023-080_The_illusion_of_choice_report.pdf
[25] BEUC-X-2023-080_The_illusion_of_choice_report.pdf

to provide grants or soft loans for the initial purchase of high-tech equipment by a farmer, or a group of farmers, including an innovative engagement by the EIB.

Digitalisation, based on harmonized datasets enabling the use of broad analytics and AI, and Precision Agriculture, based on IoT, sensors and robotics, have the potential to accelerate agriculture reform towards learning and high-performing organisation through better benchmarking and intelligent monitoring[26]. Pooling of resources, harmonizing practices and identifying barriers to adoption are a must.

The Copernicus technology developed by the European Space Agency remains fundamental to monitor management of water usage at plant level, reducing waste and increasing crop yield. Likewise, smart cities use sensors and data analytics to monitor water pipelines for leaks, manage sewage systems more efficiently and optimize water treatment processes.

Member states need to be structured (across ministries) to design and implement a coherent policy area of agricultural digitalisation. Trust needs to be built up in the farming community to go on a digital journey. This can be done using partnerships between data owners (public sector, private sector) to develop value chains and business models for the use/re-use of agricultural data. The Commission has started a process to develop the knowledge base to further agricultural digitalisation as per the modernisation article in the CSP regulation, which should be upscaled in the context of the transition.

An interdisciplinary Task Force, of industry, government/administration, farmers and academic experts should be put in place to develop such a strategy, assess the resources required and propose an implementation program.

8. Set up a Food System Innovation Investment Fund

Managing the transition to a more sustainable food system delivery of healthy and affordable food will require the ability to rapidly test, adopt and scale up successful solutions both relying on science and technology, as well on social science to ensure relevance and acceptance by consumers and citizens.

Upon these premises, an Innovation Investment Fund should be considered. Its main objective would be targeting food systems and agriculture technology projects aimed at generating societal and economic value along with sustainability and healthy, affordable food, structured on a public-private partnership. Projects endorsed by this fund should facilitate the transition. In practice, the fund should bring together existing finance mechanisms and the EIB. Such joining of expertise would be truly helpful and a useful market signal.

Such a fund should have two complementary arms:

- The *innovation/development arm*, inspired by the *DARPA* success factors, such as[27] autonomous governance, excellence in recruiting, project-based and collaborative (public-private partnership), developing pilots demonstrating proofs of concepts for solutions generating societal or economic value.
- A *scale-up arm*, inspired by Operation Warp Speed (OWS)[28] that successfully rolled out the COVID vaccine in the USA, to implement successful projects to scale.

The governance of such a fund is critical, as it should guarantee that project selection is dictated by their intrinsic value and business rationale rather than being biased by the special interest groups (business or NGO) or the political agenda. Projects must be properly staffed and resourced, assessed with the necessary impartiality and objectiveness.

[26] OECD FOOD, AGRICULTURE AND FISHERIES PAPER N°176 (oecd-ilibrary.org)

[27] Regina E. Dugan and Kaigham J. Gabriel, "Special Forces" Innovation: How DARPA Attacks Problems (hbr.org), 2013.

[28] J. Robertson, A.Wu, How to Replicate the Success of Operation Warp Speed - Federation of American Scientists (fas.org), 2023.

The Theory of Change and Impact Assessment, in relation to Impact Investing, should also be part of the culture of the government body. An expert team should first be assembled to design such a fund, starting with the assumptions defined above. A specific steering group comprising representatives of stakeholders and of fund contributors should ensure coordination, peer review and impact evaluation. It should be given a multidisciplinary advisory body, including proven outside-the-box thinkers.

9. Set up an observatory to measure the impacts of the food system policies in the EU

Fostering healthy and affordable nutrition necessitates complex intervention policies touching all the wheels of a food system, such as food composition, a wider educational campaign targeting all age groups along with further research into behavioural change, a harmonised concept of labelling on packaging and restaurants' menus, pricing, promotion, product placing in retailing, practices in schools and canteens, assessing the health impact of policies, etc. Inspired by the FOOD-EPI set of metrics[29], a comprehensive, harmonized and standardized observatory - adapted to the European conditions - measuring the performance of the food system as a holistic structure, should be established.

While food system policies are regional or national responsibilities, providing transparency in monitoring and benchmarking the progress of national policies towards a healthy and affordable diet through a dashboard based on harmonized metrics, similar to PISA for education, would certainly facilitate the identification of emerging best practices and of resources to bridge gaps at EU level.

However, the lack of data, or at least reliable data, including financial data, along the entire value chain represents a significant obstacle to the harmonization of measures and monitoring activities. Data transparency, particularly concerning food waste and the bioeconomy, is crucial for the forthcoming stages of food systems transformation.

Thus, the same dashboard should be developed with standardized definitions and data structure to assess the maturity of the national food system policies and be based on the development of metrics for Leadership (target setting), Governance (commitments from authorities, evidence-based policies, monitoring) Measuring and communicating performance and Resourcing and Funding[30], as conditions for an efficient governance transformation, using the Food_EPI model for governing structures[31] discussed above. Additionally, it could track the progress in providing healthy and sustainable nutrition.

A robust governance and ad-hoc infrastructure, in charge of developing and implementing relevant policies, should be promoted as well. The former must have strong leadership – with a joint-up approach between ministries of agriculture, food, health and the environment - be free from conflict of interests, have adequate resources in expertise and funding and have a regulation that is centred on citizen and society.

A dedicated forum to involve stakeholders should be established. Without this in place, it is unlikely that progress will be achieved over the long term.

10. Implement true cost accounting of food and of externalities to bridge price gaps

Healthy nutrition will cost more than junk food, and this needs to change, as it will bring all types of benefits that must be valued[32,33]. Since consumers, especially for the social category affected most by low incomes, tend to

[29] Food-EPI_EU_FINAL_20210305.pdf (jpi-pen.eu)

[30] The same should also develop a mechanism to facilitate the integration of local and regional funds to prevent duplication.

[31] Food-EPI_EU_FINAL_20210305.pdf (jpi-pen.eu)

[32] FRESH_True_Cost_Discussion_Paper.pdf (wbcsd.org)

[33] UNFSS_true_cost_of_food.pdf (sc-fss2021.org)

based on price more than on value. A clear view of the cost of a healthy diet and of the healthy diet cost gap is a must to design adequate policies, creating a level playing field for healthy diets, while junk foods should be treated no differently than cigarettes.

Among others, such policies would include a shift in CAP funding for food promotion to more sustainable options. Public procurement for canteens, especially in schools, should not disadvantage plant-based protein or animal-based protein food and drink. Food voucher schemes for employees (e.g. in Belgium, France, Spain) could be used to incentivise healthy diets.

Using the True Cost Accounting of Food methodology[34], the cost gap for a healthy diet versus current diet should be identified, taking into account hidden benefits and externalities. Starting with the True Cost Accounting (TCA) of Food Models, the benefits of healthy food, especially in view of the impact on NCD (Non-Communicable Diseases), and of the sustainability benefits or environmental externalities should be identified and clustered alongside income and cost of living maps.

This should make it possible to identify the hurdles preventing access to healthy food and facilitate the design of ad-hoc policies. The document elaborated by the Rockefeller Foundation, though applied in this case to the US context, provides details on the methodology that could be followed in order to implement the reforms mentioned above.

[34] TCA_Agrifood_Handbook.pdf (tca2f.org)

IX. Forestry & Biomaterials

Forests are one of Europe's key assets

Executive Summary

The role of forests in Europe's transition to a climate-neutral, circular bio-economy is crucial. It requires a holistic approach and coherence between policies to deal effectively with their complexity and regional differences, and to utilize scientific knowledge for tailored approaches. Linking these strategies to wood use in the bioeconomy reveals the vast potential of wood products, from bioenergy to construction, textiles, pharmaceuticals, and more, all aligning with circular economy principles.

Significant research investments, public-private partnerships, collaboration between SMEs and multinational corporations, and innovative financing mechanisms are essential to advance sustainable forest management and a circular bioeconomy. Protecting natural forests, expanding planted forests and plantations, restoring degraded landscapes, and enhancing fibre production are priorities.

Forest diversification must be promoted to enhance resilience and biodiversity. Regulatory standardization across the EU and a synergistic relationship between agriculture and forestry are needed. Policies should align with rural-urban dynamics, increasing urban forestry to improve quality of life. Traditional and innovative wood products should be integrated into industrial and research strategies to support the circular economy.

Including a forest-health axis will help mitigate risks from ecosystem disruption. Better public administration is needed to coordinate conservation, sustainable management, and value chains development aimed to develop a circular bioeconomy.

Introduction

In the context of shifting and unpredictable global conditions, Europe is rightly concerned about its economic resilience and autonomy, being short of many critical minerals. Forests are an overlooked part of Europe's sourcing autonomy for a climate-neutral and circular bio-economy. When they are sustainably managed, as they already are in many countries, they are an important economic asset. A circular bioeconomy needs sustained provision of raw materials and wood is the main source. It is much more than timber and today it is a basis for a multitude of products and a diverse, green value chain. Public procurement, which constitutes approx. 17% of GDP in the EU, has an important stimulating role for such bio-economy. Research in upscaling it.

Forests are one of Europe's key assets but, as for other policy areas, systems thinking is needed to achieve maximum benefits for Europe's economy, ecology and societies simultaneously. Only a holistic approach can identify and combine the multiple benefits which forests can provide. Based on its rich experiences, Europe can champion globally an innovative approach which considers all roles of forests and their dynamic interdependency.

Forests must be seen as part of the broader landscape ecosystem which is determined by complex interactions. Multiple interfaces and potential feedback of interventions must be taken into account, such as the regionally diverse impacts of climate change and consequently diverse roles of biodiversity, soil and water quality, or disaster risk reduction. With about 80 % of terrestrial biodiversity, forests are the most important reservoirs of biodiversity on earth. The conservation and sustainable use of this biodiversity, and thus forests, determine what happens to life, including human life, on earth, hence the topic reaches way beyond the boundaries of forests and the forest sector.

Forests are an important regulator of global water cycles, forested watersheds provide about 75% of the planet's freshwater, including water used for irrigation and drinking. As water is becoming increasingly scarce, forest policies should pay adequate attention to this function. Forests act as natural frontiers to land degradation, deflation and desertification, bearing huge direct and indirect impacts on agricultural production and consequently on nutrition and livelihoods. beyond prevention, forests have the capacity to also reverse already progressing deterioration, and forest and agriculture policies should evolve in a mutually supportive manner.

To perform their multiple functions and provide protection from landslides, floods, drought, dust, etc., forests themselves should be healthy and protected from devastating fires. Unfavourable environmental changes are already threatening forests; they must be eliminated or minimized so that the protective functions of forests can be fully utilized.

