



STRATEGIC FORESIGHT REPORT 2023



*Sustainability and people's wellbeing at
the heart of Europe's Open Strategic Autonomy*



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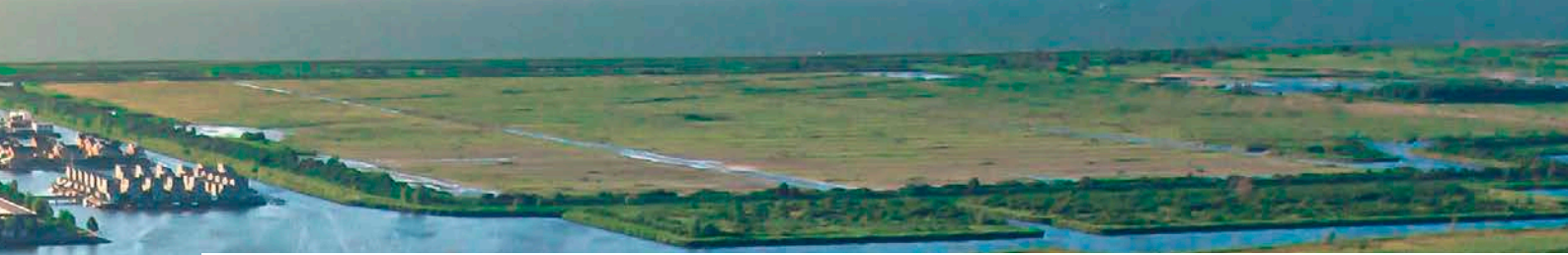
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An aerial photograph of a city, likely in the Midwest, showing a mix of residential and commercial buildings. In the foreground, a large solar farm with rows of blue photovoltaic panels is visible, situated next to a river. The city extends to the background, with a body of water and boats on the right side. The overall scene is captured from a high angle, showing the layout of streets and green spaces.

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INTRODUCTION



The European Union is forging ahead with unprecedented action to achieve climate neutrality and sustainability. A successful transformation will limit the existential risks of climate change and the environmental crisis while strengthening the EU's open strategic autonomy and economic security. It will be key to reinforcing Europe's long-term competitiveness and social model, and thus its global leadership in the new, net-zero economy, also by supporting other regions in building a sustainable future. Ultimately, this will increase the wellbeing of current and future generations.

However, a successful and fair socio-economic transformation is not a given. Together with its twin, the digital transition, the green transition requires pivotal changes and trade-offs that will affect, among others, our economies and societies at an unmatched pace and scale. To succeed in this transformation, it is essential to recognise the links between the environmental, social, and economic dimensions of sustainability. This will enable Europe to pursue a forward-looking geopolitical strategy that successfully leverages its most valuable assets – namely, its unique social market economy and its position as the largest trading block in the world.

Against this backdrop, the **2023 Strategic Foresight Report examines the key intersections between the structural trends and dynamics affecting the social and economic aspects of sustainability, to clarify the potential choices and trade-offs that the EU is likely to face in the future.** Drawing on an inclusive foresight exercise ⁽¹⁾ and building on the three previous editions ⁽²⁾, it explores key challenges that will determine the transformation of our society and economy towards a model that respects planetary boundaries, and safeguards global competitiveness, strong social foundations, and resilience. It also investigates how pursuing inclusive wellbeing over the long-term, engaging in a pathway towards sustainability, and consolidating democracy can be the recipe for Europe to strengthen its global role.

On this basis, the report proposes **10 areas for action** to achieve the objectives of a socially and economically sustainable Europe with a stronger role in the world in the coming years.



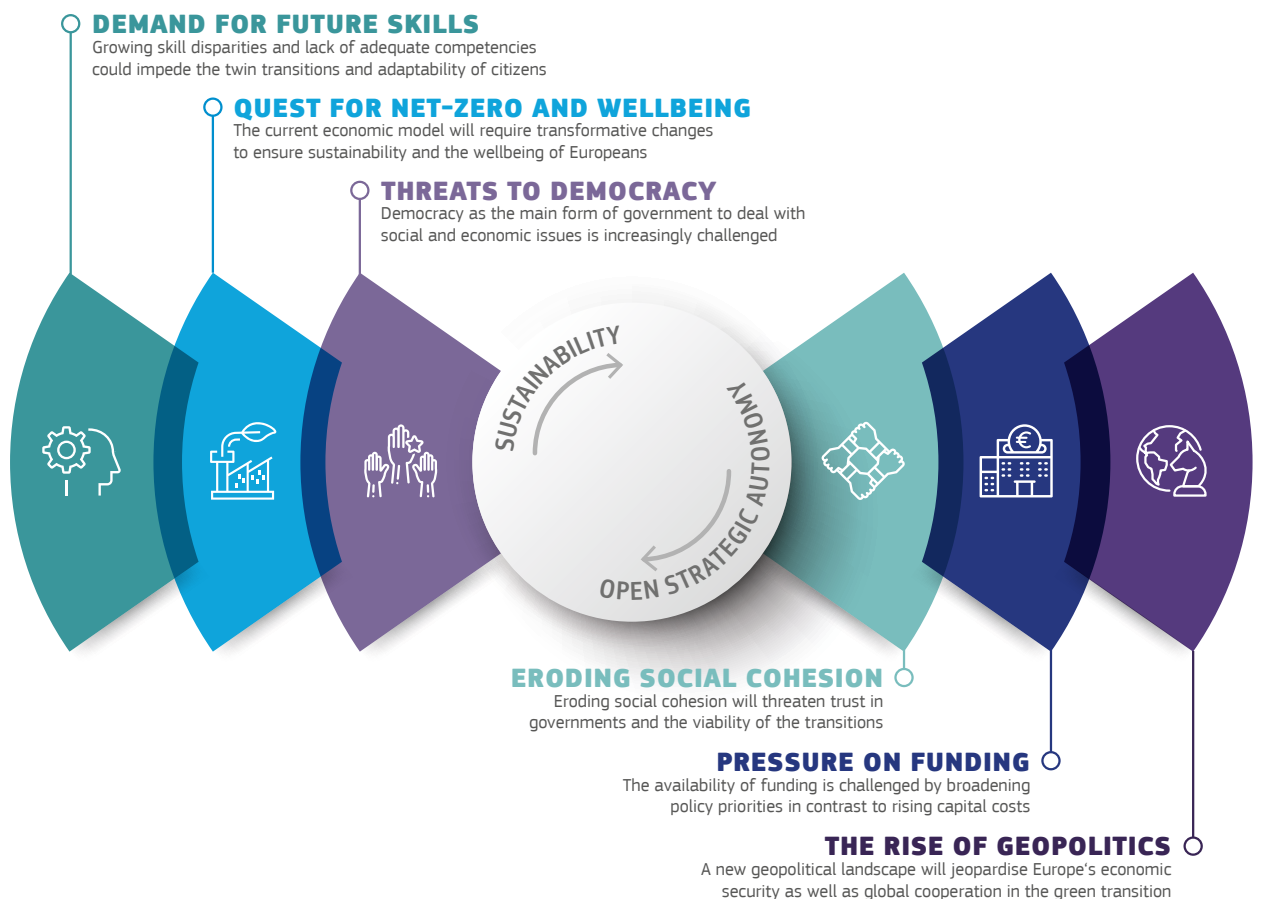
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KEY INTERSECTIONS BETWEEN SOCIAL AND ECONOMIC SUSTAINABILITY CHALLENGES



We have been experiencing an era of permacrisis and polycrisis, with a conjunction of increasing effects of climate change and environmental challenges, the COVID-19 pandemic, and the Russian war of aggression against Ukraine. New conflicts and escalation of the existing ones, mass displacements, financial crises, or pandemics are other examples of potential crises we might face in the future. Finally, the unprecedented scale of the transitions creates various challenges affecting social and economic aspects of sustainability (Figure 1). Their intersections and combined effects will need to be taken into account to enable viable pathways towards Europe's sustainability.

FIGURE 1
KEY CHALLENGES FOR THE EU'S SUSTAINABILITY TRANSITION






1. THE RISE OF GEOPOLITICS AND RECONFIGURATION OF GLOBALISATION

The global stage is in flux, with various international actors assuming new, often more confrontational, roles. Russia's war of aggression against Ukraine has challenged the foundations of multilateralism and the rules-based international order. China is moving into a new era, focused on economic influence and diplomatic assertiveness, aiming at a systemic change of the international order. It remains a systemic rival and economic competitor, while being a multilateral partner. The US is following a course of deeply integrating domestic and foreign policies. This involves strengthening its industrial base, protecting next-generation technologies, working with international partners to develop economic partnerships focused on global challenges, and mobilising investment into emerging economies ⁽³⁾. The US also remains the EU's strategic partner. At the same time, the strategic course of China and the US is galvanising geopolitical, economic, and technological global rivalry. We also observe an increasing quest for influence and representation in international fora by emerging countries. They include powers with different governance models and values, hedging countries (displaying a mix of cooperative and confrontational strategies), as well as smaller and fragile states demanding climate justice. This challenges effective international cooperation on transnational issues, such as climate change or the energy transition, even if their urgency is only increasing.