Their importance also grows with the heightened GHG levels as an important and cost-effective means of carbon sequestration. But forest-based mitigation and adaptation options should be placed in technical, economic and financial contexts.

Incentivizing the use of environmentally friendly and carbon-neutral raw materials for multiple uses (i.e. wood and other forest products) will have a positive impact on rural economies, whose economic and social indicators have been declining on average, a source of much citizens' discontent. This will require more plantations for fire production. Contrary to popular imagination, a very large part of current forests were once planted for wood production, and only a small portion of Europe's indigenous forests are surviving. But planted forests can become semi-natural over time. Moreover, more wood production will reduce Europe's dependence on fossil fuels (plastics) and enhance its strategic autonomy.

Given the much higher environmental footprint of cities compared to rural areas, it is imperative that they be included in a renewed forest policy. Urban green must be seen as part of the value chain of renewable materials (fibre) and energy, as well as important ecosystem services contributing to healthy urban life. This will contribute to solving competition for land use and help to achieve these combined goals.

Innovative approaches can sometimes combine food and wood production, industrial estates, or urbanization, with reforestation. European forest policy cannot overlook all these interdependent environmental, economic and social aspects. It must also fully recognize the global context, such as the UN Strategic Plan for Forests. It cannot create obstacles to trade and negative impacts on third countries prompting undesired reactions and unintentionally though, adversely affecting global sustainability efforts.

A clear strategic direction is needed to deal with forestry and wood production distinct from agriculture and food production, even if the environmental and economic balance of these land-based activities are to be maintained at all times. Its simple inclusion in the common agricultural policy prevents a specific and comprehensive policy with appropriate instruments and with respect to the division of competences between the EU and member states. A basis for forest policy is missing in the Treaties, but what needs to be done at European level can be done through intergovernmental cooperation and coordination with other EU policies.

The policy needs to get the contribution of the sector to the economy right, but currently, the GDP calculations cannot guarantee this. There is a need for substantive changes and for a clear economic vision about the sustainable production and consumption of wood and non-wood forest products and services. Ecosystem services should not be considered as free goods; they have a clear value and in the long run, they should become internalized in the bioeconomy market, making subsidies unnecessary or limiting them to the needed minimum.

Public-private funded interdisciplinary research about the different components of forestry is necessary, as much as support for the implementation of sustainable forest management practices, which also serve conservation and biodiversity, and for effective conservation of natural forests everywhere in Europe, including countries outside of the EU.

To have forests properly positioned in both the system of policies and administration the new Commission should therefore set up a dedicated directorate general, with responsibilities for the overall implementation of the forest policy, including for the conservation of natural forests and the wood and fibre production value chain, the provision of ecosystem services, and contributes to creating and maintaining balance between competing land uses.

1. Design a truly comprehensive and coherent forest policy

Such a policy requires a different mindset which embraces complexity and seeks tailored approaches. The one-size-fits-all fails to take account of the specific characteristics of Europe's different regions and their forested areas. Reality requires recognising the interconnections in natural ecosystems and considering various perspectives which all interact in foreseeable and unforeseeable ways. Available scientific knowledge must be fully used to (re-) design forest policies.

The European Commission and national and regional governments need to operate jointly because the complexity of natural environments makes it impossible to design and implement policy from afar. It is essential to embrace very

different ecological and socio-economic conditions and this can only be done effectively through the involvement, upstream and downstream, of relevant stakeholders, such as regional and local authorities, small and large, public and private forest owners, and enterprises in the value chain. They have the knowledge and experience on which effective policy can be based.

2. Link the strategy to the use of wood in the bioeconomy overall

Wood is a preeminent renewable resource if sourced from sustainably managed forests, which are already quite widespread in Europe. It can help meet growing demands with decreasing environmental footprints, including through successfully substituting less environmentally friendly products and materials with existing or newly developed products.

A comprehensive view would show how much the wood value chain offers already: bioenergy, construction (where it can bring significant carbon emission reduction), textiles, a diversity of papers, cellophane, pharmaceutical and cosmetics, foods (e.g. low-calory sweeteners), non-fossil fuel plastics and chemicals, furniture, automotive parts. And this list is non-exhaustive[1].

An additional significant advantage of wood products is their inherent alignment with the principles of the circular economy. Their ability to be reused, recycled and repurposed effectively minimizes waste and maximizes resource efficiency, while also making them particularly preferable compared to other materials. Wood products significantly support a closed-loop system where resources are continually reused[2].

However, to ensure that wood products for the future bioeconomy are sourced sustainably, EU policies should include environmental and social standards to which products must adhere, for example, certification systems like FSC (Forest Stewardship Council) or PEFC (Programme for the Endorsement of Forest Certification) should be encouraged to guarantee that wood products contribute positively to environmental conservation.

3. Support forests' diversification

Forest diversification is fundamental to sustainable forest management within the bioeconomy, offering significant benefits such as enhanced pest and disease resistance, increased resilience to climate change, enriched wildlife habitats, and slow down and reverse the loss of biodiversity.
Furthermore, diversifying forest species could influence soil organic carbon (SOC) and total nitrogen (TN) stocks, which are crucial for several soil functions and ecosystem services including water retention, nutrient cycling, filtering functions and erosion control[3].

To counteract the drawbacks of monocultures and maximize the benefits of forest diversification, the EU's forestry policy should encourage greater collaboration among foresters, researchers, policymakers, and local communities. Sharing best practices and knowledge on forest diversification could be effectively integrated into existing frameworks such as the European Green Deal, in line with its protection and restoration goals[4], or through new directives.

[1] Pekka Leskinen, Giuseppe Cardellini, Sara González-García, Elias Hurmekoski, Roger Sathre, Jyri Seppälä, Carolyn Smyth, Tobias Stern and Pieter Johannes Verkerk. 2018. Substitution effects of wood-based products in climate change mitigation. From Science to Policy 7. European Forest Institute. https://doi.org/10.36333/fs07

[2] Ramage, M., Burridge, H., Wicher, M., and al., The wood from the trees: The use of timber in construction. Renewable and Sustainable Energy Reviews, 2017. 68. 333-359. 10.1016/j.rser.2016.09.107

[3] Rehschuh S., Jonard M., and al., Impact of European Beech Forest Diversification on Soil Organic Carbon and Total Nitrogen Stocks–A Meta-Analysis, Frontiers in Forests and Global Change, 2021, 10.3389/ffgc.2021.606669

[4] European Commission, European Green Deal: Commission proposes new strategy to protect and restore EU forests, 2021.

Forest diversification should also be a key component of the EU's climate change and biodiversity strategies, as emphasized in the European Commission's recent communication, aiming to "save lives, cut costs, and protect prosperity"[5] by adapting to and mitigating the impacts of climate change.

4. Foster standardisation within the EU

To enhance the regulatory framework governing the forest sector, there is a pressing need to evolve from primarily voluntary mechanisms—currently established by companies—to a more robust and mandatory system under the oversight of external entities.

Historically, these voluntary standards have allowed companies significant leeway to set and monitor their own compliance, leading to potential conflicts between conservation efforts and sustainable use of forests, as well as a lack of uniform standards for forest products. However, it is crucial that these enhanced standards and rules not only foster compliance but also ensure fair market access for industries adhering to them.

The EU is making significant strides toward standardization with initiatives like the EU Deforestation Regulation (EUDR), enforced also through a mandatory "due diligence" process, ensuring that companies verify that their products do not originate from deforested areas or cause forest degradation[6]. However, these regulations currently overlook their extraterritorial impacts, which are crucial to avoid threats to EU competitiveness and market entrance for third countries' companies.

The development of standards can be further supported through dedicated funds under the upcoming FP10 Horizon framework[7], as it happened in the past with the PERFORMWOOD (Performance standards for wood in construction - delivering customer service life needs) project under the European Commission's Seventh Framework Programme in 2012[8].

5. Develop alignment between agriculture and forestry

One of the most important biosphere policy decisions is to eliminate the apparent conflict between these two major land uses[9] and to create a synergistic relationship instead, since they are in continuous interaction and evolution. However, they each require specific policy-making.

The new approach to food systems[10] will eliminate expanding agricultural land at the expense of forests. This can be further enhanced by applying interconnected methods such as agroforestry and by relying more strongly on nature-based solutions.

This will help the conservation of forests for biodiversity and the expansion of forests and plantations for wood and fibre production of multiple goods and services. Conservation and sustainable management are complementary; together they will have a positive impact on biodiversity, which is of course essential for the future of life on Earth.

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[5] European Commission, Key steps to manage climate risks to protect people and prosperity, 2024.

[6] European Parliament, Parliament adopts new law to fight global deforestation, 2023

[7] For more details, see High Level Group chpater on Research and Innovation.

[8] European Commission, CORDIS, Final Report Summary - PERFORMWOOD (Performance standards for wood in construction - delivering customer service life needs), 2015.

[9] According to Eurostat and the Fact Sheets on the European Union, forestry represents about 37.7% in land use, second only to agriculture's 39.1%. Fact Sheets on the European Union, The European Union and forests I Fact Sheets on the European Union I European Parliament (europa.eu); 2018 data by Eurostat, Land use statistics - Statistics Explained (europa.eu)

[10] For more details, see High Level Group chpater on Biosphere Economy Innovation.

[11] Economists refer to this as the with/without criteria. FAO, Economic Analysis and Environmental Assessment, https://www.fao.org/3/ac625e/ac625e04.htm

A key element of combining economic and ecological sustainability is to recognize that any product or service whose provision comes at a cost, needs a price attached to it . No expense should remain hidden or unrecognized and appropriate compensation mechanisms should be introduced to avoid both somebody involuntarily bearing the costs on behalf of others (and thus forced to follow an economically unsustainable path), or the "tragedy of the commons" happening all over again.

6. Align policy with the rural-urban axis

One cannot overlook that global warming, due in large part to the effects of greenhouse gas emissions, is produced mainly by urban areas, whose share is already responsible for 70% of global CO2 emissions[12]. Cities are continuously expanding and so is their overall ecological impact.

The task is to increase the presence of urban forests, trees and greenery within cities, with a positive impact on the quality of life in cities. Urban forests can be defined as networks of systems comprising all woodlands, groups of trees and individual trees located in urban and peri-urban areas, whether they be grown in forests, along streets or in parks or private gardens[13]. They are the backbone of bridging rural and urban areas and ameliorating a city's environmental footprint. Cities must be incentivised to strive for an approximate ecosystem's functioning, particularly their network interactions and the conservation of biodiversity at all scales.

The misconception that the bioeconomy pertains solely to rural areas overlooks the significant contributions of urban forests. Urban forests are integral to fostering a sustainable and circular way of living for the future.

Effective/Better management of these urban areas is crucial, enhancing not only the quality of life of 50% of the world's population[14], currently living in these areas, but also fostering resilience and adaptation to environmental disturbances[15].

While this is primarily a task for member governments, the EU strategy should create framework conditions and incentives rather than regulatory burdens.

7. Enhance coherence with the industrial and research strategy

Traditional and new wood and other forest products are an essential part of a novel industrial strategy to achieve a circular economy. They are as important as other technologies that until now received the most attention. However, current rules and guidelines see forests solely as an instrument for decarbonisation and climate transition, overlooking economic and social dimensions. While the former is undeniably important, it risks undermining the coherence of the forest ecosystem and creating new risks for sustainability.

Although it is summarily included in the current forest strategy, it should be deepened and widened through adequate recognition of the need for investment in research and innovation development and in incentivizing sustainable supply. Research should further focus on five priorities:

[12] UN Habitat (2020). World Cities Report 2020—The Value of Sustainable Urbanization. unhabitat.org/World%20Cities%20Report%202020

[13] *Ibidem*

[14] Nan-Hua Nadja Yang, Aidong Yang, Urban bioeconomy: Uncovering its components, impacts and the Urban Bio-Symbiosis, Cleaner Production Letters, Volume 3, 2022, 100015, ISSN 2666-7916, https://doi.org/10.1016/j.clpl.2022.100015.

[15] Borelli, S., Conigliaro, M., Di Cagno, F, Urban forests: a global perspective. Rome, 2023. FAO. https://doi.org/10.4060/cc8216en, https://www.fao.org/3/cc8216en/cc8216en.pdf

- New products and value chains for enhanced circularity.
- Monitoring forests and the impact of forest regulations. Useful to this end are the blended technologies used for both space and ground monitoring[16] sector.
- Research should be closely linked to market demands, thus emphasizing the need for a highly qualified workforce and attract talent into the EU. It is essential also to cultivate multidisciplinary talents within the EU capable of comprehensively understanding the bioeconomy and existing knowledge gaps.
- Risk management and adaptation & mitigation of the risk: identifying and assessing risks related to forest management is crucial. This includes, among others, understanding the threats posed by climate change, pests and diseases and fire. Research can help in modelling these risks and predicting their impact, enabling policymakers to create informed strategies. Based on the risks identified through research, forest policies might be formulated to include specific mitigation strategies.
- Demonstrations for inventions and innovations are fundamental for translating theoretical research into market outputs and require facilities and equipment such as testbeds, piloting facilities, and living labs[17].

8. Foster public-private partnerships (PPPs)

The five priorities mentioned above can be easily achieved through public-private partnerships (PPPs), which are increasingly recognized as vital tools for enhancing forest management, facilitating sustainable development and addressing financial constraints on government resources. These partnerships combine the strengths of public sector oversight and policy support with the efficiency, innovation, and capital of the private sector. For example, PPPs can help manage and use forests sustainably by involving private entities in long-term management strategies.

Following the European Commission initiative to commit to a target of 10% of the Horizon Europe's total budget for 2025-2027 dedicated to biodiversity-related topics, among these forests and forestry for a sustainable future[18], it is crucial that the upcoming Horizon FP10 framework will further enhance PPPs through European Partnership[19]. These partnerships can reduce investment duplication and decrease fragmentation within the EU's research and innovation landscape.

9. Upscale financing mechanisms and research investments

In addition to eliminating a fundamental market failure in recognizing the true value of forest products and services, there is a need for new, innovative and green financing mechanisms to help upscale investment in forest conservation, restoration and sustainable use as well as in strengthening sustainable consumption and production. There is an equal need to upscale research investments in accordance with the potential of wood for Europe's autonomy and biomaterials.

But a holistic and cross-sectoral approach should ensure that financial instruments in adjacent areas do not work as antagonists and lead to adverse effects (and vice versa). Agricultural and energy subsidies are immediate examples, but not the only ones. Better impact assessment, financial and economic data, regulatory scrutiny and future scenarios are all needed to ensure forest policy efficacy. A policy and regulatory review could lead to considerable savings and increase the efficiency of existing financial instruments. This appears to be largely missing until now.

[16] European Space Agency, Forests, Footnote 4 : European Commission, European Green Deal: Commission proposes new strategy to protect and restore EU forests, 2021.

[17] For more details, see High Level Group chapter on Research and Innovation.

[18] European Commission, Horizon Europe strategic plan 2025-2027 for research and innovation to underpin journey to a green, digital and resilient future, 2024.

[19] According to EC, "to bring private and public partners together to address some of Europe's most pressing challenges and innovation initiatives. They are a key implementation tool of Horizon Europe, and contribute significantly to achieving the EU's political priorities. https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/european-partnerships-horizon-europe_en

Supporting private investors in venture funding is crucial for the development of a dynamic investment/financial sector in the EU. For instance, SMEs are often at the forefront of bioeconomy innovations but may lack the necessary resources to scale up their operations. By encouraging private investment through favourable policies and PPPs, the EU can accelerate these companies' sustainable growth and contribution to the economy, ensuring sustained development of forest-based products and competitiveness in the global market. This will also facilitate research investments often needed to take new products to the next level in the market.

Several strategies can be implemented by the EU to enhance venture funding: for example, the EU could introduce tax incentives for private investors engaging in venture funding of SMEs. This could include tax breaks or credits for investments in start-ups and innovative companies; and develop a risk-sharing mechanism that can reduce the financial risk for private investors when they invest in early-stage SMEs. This could be facilitated through co-investment funds or guarantees by the EU to cover a portion of potential losses; and through simplifying regulatory requirements for venture capital funding, making it easier for private investors to fund SMEs. This involves streamlining administrative processes and reducing bureaucratic hurdles that can deter investment. Also, there is a need to ensure that legislation is adaptive to accommodate new forms of investment and innovation, particularly in high-tech and green sectors.

10. Stimulate cooperation between SMEs and MNCs

Funding for SMEs, small-holders and forest owners, as well as multinational corporations (MNCs), is essential to foster sustainable forest management and advancing the circular bioeconomy. Both SMEs and large corporations bring unique strengths and capabilities to the table, and it is important to recognize that they are not competitors but partners in achieving sustainability goals, as well as creating inventions by sharing knowledge.

SMEs often introduce innovative practices and local knowledge which are crucial for sustainable forest management, whereas multinational companies can provide the necessary scale, resources, and global reach.

To realize sustainable forest management and a thriving circular bioeconomy, it is critical that both SMEs and multinational corporations receive adequate funding. This financial support should be tailored to meet the diverse needs and capabilities of each, ensuring that SMEs can scale effective solutions and corporations can implement sustainable practices widely.

Funding mechanisms could include venture funding, low-interest loans, and incentives for sustainable practices that contribute directly to the bioeconomy and environmental conservation.

Moreover, fostering a collaborative environment where both SMEs and multinational corporations can share knowledge, technology, and best practices is crucial. This synergy can accelerate the adoption of sustainable forestry practices. Therefore, investment in these entities should be seen as complementary rather than supplementary, driving towards a collective goal of sustainability and economic viability in forest management.

11. Increase space for conservation and production

Although the loss of forests is not a typical EU problem, there is a need to increase forest area further (through afforestation and reforestation), including natural forests, and restore degraded forests and landscapes.

It is also important to devote areas to fibre production to meet increasing future demands in the envisaged bioeconomy without depleting the existing natural forests. Urban forestry can be helpful for this.

This is in fact a decision at landscape level since creating plantations is similar to creating agricultural fields. It should not be confused with protection objectives in the course of the several year-long or decade-long production cycles.

Existing and new forests must be managed sustainably, thereby creating a balance between the three pillars and enabling forests to provide the full gamut of goods and services. This holistic, sustainable management concept needs to bring harmony between the conservation and use approaches and help move away from the long-existing but not fully justified conflicts between objectives.

12. Include the forest-health axis

There is scientific evidence that landscape degradations caused by illegal logging and/or deforestation, mainly for intensive agriculture, illegal wildlife traffic and unplanned urbanisation are among the key factors of risk of EID spreading, as they disrupt natural ecosystems and natural pathogen reservoirs (e.g. bats), hence transmitting fatal diseases to livestock and humans.

While forest health is recognised in the current policy documents, the intricate relationship between forests and human health is largely ignored. Forests, as a cost-effective, nature-based solution to protect, and where needed restore, human health, play a huge, still largely invisible role in maintaining the health of society and the economy.

Forests serve a multifaceted role extending far beyond their well-known capacity for carbon sequestration. Urban forests, in particular, contribute significantly to physical and mental well-being, providing essential green spaces that enhance the quality of urban life.

The potential of the forest sector to impact health extends into the pharmaceutical industry as well. Innovations in forest bioproducts are poised to generate substantial revenue by tapping into the rich biodiversity of forests for the development of health products, which could contribute billions of dollars to the global economy.

Moreover, the cultural impact of forests should not be underestimated. Forests provide a wealth of cultural values. Although communities depending directly on forests are only a smaller portion of the EU population, a less indirect relationship applies to millions of smallholders and farmers, including a future for rural youth. Protecting their livelihoods and traditions are important for maintaining society's integrity.

Forests and health tourism have become significant in certain regions, attracting visitors keen to experience the therapeutic and rejuvenating properties of forest environments.

In many parts of the world, indigenous recipes that utilize forest products have not only preserved cultural heritage but have also become commercially successful, selling for millions of euros and promoting local economies. This highlights the broader economic and cultural benefits of forests, reinforcing their value as a resource for health, wellness, and cultural richness. It is a dimension of the EU's cooperation with Africa in the health sector which needs to be upscaled.

The recognition of this role must be strengthened and clearly spelled out in the relevant policies and strategies, as well as in financial flows and instruments, as and when needed or applicable. Policies overall should reflect and adhere to the One Health approach.

13. Raise urban awareness of rural realities

The growing distance between people and the natural environment is becoming increasingly dangerous with people considering themselves outside and above nature. This attitude can seriously undermine any effort towards sustainability and lead to behaviour detrimental to nature and forests. Member governments and businesses alike should raise understanding and awareness among people about the complex realities of environmental issues by information sharing, advising on environmentally conscious behaviour (as citizens, consumers and producers), to influencing political decision-making.

14. Design a constructive role in global forestry

With its historical pioneering in sustainably managing forests, the EU's forest sector has accumulated an impressive body of scientific and practical knowledge with considerable advances in wood production and across the entire value chain, including education and technology.

Thus, the EU should seek to develop an environment conducive to creating 'European Champions' in forestry. The EU should now aim to generate more opportunities and maximize its extensive impact throughout the value chains. For instance, by defining clear, long-term strategies, the EU can extend its influence into major markets such as Asia and Africa, establishing partnerships that can boost its global competitiveness.