The background of the page is a photograph of a port. On the left, a large white crane with a red and white striped top is visible. In the distance, several ships are docked at a pier. The sky is blue with scattered white clouds. The water in the foreground is dark and has some white foam from a boat's wake.

Tensions in the global order are accompanied by a ‘battle of narratives’, increasingly turning into a ‘battle of offers’, shaping both global public opinion and government action. The EU has put forward the Global Gateway to support smart investments in quality infrastructure, respecting the highest social and environmental standards, in line with European values and standards. However, the EU’s and, more broadly speaking, Western narratives, are increasingly challenged. For example, despite Russia’s blatant violation of essential principles of international law, two thirds of the world’s population live in states that have adopted a neutral or Russia-leaning stance ⁽⁴⁾. This is partly due to propaganda, mis- and disinformation seeking to influence national and global attitudes, increasingly amplified by social media and misleading uses of generative artificial intelligence.

As the EU represents only 6.9% of greenhouse gas emissions and around 5% of the world population, global buy-in and cooperation will be key to address these challenges ⁽⁵⁾. At the same time, in a period of global economic turbulence, several emerging and developing countries face more challenges to cutting carbon emissions, despite being exposed to increasing climate-driven hazards. They also raise concerns about some of the EU’s recent green initiatives, as those could turn into barriers to their development. This is especially the case for many African, Latin American, and Asian countries, where the economic influence of China has been important, and the EU approach based on a partnership of equals needs to be reinforced. International relations are becoming increasingly transactional, as more and more countries navigate in search of the most advantageous partnerships. This results in a surging ‘battle of offers’ (for example on financing, infrastructure development, or support for the energy transition) and initiatives, such as China’s Belt and Road Initiative, or the G7’s Partnership for Global Infrastructure and Investment ⁽⁶⁾. This is also a ‘battle of models’ between democratic and authoritarian regimes.

Globalisation as we know it is fundamentally challenged. Multilateral rules, norms, and institutions have provided a framework for global economic integration and free trade that have lifted millions out of poverty. However, successive challenges and emerging threats show that this model of globalisation is coming under strain. The pandemic has highlighted the fragility of global supply chains and has exposed the EU’s strategic dependencies. Rising geo-economic confrontation is further re-arranging global trade and investment flows. This increases the risk of trade restrictions and supply chain disruptions, and hampers the flow of green goods, services, and technologies. It can also exacerbate the EU’s dependencies, including access to critical raw materials needed for the twin transitions, and challenges the EU’s strategic sectors (from batteries to microchips). Moreover, the quest for resilient supply chains may also impact the environment (e.g. through reshoring of industrial activity, increased interest in extraction in contested areas) and the economy (e.g. by exercising pressure on public budgets and local jobs in export-oriented sectors). These dynamics gradually affect EU policies, including many previously considered as mainly domestic, and challenge sectoral approaches to policymaking. In this context, a reinvigorated effort to uphold multilateralism and reform the WTO gains added urgency.



2. QUEST FOR A SUSTAINABLE ECONOMY AND WELLBEING

The EU is at a key juncture which requires a joint push from policymakers and businesses to ensure a leading position in the global race to net-zero industry. Sustainability will represent a major source of the EU's long-term competitive advantage ⁽⁷⁾, increasing its market share for related products, services, and technologies, as well as attracting global investments and talent. The EU has already dedicated substantial efforts to support several green technologies and solutions: from hydrogen, advanced materials, to water cycle or sustainability-by-design. Still, as global competition intensifies, increasing support for research and development, and manufacturing of strategic net-zero technologies ⁽⁸⁾, implementing an ambitious economic security strategy ⁽⁹⁾, and boosting ⁽¹⁰⁾ investments in areas of critical importance where the EU displays high dependencies will be key to bolstering its open strategic autonomy ⁽¹¹⁾.