This integrated approach not only underscores the EU's role in global forestry but also promotes sustainable development and economic growth, both within and outside its borders.

15. Ensure fair trade of forest products

As a major consumer and producer of forest products and services, the EU must create a conducive environment for sustainable forest management and sustainable production and consumption, not just internally but also internationally. Some of the current regulations are already creating adverse effects.

A vision is lacking of how the EU could support the development and implementation of sustainable and productive forest policies worldwide and in particular in densely forested countries for which they are a key resource. It could provide incentives to restore depleted land, akin to how the EU helped the conversion of intensive farming land, for sustainable forest management, for reforestation, to name but a few. This should be part of the EU's global trade and geopolitical strategy.

It is crucial to ensure that EU forest policies designed to achieve these goals do not inadvertently become obstacles. Such policies should not impose undue burdens on the market, either domestically or internationally, nor should they place excessive obligations on third countries, which could diminish the overall positive impacts and opportunities available.

A primary concern is that overregulation and the extraterritorial impacts of regulations, often due to insufficient consultation at both regional and international levels, can undermine these objectives. To enhance the effectiveness of EU forest policies on the global stage and ensure the successful realization of its environmental aspirations, it is essential to improve stakeholder engagement across all levels. This approach will help the EU to achieve its objectives more successfully and impactfully.

16. Establish a dedicated Directorate General for Forestry

Effective development and implementation of forest policies often require a centralized approach, where all related aspects are coordinated under one umbrella. This consolidation is vital for enhancing efficiency. Additionally, the pressing need to develop a circular bioeconomy as a strategy against climate change further underscores the importance of specialized oversight in this sector.

To this end, the establishment of a dedicated Directorate-General for Forestry is proposed. This Directorate-General could be structured into two distinct directorates: one focused on the conservation and sustainable management of forest resources, and the other dedicated to managing the forest-based value chains and the provision of products and services.

The new DG would ensure coordination and prevent overlapping or conflicts of funds and policy measures within the commission and among the various DGs. Furthermore, an educational component must be incorporated within the Directorate-General to boost awareness of forests' roles and benefits at all levels.

Employing Seconded National Experts can be a cost-effective strategy. They can provide specialized knowledge and assist in both legislative and non-legislative aspects of forest management, while their expertise can be pivotal in crafting practical and regionally tailored regulations. Effective consultations and cooperation with regional authorities, forest owners and companies in the wood value chain is a must.

IMPROVING EUROPEAN GLOBAL PRESENCE

X. Africa Europe Partnership

A real reset for a mutually beneficial African and European transition

Executive Summary

A partnership with Africa has a chance to succeed only if there is a complete change of mindset and of policies. As a start, history and equality in the relationship require to eliminate patronizing mindsets. The second challenge consists to adapt policy making and implementation to the asymmetries in the institutional set-up and the bilateral relations of member states. Moreover, businesses need to be involved in policy design and implementation in order to ensure compatibility with market realities.

The focus needs to shift from mainly inefficacious development policies to investment and trade. This will help structural transformation in agriculture, manufacturing and services, facilitate self-propelling economic growth in its rapidly expanding consumer markets. Improving infrastructure will facilitate intra-African connectivity and trade. The potential of sustainably managed forests for a bio-economy, and network improvement and cooperation in the energy sector are needed for local supply as well as for exports.

Trade facilitation measures supporting regional market integration and the AfCFTA and carefully considering impact of EU policies can help upscaling of SMEs in Africa and to connect them to global value chains.

Introduction

In general, the EU needs to rethink how it operates in an interconnected and interdependent world urgently needing mutual metamorphosis. Its policies cannot be made in a black box because as a policy-making system, its impact on other systems must be considered upfront. Otherwise, it undermines itself what it tries to achieve and awakens feelings of neocolonialism. It must be replaced by a more flexible, consensual and cooperative approach, fully embracing the interests and views of others.[1]

The cost and impact of the European Green Transition on Africa has been underestimated. Designed from a Eurocentric perspective, the European Green Deal has to a great extent set up a system where the negative externalities of European industrial production have been exported to Africa and other developing regions in the world. Despite the objectives of CBAM or EU Deforestation being legitimate, their extraterritorial impact on African countries and businesses, especially SMEs, has been overlooked.

A new system of governance between Europe and Africa needs to be established. A system that encourages Africa – EU trade and investment. The current system is not exploiting the full potential of two geographically neighbouring continents closely linked by a common history. Africa-EU trade fluxes are low when compared to other regions in the world that are geographically far from Europe. Market potential, resource sharing, multiple social-cultural links and considerable European investments must facilitate this improved African-European relationship.

The key to a real partnership is mutual beneficiation. This requires a very strategic shift of European policy and funding from development to investment and trade in Africa.[2] Despite the geopolitical weakening of the EU, it can still be the partner of choice for African governments and citizens given the multiple ties between African and European countries. Its model of democratically governed market economies and welfare systems is what African peoples aspire to. It is still the world's largest trading partner which could be a lever to facilitate sustainable economic growth elsewhere.

In Africa, a new generation is rising, impatient for change and less tolerant than their elders of Eurocentric mindsets, patronising lectures or double standards. Poor consultation and communication mean that many see the EU not as pushing high standards, but as protectionism. Equally in Europe, there is a new generation with less exposure to and practical experience of Africa. Capacity building is important in the African public and private sector, but also in Europe where there is generally too little understanding of African realities and competencies.[3] The question is how can the EU and its member states be the partner of choice for African countries in a situation of competition with other economic powers? It requires a courageous reset.

To deal with all this, a partnership will need innovative mechanisms for investments and guarantees, with investment criteria based on integrated value; a significant investment in capacity acceleration in the public and private sectors, with an emphasis on transition and systems reform; and adapting to local conditions and with equitable local engagement. A great simplification of the existing plethora of programmes.

A serious effort is needed by the two Unions and their member states to engage effectively with business, academia and civil society and to use their know-how to design the roadmaps towards common economic, ecological and social objectives and mutual beneficiation. The current top-down approach, still present in the new OACPS-EU Agreement, cannot capture the complex realities of both continents.[4] They are in asymmetric processes of transformation to climate-neutral economies in radically different demographic and social contexts.

The challenges are such that a dedicated and competent Commissioner for the Partnership is needed to ensure innovation and coherence of current policies in line with new contextual conditions and to personalize the importance of the relationship. Together with the High Representative, they should reset the overall relationship.

[1] See also High Level Group chapter on Governance Innovation, which mutatis mutandis applies here too.

[2] HLG on Africa-Europe Partnership, report Make the Summit a new departure, 2022. Robert Calderisi, The Trouble with Africa, why foreign aid isn't working, 2006.

[3] Adeyinka Adewale & Stefan Schepers, Reimaging Africa, lifting the veil of ignorance, 2023.

[4] Council of the European Union, Samoa agreement, 2024.

1. Give overarching priority to Agenda 2063 and put institutional relations on a new basis

EU and member states' Africa policy should focus on the AU Agenda 2063 as the principal platform for strategic cooperation and implement policy in line with its ten-year planning periods. Views about priorities will differ but this should be an incentive for deepening mutual foresight analysis and objective impact assessment and for seeking alternative scenarios. In today's volatile economic and technological contexts, there are always alternative options to be considered, and they must be regularly evaluated and amended depending on impact and feedback.

Africa for its part should transform the African pillar of the Samoa Agreement into a Pan-African Agreement. This upscales the AU, which in turn facilitates other negotiations. All current policies and funding mechanisms should undergo a jointly undertaken but independent impact assessment of whether they are compatible with a future African Common Market, whether they are effective for the intended objectives and whether they avoid collateral damage or misuse. These impact assessments must be inclusive of economic, ecological and social dimensions, in equal measure.

An appropriate toolbox for regional market integration with a focus on modern public management methods, digital governance and implementation mechanisms should be designed. An independent judiciary and free press are essential tools for ensuring efficacy. However, the EU should accept that traditional, local practices of governance and accountability can sometimes be more efficacious than imported methods that originated in different contexts.

Transparent and effective consultations with businesses are not a favour or an optional extra, but essential to ensure connection to mutual economic and social realities.

2. Review relationship management to deal with institutional asymmetry

The two unions are not comparable in background, organisation or functioning. The interests of their respective members are often not aligned either. There is a need to address the congruence of mandates and procedures. Credibility with business and civil society are issues that both systems are confronting.

There are parallels between the two intergovernmental organisations, but the modi operandi are very different, despite both having an executive Commission. In the AU, most decisions are taken by its heads of government and this requires specific expectation management and preparation in the EU through its network of representations in African countries. Improvement could easily come from simplification and digitalisation of operational methods.

The EU Mission with the AU in Addis Ababa serves as a useful advisory and consultation body, but there is no equivalent for the AU in Brussels. Due to a lack of capacity, the AU representation there cannot achieve similar efficacy, hindering consultation about intended policies or regulations which will affect Africa. In the interest of a partnership, the EU should encourage African governments to remedy this situation, and if asked, offer to support independent advice and employment of people with considerable practical experience.

Coordination between EU Missions in African countries should receive an upgrade. Given the inter-governmental nature of the AU, alignment of views and actions creates added efficacy. Coordination between the AU Mission and African embassies in Brussels is in even greater need of an upgrade to remedy the 'too little too late' approach of African countries when there is an issue of mutual concern. Digitalised coordination mechanisms are easy to achieve on both continents.

to nominate people from a former colonising member state in the colonised country. In the first place, the EU should leverage the soft power of its member states without such a history. It will ultimately serve the whole Union.

3. Recognise the power of soft links

Winning hearts and minds must be taken seriously.[5] This requires attentiveness and a variety of tools.

Think tanks fulfil a useful role for foresight studies and comprehensive and multidisciplinary analysis of geopolitical and economic shifts in today's multipolar world, thus helping to bring about a common vision. They can serve as test beds for the policy options. They are part of the policy-making fabric.

But in the policy-making hub of the AU, there is no cluster of think tanks comparable to the EU Commission orbit. It will be practically helpful to policymakers and officials to ensure that both hubs have comparable, independent policy-research and think-tank capacities, networked with centres doing similar work in the respective member states. This is an easy task to accomplish and has considerable potential benefits.

Special attention should go to youth. The successful Erasmus exchange programme for students in Europe should be given a mature pendant in Africa. Its goal should be to annually exchange a group of university students from each African country with a comparable group of European students. Over time, this will surely contribute to mutual understanding and empathy; it will be an effective response to the efforts of Europe's competitors to capture hearts and minds. It must be renamed though to honour a comparable African thinker (e.g. Léopold Senghor).

African media are poorly represented in the European media landscape. It is important to ensure that public opinions here and there receive objective information, not least to counter disinformation on so-called social media or negative propaganda. The respective images of Africa and Europe in their media no longer represent current realities and are often based too much on historical perceptions. Both the AU and EU Commissions should set up an expert group on how to improve this situation.

Returning stolen artefacts, which some former colonising countries have started to do, is important for improving people-to-people relationships. However, research has revealed that more European countries were involved. Therefore it is a collective duty to act. Since a significant share of the global tourism market is cultural tourism, it would serve the double purpose of resetting and strengthening African countries' tourist attractions to make funding available for the renewal of African cultural infrastructure.

Another soft but significant symbolic measure would be to seek a kind of AU-EU framework agreement inspired by the Franco-German Treaty of Reconciliation and Friendship (1963). It could be a framework but it should not serve as a delaying tactic for concrete measures.

Finally, there are large diasporas in both Unions. Why not seek out qualified and experienced people and involve them in various ways? It would make visible, in the media in particular, that there is a wind of change in the relationship.

[5] Dominique Moïsi, Geopolitics of Emotion, How cultures of fear, humiliation and hope are reshaping the world, 2009.

4. Prioritise finance sector reform and business value chains

The fast lane to economic growth and social welfare depends very much on the market conditions for SMEs. They are the backbone of current African economies, besides a small number of multinational corporations which can often act as a locomotive for them.

An African Free Trade Area will be a large leap for their economies, but it is slow in coming, therefore it may be advantageous to focus in the short term on regional value chains. However, regional integration should never lead to obstacles to the priority goal of an African Common Market (as in Agenda 2063). To avoid this, a critical examination of the existing Regional Economic Communities should be considered by African governments, and if asked, supported by the EU. The contested EPAs, conceptually outdated, may nevertheless fulfil a temporary useful role, provided that they introduce no new obstacles to integration.

However, such government-to-government agreements do not mean much for business, in particular for SMEs, if they are not accompanied by practical trade facilitation measures that are applied consistently. Improving trade facilitation is important for the continent's rules-based order for trade and economic integration, improving the investment and production environment in all sectors.

FDI needs in Africa are high and should be high on the agenda for collaboration. An increase can be achieved through a shift from loans to grants and private equity and through more public-private partnerships. These will facilitate good governance and avoid the misspending of funds and capital flight, because of the sharing of specific expertise and mutual interests, which in turn will help these countries develop their public finance and tax systems.

Money and technology drive the economy. However, the international financial system, such as Basel banking rules or international accounting standards, were primarily designed for the Western financial system. These rules effectively hinder lending by African banks to African enterprises because capital and credit rules did not take the different economic conditions in African countries (and in fact of the whole global South) sufficiently into account.

Sustainable investment and trade finance require a specific African model. It would be an important signal if the EU would recognise this need and start a process of reform. No doubt it will not be easy, but it will greatly enhance its lost global credibility (for which there are other reasons too).

The most serious remaining effect of the past is the fragmentation of markets in Africa, causing a low level of internal trade, even including informal trade estimates. Focus on the RECs and the AfCFTA will remedy this.

5. Give more practical support to trade facilitation measures

There is ample evidence indicating that reducing the costs of doing business generally and trade transaction costs specifically will contribute significantly to improving efficiency, competitiveness and overall economic welfare. It has a wider multiplier effect, as the costs of trading with global trade partners is reduced too. The majority of African countries and all European ones are party to the WTO Trade Facilitation Agreement, which entered into force in 2017.[7]

Trade facilitation consists of a collection of measures and procedures associated with cross-border trade. Customs and border management issues are often a key focus. Capacity building has the potential to change the organisation and practice of any public service, it is often even the only feasible start because structural changes in public administration are known to be complex and time-consuming. Given the interdependencies of various public functions, improving customs procedures will spill over into overall trade policy, tax policy, etc. and lead to

[6] Johan Höglund & Linda Anderson Burnett, Nordic Colonialism and Scandinavian Studies, in Scandinavian Studies vol 91, 1-2, 2019. Walter Sauer, Habsburg colonial, Austria-Hungary's role in European Overseas Expansion Reconsidered, in Austrian Studies, vol 20, 2012.

6. Focus on investment in four key economic sectors

Fundamental changes are needed to increase productive capacities in Africa required for its growing markets for goods and services. However, proper framework conditions for investment and trade are needed, otherwise investors will prefer less risky opportunities. Public-private sector collaboration, setting Key Performance Indicators (KPI), and more autonomy on the ground, are the methods to ensure efficacy and Return on Investments (RoI). Transparency will help to stop large funds from flowing into foreign private bank accounts instead of serving structural problem-solving. However, this does not free African governments from the urgent task of updating their governance systems to deal with current challenges.[8]

There are four sectors which are decisive for Africa's future: agriculture and forestry, two important but separate sectors, manufacturing and energy. They play a key role in food systems, bioeconomy, job creation and alleviating poverty. They are the priority sectors for seeking integrated regional value chains to create the critical mass and necessary scale and for stimulating research and technology development in and for African markets. In all our, the AfCFTA mindset should be the driving force; national markets do not offer the right framework conditions for research and investment in the 21st century. More research on this status, conditions for their development and their future, appears critical.

Research and technology investments and cooperation in all these sectors should be increased in order to develop an RTD infrastructure which can serve future African needs. In all four, particular attention should be paid to start-ups created by young Africans and to SMEs. It is important to provide venture capital funding, but so is eliminating trade barriers to facilitate their scale-up.

7. Set clear key performance indicators

Structural transformation is a complex economic process but the only one which will help African countries to reach their UN SDG goals.[9] Setting KPIs for programmes and projects is essential to focus attention on outcomes instead of on procedures and bureaucratic rules imagined far away from local realities. Defining an exit is equally important to avoid the continuation of projects which for whatever reason do not deliver. More flexibility is needed and more risk-taking, without which no investment can succeed. It implies greater operational autonomy for specialist institutions such as the EIB (which the EBRD already enjoys) and independent evaluation mechanisms.

Inefficient use of funds needs to be prevented not just in Africa, but in Europe too. It may be politically expedient for the Commission to participate in funding through national financial bodies, but it blurs the role of the EU's own financial bodies. Building a consortium of national cooperation and funding agencies could help to improve efficacy for everyone. Transparency and efficacy are twins. This can also help reduce the illegal capital flights which are a real draw on the economies.[10]

[7] Jaime de Melo, Zakharia Sorgho, Laurence Wagner, Implementing the FTA should boost trade among AfCFTA members, paper by Centre for Economic Policy Research, January 2024.

[8] Moeletsi Mbeki, Architects of poverty, 2009.

[9] Carlos Lopes, Africa in transformation, 2019.

[10] UN High Level Panel on Illicit Financial Flows from Africa, report 2015.

8. Ensure food security

The system for producing healthy and affordable food for all in productive and sustainable ways depends on regenerative agriculture.

These farming and grazing practices reverse climate change by rebuilding soil organic matter and restoring degraded soil biodiversity, resulting in both carbon drawdown and improvement of the water cycle, among other benefits. They provide a holistic land management practice that leverages the power of photosynthesis in plants to close the carbon cycle and build soil health, crop resilience and nutrient density. That is what farmers have done for centuries in Africa, the methods depend on the geographic conditions.

The Rural Transformation Action Agenda (2019) was a good attempt to provide food and nutrition security in Africa, supported by a network of policy analysis and science and technology dialogue. However, as often, the focus shifted towards European objectives under the Green Deal, away from the needs of African countries faced with rapid demographic growth. A new start needs to be made within the context of the revision of the Malabo Agenda, Africa's own strategy for sustainable food production, accepting African needs and priorities as the basis for the EU's cooperation and support. The Pan-African Network for Economic Analysis of Policies should widen its cooperation with other research institutions and develop close cooperation with food sector operators to benefit from their know-how.[11]

It is an overarching imperative to reduce the dependency on imports; this demands an increase in intra-African trade and the elimination of the obstacles mentioned before, all the more important because transport delays lead to the waste of agricultural commodities and foods. To align EU programmes better with African Priorities means more focus on regional strengths for commodities production, support for the use of fertilizers and new (digital) technologies, for land registration and the reduction of post-harvest losses.

The development of food consortia where the whole value chain comes together may bring improvement too at country or regional level. Efficient and fair public administration and taxation modernization are needed to create trust and to bring the large informal sector on board. Food consortia are also useful partners for research and technology development and for strategies to adapt to climate change.

Prior information and consultation must become standard in EU trade practice instead of simply confronting African food exporters with notices of new rules. There is a need for more transparency and impact assessment of intended trade rule amendments and for more regular consultation and cooperation with African embassies. Efficacious consultation benefits everyone.

9. Stimulate sustainable forest management

The AU Sustainable Forest Strategy (2020-2023) should become the basis for cooperation instead of seeking to impose European views on a totally different ecological, economic and social context. The Global Biodiversity Framework should equally be taken into account, in particular its commitment to empower indigenous and local communities.

Impact assessment for EU deforestation policy, while well-intentioned, was deficient and now risks to distort local farming practices, marginalize small farmers and increase rural poverty. The long-term consequence may be to

[11] European Commission, Africa-Europe rural transformation action agenda, 2023.

drive African suppliers away from sustainable production adapted to local conditions by excluding them from value chains, pushing them towards low-value markets without benefits for the environment and people.

African expertise must be used to design such a policy with global impact. It distinguishes between types of forests and land use practices related to geographic conditions, between natural forests to be preserved for absorption of carbon emissions, mainly from industrialised countries, and others. It understands the essential roles of plantations or the consequences of the absence of a land registry, to name but a few key aspects.

Africa's own forest strategy provides a better start to dealing with climate change and sustainably managing its forest resources for the development of a circular bioeconomy. Consultation and cooperation with business and research organisations is a must for efficacious policies. Meanwhile, the EU should study the impact of its own green policies to avoid collateral damage elsewhere or export of GHG emissions.

Also important is a fair carbon price in Africa. In fact, the large absorption capacity of forests in Africa merits a price to be paid by countries which emit emissions above the world average. This may be difficult to achieve in global negotiations, but the EU is always keen to set environmental policy examples and the AU should open negotiations for an innovative agreement.

10. Support infrastructure improvements

The European Fund for Sustainable Investment had little impact until now: the priorities of FDI cannot be achieved without the know-how of the business sector. While uncertainties surround the Global Gateway (GG) in delivering concrete results, the EU-Africa Infrastructure Trust Fund (AITF) may serve as a prime example of successfully leveraging and engaging the private sector and consulting with the AU Commission.[12] To date, the EU-AITF has provided 26 grants and supported seven projects in Sub-Saharan Africa, with each grant facilitating investment that is 18.4 times its value through private sector participation.