Rising pressures on the social and economic aspects of sustainability fuel the debate about the need for a new economic model, focused on the wellbeing of people and nature. A predominant focus on economic factors, without due consideration for the quality of growth and jobs, has encouraged unsustainable production and consumption practices. At the same time, environmental resources, which are not infinite, form the very foundation of economic activity: for example, 72% of the 4.2 million companies in the euro area are highly dependent on at least one nature-related service such as pollination, clean water, healthy soil, or timber ⁽¹²⁾. Avoiding the disruption of critical natural systems, such as the water cycle, respecting planetary boundaries, and halting biodiversity loss, are thus essential preconditions for resilient societies and sustainable economies. As this interdependence between the economy and the environment is becoming increasingly clear, it also becomes a matter of intergenerational fairness: adapting the economic model will be the foundation for the wellbeing and material wealth of future generations, including the way economic gains are distributed. The European Semester is built around the four dimensions of competitive sustainability: environmental stability, social fairness, productivity, and macroeconomic stability. However, the above-mentioned issues call for additional ways to capture progress and prosperity beyond gross domestic product (GDP).



ADJUSTING GDP FOR DIFFERENT FACTORS

Over the last 90 years, GDP has been one of the most widely used economic indicators and remains the most important indicator of a country's economic performance. At the same time, reflections on its limitations have started already in the 1970's. With recent developments such as climate change and the pandemic, it has become increasingly clear that GDP is incomplete as a measure of progress, as it does not fully reflect important environmental or social challenges of our times. This calls for developing complementary metrics – and progressively embedding them into policymaking –, which allow to better track the EU's sustainability transition and its performance in global comparison.

Following up on the past Strategic Foresight Reports, the Commission has launched internal work on developing Sustainable and Inclusive Wellbeing metrics for the EU to complement GDP. It brings together different strands of work for the first time, with the aim of informing future EU policymaking.

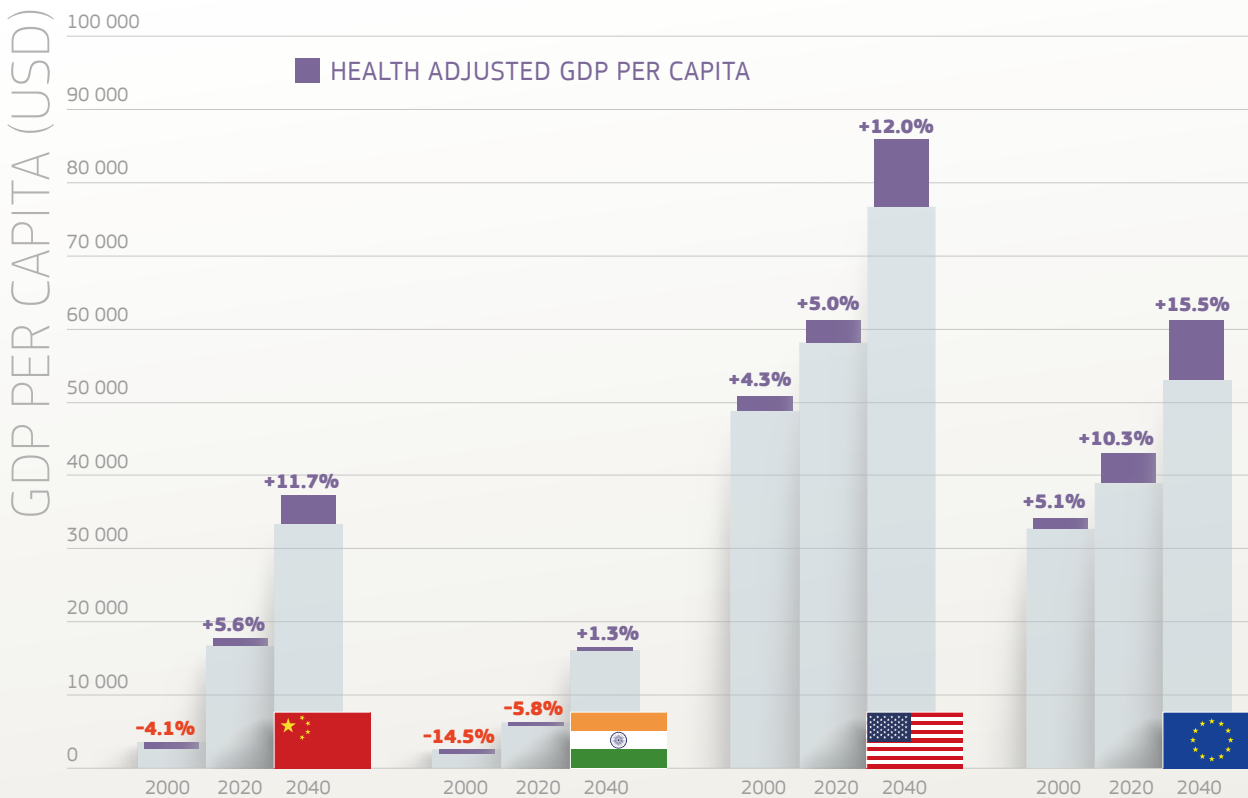
One option to develop beyond-GDP metrics consists of assigning monetary values to relevant factors of wellbeing and using these values to “adjust” GDP. These can include different aspects of quality of life (e.g., health, education, and recreation), unpaid care and domestic work, inequalities, costs of environmental damage (e.g., pollution and GHG emissions), or natural resource exhaustion. The results of a pilot are reported below (13), employing life expectancy as a proxy for the health dimension of wellbeing. It shows the health-adjusted GDP (per capita) for the EU, the US, China, and India in 2000, 2020, and 2040. Work will continue to develop other complementary, beyond-GDP indicators to reflect selected factors like inequalities or environmental damages. The adjustment for inequality can be obtained by ‘discounting’ average income (GDP per capita) according to the level of income inequality. Environmental damages can be incorporated by subtracting their estimated economic harm. This is consistent with the global commitment, enshrined in the 2030 Agenda for sustainable development, to design measurements of progress on sustainable development that complement GDP. Going beyond GDP is also explored in the reform process of the international financial system.