Drawing on this approach, the Gateway Program holds significant promise if it overcomes common challenges such as insufficient consultation, the predominance of European perspectives and interests, and the discrepancy between commitments and actual delivery. The recent Financial Framework Partnership Agreement between the European Commission and African Development Bank, which concerns an investment of €972 million, on the sidelines of the Italy-Africa Summit, marks a promising beginning to a concerted effort between the two institutions that should be continued in the future.[13] But it means little to announce large sums, what matters are KPIs and delivery evaluation.

Africans may prefer, under the GG flagship, the EU to focus on specific infrastructure projects of great importance for African internal and external trade, selecting one or two and carrying them to completion. This is the success of other countries' role in African infrastructure projects and the reason why African governments increasingly prefer other partners.

11. Link investment projects to local capacity upscaling

Alongside infrastructure, the EU should invest in Technical and Vocational Education and Training (TVET) in African nations. High-quality, specialized education is crucial for Africa, the youngest continent with a median age of 19. Belt

[12] EIB, Overview of the EU-AITF, https://www.eib.org/en/publications/interactive/the-eu-africa-infrastructure-trust-fund-2017/overview-of-the-eu-aitf/

[13] AfDB, Global Gateway: European Commission and African Development Bank Group unlock new funding for African infrastructure projects, 2024, https://www.afdb.org/en/news-and-events/press-releases/global-gateway-european-commission-and-african-development-bank-group-unlock-new-funding-african-infrastructure-projects-68243

and Road Initiative (BRI) projects, ports, railroads, roads, bridges, airports, and others have increased infrastructure connections in sub-Saharan countries and gradually improved connectivity between them. It should be considered if this is not an area for constructive EU-China cooperation, which may be more in Africa's interest than separate infrastructure initiatives.

The World Bank estimates that by 2030, BRI-related investments will lift nearly 40 million people out of poverty.[14] By addressing infrastructure bottlenecks and increasing access to energy, projects related to BRI will promote economic development.

However, the BRI has insufficiently impacted education to support and sustain it with local knowledge and skills. This presents an opportunity for Western countries. The EU's efforts could include constructing educational facilities with cutting-edge technology, improving digital infrastructure for e-learning, and funding training for teachers. This connects with the recommendations on the importance of soft links.

A multiplier effect can be achieved through a coherent strategy linking investments in infrastructure, urban transport greening and energy. Environmental sustainability and climate neutrality are an investment to avoid future problems resulting from further climate deterioration and its economic and public health costs.

12. Focus on energy for African needs

The existing energy cooperation platforms, including the Africa-EU Green Energy Initiative and Just Energy Transition Partnerships, should strengthen mechanisms for technology sharing with the EU green-tech development to stimulate Africa's transition to green energy, taking fully into account Africa's own, and different, pathway to climate neutrality and the fact that there is still widespread energy poverty. Access everywhere to sustainable energy and increase of production and distribution efficiency through digitalisation can be speeded up through integrating energy markets.

Renewable energy (in particular solar) can become a major source of supply for Africa, as well as for Europe. The Sub-Sahara region alone accounts for 60% of the world's most efficient solar resources, making European investment vital to address the rising domestic demand for electricity, alleviate energy poverty and foster sustainable development.[15]

To further support these efforts, Europe can assist in developing critical energy distribution infrastructures, such as grid storage, grid interconnection and power pool systems. Again, providing training to the local workforce will create jobs and enhance energy security and economic growth.

Moreover, Africa's potential as a leading green hydrogen producer and exporter is well documented. Sub-Saharan Africa could produce green hydrogen cost-effectively, under $1.50 a kilogram by 2050, benefiting industries like local fertilizer and green steel manufacturing and exports[16]. The IPCC's Sixth Assessment report highlights that supporting green hydrogen production in Africa not only promises to bolster the region's renewable energy capacity but also contributes to improving the water balance[17], considering the strategic advantage of countries within the African Green Hydrogen Alliance—namely Namibia, Morocco, Mauritania, Kenya and South Africa—which are coastal and thus have direct access to seawater for hydrogen production.

[14] World Bank, The Belt and Road Initiative. Economic, Poverty and Environmental Impacts, 2019.

[15] Climate Analytics, Renewable energy transition in sub-Saharan Africa, 2022, https://ca1-clm.edcdn.com/assets/renewable_energy_transition_in_sub-saharan_africa.pdf

[16] IRENA, Hydrogen: A Renewable Energy Perspective, 2019, https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/Sep/IRENA_Hydrogen_2019.pdf

[17] Denton, F. & Halsnæs, K., Chapter 17 : Accelerating the transition in the context of sustainable development. In WG III contribution to the IPCC Sixth Assessment Report, 2022.

13. Design specific energy-related financial tools

Renewable energy investments in the region are perceived as high-risk. Projects often compete with subsidized fossil fuel consumption and lack institutional support. It would be in the EU's interest to seek a joint approach with the AU, RECs or African countries. Ensuring sufficient finance is vital for Sub-Saharan Africa to speed up its energy transformation and the focus should be on energy system planning, project bankability and the creation of domestic financial incentives.

Financial de-risking tools, such as guarantees and insurance mechanisms, are necessary to attract investments and mitigate risks. Yet, an analysis of 17 European financial instruments shows a lack of such tools from many existing financial instruments in supporting African renewables, particularly in the later project stages[18], such as negotiation and tender processes.

As the global energy sector transitions towards renewables, Europe can also aid in repurposing the existing gas infrastructure in Africa for hydrogen in a feasible and cost-effective manner[19]. For instance, salt caverns previously used for fossil gas storage are well-suited for hydrogen storage. This approach minimizes the risk of new gas infrastructure becoming stranded assets, especially considering that 40% of Africa's gas is exported[20], exposing the continent to the risk of debt and obsolete fossil fuel assets.

The transitory inclusion of nuclear energy and gas in the green category of Europe's taxonomy system will also facilitate Africa's access to finance.

Lastly, aligning EU funds and initiatives with international institutions, such as the AfDB's Desert to Power initiative, is imperative for fostering sustainable energy development in Sub-Saharan Africa[21]. This collaboration ensures that benefits prioritize local communities and support the region's transition to a green economy, addressing both energy and environmental challenges comprehensively.

[18] RES4MED&Africa, A New Instrument to Foster Large-Scale Renewable Energy Development and Private Investment in Africa, 2019, https://www.africanpowerplatform.org/resources/1027-a-new-instrument-to-foster-large-scale-renewable-energy-development-and-private-investment-in-africa.html

[19] European Union Agency for the Cooperation of Energy Regulators, Repurposing existing gas infrastructure to pure hydrogen: ACER finds divergent visions of the future, 2021, https://www.acer.europa.eu/news-and-events/news/repurposing-existing-gas-infrastructure-pure-hydrogen-acer-finds-divergent-visions-future

[20] Climate Action Tracker, The faster fossil gas leaves our energy systems, the better it will be for the climate, 2022 https://climateactiontracker.org/blog/the-faster-fossil-gas-leaves-our-energy-systems-the-better-it-will-be-for-the-climate/

[21] AfDB, Desert to power initiative, https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/desert-power-initiative

XI. Neighbourhood Interdependencies

From neighbours to partners or members[1]

Executive Summary

Geopolitical and economic circumstances are more volatile than in the previous decades. Existing policy pathways and agreements are or will become obsolete and need fundamental rethinking. Also in the context a mindset change is needed, away from a dominant European approach towards partnering.

This implies to take more account of neighbouring countries specific conditions and needs, as they perceive them, and to design together mutually beneficial outcomes through joint foresight studies. Recent innovative approaches in trade are a good step in that direction, but a more inclusive approach based on a continuous dialogue will be needed. It might generate trust and goodwill and create a solid foundation for future cooperation.

This can only be developed in the economic domain through engagement with businesses from there and here, and in the area of soft power exercise through meaningful involvement of civil societies from the neighbouring countries. The impact of EU legislation requires real consultation upfront and in many cases support for local adjustment policies.

The reform of food systems and the energy transition, inter alia, will serve as a critical test for the EU to showcase a novel approach toward its neighbours, regardless of the level of integration of European policies into domestic legislatiosn. A new perspective on these shared challenges, such as hydrogen production, green transition, food security, water management, and others, could cast a new light on the EU and its outdated policy frameworks like the European neighbourhood policies.

[1] This HLG started its work less than one year ago, its report needs further elaboration and completion, nevertheless the key ideas for a paradigm shift were agreed on.

Introduction

The contextual conditions of the neighbourhood policy were very different when it was originally conceived from those today. At the time, the EU could afford a kind of regulatory hegemony in exchange for access to its market, without differentiating much according to the views and interests of the other countries. While in Brussels this was usually not a matter of concern, in the neighbouring countries it is not seldom labelled as a neo-feudal relationship, though interpretation tends to differ between civil societies, politicians and the business community, at least large companies eager for market access.

Trade is the key instrument which the EU has to deal with other countries and to engage in favour of an international, rules-based order and to promote mutual prosperity. One can only hope that the neighbours have similar objectives. However, when times change, policies must change. Neighbouring countries now deal with a world which offers them alternatives to promote their own interests.

A change of mindset is an urgent necessity, as a prelude to new policy design. Grand political declarations and economic-financial data, not to mention social-cultural ones, do not easily go together. Their conflict can undermine the credibility of the EU. What is needed is to go beyond current paradigms and policy management methods, dating from decades ago and a different world, politically and economically, and to actively involve creative thinkers from the public, private and academic sectors from the region and from Europe to design multiple options for an innovative, more differentiated approach. Real bottom-up dialogues are needed to prepare alignment and a common strategic vision. Deep shifts in societies and in communication technologies have reduced the potential of government-to-government dealings and require a more comprehensive approach.

Overall, the potential of a constructive economic and ecological engagement is not really used in the neighbourhood due to a dominant, narrow, legalistic-technocratic paradigm. This expertise is needed, but others are too. Besides all kinds of political obstacles, there is a lack of a shared, coherent, up-to-date strategic vision of a multidimensional nature to overcome them and of the tools to implement it. There is a lack of comparable economic and financial data on which to base it, and of adaptation of objectives of the current policy and instruments to new global and regional realities, and of new methods to achieve them. Responsibilities are shared, but it is to mutual disadvantage.

There are in practice two groups of countries in the neighbourhood: those aspiring to become members or are in the first phase of such a process, and those that hope for a different kind of mutual engagement; perhaps some want neither. A coherent, equitable, differentiated but inclusive strategy is needed for each of them. This requires a new, adaptable cooperation architecture, with the engagement of business and civil societies. Governance methods for internal use can also be applied, mutatis mutandis, to build solid neighbourhood relations based on fairness and trust, shared views and interests and cooperative methods suited to 21st century societies.

[1] This HLG started its work less than one year ago, its report needs further elaboration and completion, nevertheless the key ideas for a paradigm shift were agreed on.

1. Leave Eurocentrism behind

Albeit in different formats, the countries in the neighbourhood of the EU have centuries of interactions with the current member states. However, in the Mediterranean region there is quite a bit of unease and ambiguity for the basic tenets of so-called Western modernism and what it has done and still does to their ancient societies.[2] It is their response to the condescendence of Europeans and to the destruction Europeans inflicted on this region until recently.[3] Other neighbouring countries have deep-rooted historic and religious characteristics which differ from the dominant Western-European one. Yet people aspire to incorporate the material benefits of Western modernity whilst preserving the soul of their countries.

Eurocentrism sees the whole world through a keyhole. It fails to spend time and effort on the complexity and interdependencies of the others. This intellectual laziness in technocratic systems allows us to sleepwalk, as the leading American political scientist Stephen Walt qualifies the West's current geopolitical approach to foreign policy, and others did too.[4]

Joint foresight studies can provide a guide for meaningful discussions and lead to include instruments of soft power, deepening a too narrow technocratic and economic transactional approach. They can increase strategic empathy, a key element of soft power; the role of emotion in geopolitics is well known.[5]

2. Develop meaningful dialogues

Then there is a need for an inclusive view of the multiple interconnections between the EU and its neighbourhood, for focussing on win-win policy areas in areas of mutual strategic importance and for seeking how the political bandwidth can be broadened in view of a better future for all, in line with the UN SDGs. They need to be included in an attractive narrative which touches people's hearts and minds.

The EU cannot continue to deal with other countries with a righteous approach about their internal affairs or positioning itself as a prescriptive regulatory power. In practice, this ultimately undermines its goals, increases EU external vulnerability[6] and is an important source of its declining geopolitical standing (not least when it is accompanied by double standards). More equitable results can be achieved with a flexible, open-minded attitude based on evidence and goals. It has to be accepted that there are multiple systems interacting in today's globalised world with their own histories, cultures and societal priorities. A new cosmopolitism should take root in line with economic, technological and cultural developments which are shaping the millennial generation worldwide.

The way forward starts with regular dialogues between businesses, academia and civil societies from the neighbouring countries and EU countries, without prejudice and based on identifying shared, long-term societal interests. Such dialogues will generate trust and goodwill and create a solid foundation for future partnerships. Precisely when the political conditions are difficult, they are often the start of improvements. They can more easily widen the technocratic approach than any training course on history or cultural differences which will often miss the connection with the real issues of future formal negotiations. Such dialogues cost time upfront, but save time later.

[2] Ian Buruma &Avishai Margalit, Occidentalism, the West in the eyes of its enemies, 2004

[3] Edward Said, Orientalism, 2003

[4] Corina Stratulat, War has returned to Europe, three reasons why the EU did not see it coming, 2022

[5] Dominique Moisi, The geopolitics of emotion, 2009. Joseph Nye, Soft Power, 2004

[6] Fossum J.E., Góra M., Report on differentiation, dominance and democracy, ARENA Report 7/23, ARENA Centre for European Studies, 2023.

The obvious choice for such dialogues is the impact and mitigation of climate change and research and technology development to deal with them. In the Mediterranean region, two additional policy areas stand out where mutual interests are apparent: food systems and energy. The policy solutions needed will be transformative and can open up innovative ways of thinking appropriate for today.

3. Innovate, diversify, tailor

The first task is to consider the current facts and the future potential of economic interdependencies as the essential basis for developing institutional and operational forms of interdependency. Political structures with little substance will only increase citizens' distrust. Instead, specially designed and innovative FTAs may become a way forward[7].

Mutual, fair and equitable economic strategies play a pivotal role, especially given the future needs in food systems and food security, and in energy or in other policy area. The global challenges of food and energy scarcity necessitate policy adaptations, including revaluating the consequences of the extra-territorial impact of EU regulations and a shared search for a new approach.

In its neighbourhood, regardless of their status, Europe wields economic influence and can create opportunities for other peoples by stimulating multiple economic interdependencies. The EU should strive to discover the real economic and social dynamics of its neighbours and propose actionable approaches that align with this. Multiple interdependencies and a multidimensional relational approach should serve as the basis. This does require recognising that neighbouring countries are also influenced by soft factors, such as inequality (within them and between them), complex and sometimes undigested histories, or culture and religion (Orthodox, Jewish, Muslim), all different from the dominant historic and cultural paradigms in the core EU countries.

Besides the establishment of a shared understanding, duly taking into account the disparate needs and primary focus areas of these neighbouring states, it is imperative to discern medium and long-term policy strategies before short-term recommendations. Knowing the partners' structural needs is the basis for shaping longer-term, less short-term and electorally driven, and potentially more competitive engagements, focussed on economic and social realities and needs (such as in energy interconnections, food systems and food security, climate change, etc.). People in the neighbourhood, and in the EU, need a new narrative, and realistic hope for a better life now and in future.

4. Develop meaningful partnerships

The credibility and legitimacy of a governance system such as the EU depends on delivery. Failing to deliver undermines trust and legitimacy of governments and of EU institutions alike and leads to the degeneration of democracy.[8] Instead of seeking to fit new policies into existing steering models designed in the past for other objectives, the operational models need adapting to the new policies. Both are required in order to use the system's leverage points and to push it in the right direction. At a time of declining functionalist economic views in favour of more ecological, cultural and social needs, this is an unavoidable effort. It can be done with incremental steps which create a self-propelling change process if, and only if, they are part of a comprehensive, systemic re-design.

[7] See High Level Group chapter on Trade policy innovation.

[8] A.C. Grayling, Democracy and its crisis, 2017. Peter Mair, Ruling the Void: the Hollowing of Western Democracy, 2013.

One such step can be the cross-regional, inter-sectoral trade and innovation agreements (CRISTIAs), which could form one cornerstone of a future, innovative neighbourhood policy. They transcend conventional trade pacts by including clauses that support sectoral collaboration and knowledge sharing, essential for research and technology cooperation and systemic innovation needed for sustainable economic growth and transition to a climate-neutral economy, and stimulating prosperity among all participating parties.

There are good reasons to consider the potential of food and energy systems as the basis for a new approach with those neighbouring countries which are not on the path to membership. The challenges with those hoping for membership are of a different nature, but the issues of understanding, differentiation and equality are all the same.

4.1. Promote food systems' reform

Cooperation among neighbouring nations is crucial to achieving sustainable food-related goals. Elements such as weather, agricultural techniques and technological advancements are part of a holistic food system extending beyond borders. This is evident in the interconnection between Southern European states and MENA (Middle East and North Africa) countries.

Food systems encompass "the entire range of actors and their interlinked value-adding activities involved in the production, aggregation, processing, distribution, consumption and disposal (loss or waste) of food products that originate from agriculture (incl. livestock), forestry, fisheries and food industries, and the broader economic, societal, and natural environments in which they are embedded"[9]. Sustainable food systems, extending beyond immediate needs, aspire to secure these benefits for future generations.

In the MENA region, the goals of food systems align with the Sustainable Development Goals (SDGs), emphasizing ending hunger, promoting sustainable agriculture, economic growth and climate resilience. Unfortunately, the realization of these objectives faces several challenges including conflict, climate extremes, economic shocks, costly nutritious food and growing inequality. Hunger or poor nutrition notably, exerts a profound impact on the MENA population, with a downward trend. Since 2015, the number of hungry people has increased, reaching 768 million in 2021, 9.8% of the population.[10]

A pivotal aspect demanding attention is the need for systemic reform of food production systems towards healthy and affordable food. It involves the development and implementation of cutting-edge technologies to adapt and fortify food systems. Indeed, export diversification also plays a pivotal role in food systems' transformation and countries' development, allowing them to earn not only from raw materials but from all the products stemming from a value chain. Thus, it is important to rethink the EU's agricultural trade policy, imposing tariffs and quotas, but also non-tariff measures (NTMs) to neighbouring countries, hindering their access to the EU market[11]. Advancements in agricultural technologies, sustainable water management practices and the adoption of resilient methodologies are also among the main priorities.

4.2. Create win-win opportunities through the energy transition

On the other hand, the EU grapples with the energy trilemma[12]: balancing energy security, affordability and sustainability. To date, the EU has implemented measures to ensure gas storage and diversify energy imports, including the development of a common platform for purchasing gas, LNG and hydrogen[13].

[9] European Commission, Food Systems - Definition, Concept and application for the UN Food Systems Summit. A paper from the Scientific Group of the UN Food Systems Summit, 2021, https://knowledge4policy.ec.europa.eu/publication/food-systems-definition-concept-application-un-food-systems-summit-paper-scientific_en

[10] FAO: The state of world food security and nutrition in the world, 2022.

[11] Weiss S., Beyond Barriers: Rethinking CAP to Enable Agricultural Export Diversity in the EU Neighbourhood, Bertelsmann Stiftung, 2024.

[12] European Commission, EU action to address the energy crisis,2023 https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/eu-action-address-energy-crisis_en

[13] See more information about EU's energy context in Annex I

The geopolitical dynamics of the Mediterranean region within the European Neighbourhood Policy (ENP) framework, are increasingly influential in Europe's energy security and diversification strategies. It is essential to adopt a radically renewed approach towards the Mediterranean, as the current trajectory seems to be afflicted by a sense of fatigue, with member states progressively turning towards bilateral solutions[14].

Mediterranean countries are also revising their climate mitigation strategies and enhancing climate adaptation capacities. These shifts can bolster the EU's external actions, both for energy diversification and long-term collaboration in line with the Paris Climate Agreement, while enhancing energy autonomy. Forging stable and enduring partnerships with Mediterranean countries is a strategic move that promises to further consolidate the EU's energy security[15].

But the EU has yet to present compelling and credible proposals for financing the energy transition of its Mediterranean neighbours or defining their role in a decarbonised European energy system, whether as transitional gas exporters, renewable partners or producers of blue or green hydrogen. It has also become apparent that imposing increasingly urgent ultimatums to phase out oil, gas and coal can have counterproductive effects on the very transformation they aim to promote[16]. This latter approach to achieve strategic energy shifts may create long-term barriers in the fossil fuel realm, despite opening new opportunities in renewable deployment and decarbonised industrial value chains[17]. Nonetheless, three strategic areas have been identified for Euro-Mediterranean engagement: gas diversification, decarbonisation and climate cooperation[18].

To be effective and coherent, it would require also bringing neighbourhood policy and budget under the responsibility of the Vice-President for Trade and Partnerships.

5. Be more inclusive, adaptable and differentiate

A notable aspect stemming from EU policies, with significant impact on its neighbourhood, is the so-called spillover effect[19], i.e. neighbouring countries find themselves indirectly bound to EU regulations and standards. The latter is particularly evident in initiatives like the Carbon Border Adjustment Mechanism (CBAM)[20] and the European Union Deforestation Free Regulation (EUDR)[21], where countries are required to keep pace with EU climate policies without having a say in their design, not weaken the policy, but to make it more adaptable to different conditions. However, it must be acknowledged that the extent of the spillover effect is contingent on the degree of integration within the various agreements established between non-member states and the EU[22].

Despite the EU's proclaimed emphasis on flexibility in its relations with non-member states, they all too often experience a rigid approach, which risks ignoring the social, economic and environmental situation of neighbouring countries. This impact of EU regulations in very different contexts would require higher flexibility and joint investments to design and implement mitigation plans.

[14] Gonzalo Escribano, Lara Lázaro Touza & Ignacio Urbasos, Revamping the Euro-Mediterranean Energy and Climate Space , Elcano Royal Institute, 2023.

[15] *Ibidem*

[16] WeWorldEnergy, Eni Magazine, 11/2023, p.6.

[17] Gonzalo Escribano, Lara Lázaro Touza & Ignacio Urbasos, Revamping the Euro-Mediterranean Energy and Climate Space , Elcano Royal Institute, 2023.

[18] Gonzalo Escribano, Lara Lázaro Touza & Ignacio Urbasos, Revamping the Euro-Mediterranean Energy and Climate Space , Elcano Royal Institute, 2023; Climate cooperation will not be analysed because it goes beyond the scope of the paper.

[19] S. Cevik et al., Climate Change Mitigation and Policy Spillovers in the EU's Immediate Neighborhood, International Monetary Fund, 2023.
Weiss S, The Carbon Border Adjustment Mechanism (CBAM) and Its Border Effects: How Can Europe Become a Better Neighbour?, Bertelsmann Stiftung, 2023.

[20] See High Level Group Africa Europe Partnership

[21] Fossum J.E., Garcia Quesada M., T. Zgaga, The EU's non-members. Key principles, underlying logics and types of affiliation, ARENA Report 1/20, ARENA Centre for European Studies, 2020.

The EU's assertive stance and use of sanctions in its agreements with third countries have given rise to the concept of Green Protectionism[23]. This may risk disrupting the social contracts that underpin many neighbouring states, which have positioned themselves as key trading partners with the EU, and diminish the competitiveness of their exports, potentially causing significant social and economic repercussions. Countries across northern Africa or the Balkans are particularly vulnerable to the effects of CBAM due to limited alternative trading options and slow progress in decarbonization efforts. This situation can also potentially lead to economic stagnation and increased authoritarianism, or a move towards other economic alliances.

The challenge of balancing differentiation and dominance poses significant hurdles for neighbouring countries navigating their relationships with the EU, as they find themselves caught between aspirations for integration and the preservation of sovereignty within the EU's neighbourhood dynamics. Moving from hierarchical methods to collaborative governance methods could help to reduce this tension.[24] Digitalization brings new management and facilitates handling more options.

The institutional framework of the EU's neighbourhood policy needs reformulation. Neighbours demand a more cohesive and inclusive framework, particularly those not aiming for EU membership.

At this early stage, it is already evident that the EU is dealing with diverse neighbourhoods requiring a diversified, innovative approach, something like a menu with various concentric circles, or degrees of horizontal or vertical integration. This cannot be achieved without management experts' input in addition to expertise already being used. Independent evaluation of existing frameworks, such as the Union for the Mediterranean and the Eastern Partnership, are a must for making a new start.

[23] A. Goldthau, Widening the EU's Geoeconomic and Regulatory Approach to Climate Policy, German Council on Foreign Relations, 2021.

[24] Stefan Schepers, Collaborative Governance, in Klaus Gretschmann & Stefan Schepers, Revolutionising EU Innovation Policy, 2016.

CONTRIBUTORS

Researchers and Contributors

Well over a hundred experts, from various disciplines, with multiple professional experiences in the public, private or academic sector, voluntarily worked together for the benefit of the EU's citizens .

Members of these independent, tripartite High-Level Groups participate in their personal capacity and the discussions are held in private (Chatham House rules). Each HLG also invited experts to bring additional knowledge of specific issues in support of the research team. The reports in this Blueprint are based on a wide consensus and are written under the responsibility of the chairperson and the executive director.

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Research Team

Dan Andrée
Diana Borcea
Peter Csoka
Marc Dreyer
Noemi Sara Gentile
Gabriel Lecumberri
João Pillon
Brian Scott-Quinn
Thomas Tugler
Secretariat: Carine Renaer

List of contributors

ABILA Gerald
ADEWALE Adeyinka
AKHVLEDIANI Tinatin
ALKEMADE Rob
ALVES Antonio
ANDREE Dan
ARMAKOLAS Ioannis
ARNOLD Tom
ARRILUCEA SOLACHI Eva
ARTON Armand
AUBRECHT Christoph
AZAPMO Jean-Bertrand
BÄCK Jaana
BARBIERI Riccardo
BARRETT Patrick
BARTMER Carl-Albrecht
BATTLES Susan Elizabeth
BENENATI Giuseppe
BERCKMANS Daniel
BIEBER Florian
BOMBARDI Andrea
BONISLAWSKI Piotr
BORGES DE CASTRO Ricardo
BORIES Christophe
BORISSOVA Lora
BOTELHO Maria João
BRANDTNER Thomas
BRUTON Jhon +
BUCKLEY Oonagh
BUFALINI Costanza
BURSKA Zusanna
CALLIESS Christian
CAPRI Ettore
CASTELLANI Davide
CASTRO de Isabel
CHRISTOFFERSEN Paul
CELE Mlungisi
CIENKUS Karol
COLLINS Matt
CSOKA Peter
D'HONDT Peter
DREYER Marc
DUMONT Beatrice
EDWARDS Christopher
EGENHOFER Christian
EIKELENBOOM Marco
ELKERBOUT Milan
ELMQVIST Thomas
ERHARD Robert
EYADAT Zaid
FAKIR Intissar
FASANOTTI Federica Saini
FEINDT Peter
FERRÃO Paulo
FORWICK Christian
FOSSUM John Erik
FRANSAER Dirk
GAUTHEY Gabrielle
GEORGEVIA Lora
GIANSANTI Luca
GIMENO Ricardo
GONGOLIDIS Vasileios
GRANHOLM Kaj
GRAZI Laure
GREENSHIELDS Alan
GREUBEL Johannes
GRILL Michael
GUNKEL-KEULER Leigh
HAAG Marcel

HAAG Marcel
HANIOTIS Tassos
HARTZENBERG Trudi
HEROLD Martin
HOT Thierry
IKONOMOU Theodoros
ISLAM Shada
JANNESSON Susanne
JOLY Pierre-Benoit
KAKABADSE Andrew
KALLIOKOSKI Juuso
KARINGI Stephen
KLAASEN Dirk
KOBER Ulrich
KOETZ Benjamin
KOKOU Kouami
KORAC-KAKABADSE Nada
KOWERO Godwin
KRAUS Christiane
KREJZAR Tomáš
LAFAN Brigid
LAPORTE Geert
LÉ João
LECLERCQ-SPOONER Sharon
LEMOYNE DE FORGES Sabine
LETHOKO Mpho
LICHT Sonja
LIEBEL Günter
LILLO Jaime
LINSIG Frederic
LJUNGDAHL Frederik
LOPES Carlos
LORENZANI Dimitri
LUTZ Wolfgang
MARINCAȘ Octaviana
MARUŠÁK Róbert
MATTHEE Heinrich
MAVSAR Robert
MAYER Peter
McKEE Lauren Sara
MEYER Jens F
MERLER Silvia
MIKO Ladislav
MOLENBERG Elzo
MOREIRA DA SILVA Paulo Alexandre
MORRIS Liam
MULDERS Hem
MULAS Eduardo
MULLAN George
MWAGIRU Njeri
NÄGELE Rainer
NDJOKO Karine
NEWHAM John
NIEBERT Kai
NIJS Wouter
NONQUE Cassandre
NOOKE Günter
Nussberger Angelika
OJEPAT Okisegere
PALAHÍ Marc
PALMBERG Christopher
PASSACANTADO Franco
PELLERIN-CARLIN Thomas
PEREIRA Carlos Alvarez
PICART Aurélie
PISTELLI Lapo
POMPEIUS Henrik
POPE Steven
PÜLZL Helga
PUNTSCHER-RIEKMAN Sonja
QUENET Eric
RAPPOLD Georg
RAŹNY Piotr
REDONDO António
REESINK Martin
RESL Thomas
REUMAUX Mathilde
REUSS Burkhard
RICCHI Ottavio
RODRIGUEZ RUIZ Alvaró
RUDISCHHAUSER Klaus
RUFINO Mariana
RYDZKOWSKI Piotr
SAICH Nancy
SCARASCIA-MUGNOZZA Giuseppe
SCHELLEKENS Pierre
SCHEMEIL Yves
SCHOENMAKER Dirk
SCHWOK René
SCOTT Andrew
SCOTT-QUINN Brian
SEBUNYA Kaddu
SEIFERT Frank Martin
SHRIER David
SILVA RODRIGUEZ Jose Manuel
SION Maya
SPENDZHAROVA Aneta
SPOLC Martin
STRINGHAM Christopher
STRØMME Thomas
SUNDBERG Viktor
SUS Monika
SVILANOVIC Goran
SWIEBODA Pawel
SZANTOI Zoltan
TABARIE Stephanie
TERMEER Katrien
TCHERKOFF Audrey
THOENIG Jean-Claude
THOENIG Mathias
TISSARI DA COSTA Carita
TSCHIRKOV Alessandro
TUOMASJUKKA Diana
UMLAND Andreas
VAIDA-BELA Erika
VAN BAVEL Bas
VAN DER STAAK Sam
VAN OORSCHOT Cindy
VAN WOENSEL Lieve
VINK Maarten
VLAHUTIN Romana
VORLÄNDER Michael
WANDEL Esther
WEBER Matthias
WEDOW Michael
WEISS Stefani
WIERSUM Berry
YENEL Selim
YOUSEF Hesham
YORDANOVA Talimka
ZULEEG Fabian
ZUREK Karolina

High Level Groups on EU Policy Innovation
Centre Condorcet asbl | rue van Campenhout 22, BE-1000 Brussels
EU Transparency Register 104824945116-03 | www.centrecondorcet.eu
+32 2 505 60 11 | secretariat@highlevelgroup.eu | www.highlevelgroup.eu