The upward adjustment for the EU's GDP would be 15.5 % in 2040, exceeding that of the US (12.0 %), China (11.7 %), and India (1.3 %). The compound annual average growth rate of unadjusted GDP in the period 2000-2040 is 1.33 % for the EU, while that of adjusted GDP is 1.57 %. Furthermore, adjusting GDP for life expectancy leads to a higher share of the EU's adjusted GDP over total GDP of the four economies combined in 2040 (corresponding to 19.8%, compared with 18.9% for GDP).



FIGURE 2

ADJUSTING PER CAPITA GDP FOR LIFE EXPECTANCY LEADS TO LARGER UPWARD CHANGES (IN%) FOR THE EU IN COMPARISON TO THE US, CHINA, AND INDIA



The grey columns show the value of per capita GDP in fixed-year purchasing power parity, and the purple ones the adjusted version of the same GDP figure. To obtain the adjustment, one fixes a reference level for mortality and computes the population's willingness to pay to obtain this level. The figures relate to the survival curve of the world projected for 2050 as the reference level. The EU data includes 24 countries (projections are not available for Croatia, Cyprus, and Malta).

Decoupling economic growth from resource use will be the pivotal challenge for a new economic model. Europe has been successful in achieving a substantial reduction of CO₂ emissions despite continued growth. Breakthrough research and innovation and faster uptake of technologies will continue to be essential in achieving sustainability. Yet, technologies alone may not be enough. The EU's domestic footprint⁽¹⁴⁾ has already decreased by 13% over the past decade, and further innovations are likely to sustain this trend. However, the EU's consumption footprint, which considers the embedded environmental impacts of trade, has increased by 4%⁽¹⁵⁾. In the meantime, current global consumption patterns have already led to overshooting most of the planetary boundaries, and based on current trends, these negative impacts are projected to keep increasing until 2030⁽¹⁶⁾. For example, 40% of food is wasted in high-income countries⁽¹⁷⁾. Over time, cutting emissions can be achieved by reducing pollution and waste through circularity, resource and energy efficiency, and sufficiency measures⁽¹⁸⁾. Likewise, more efficient production and consumption in the agri- and sea-food sectors could reduce the impacts on natural ecosystems.

Changes in behaviours and consumption can make a major difference. For instance, some estimates show that globally, demand-side mitigation measures, including behavioural or lifestyle changes (incentivising more sustainable and healthier diets or travel, reducing food or textile waste, cutting down on energy and water consumption etc.) or infrastructure use (renovating buildings, ensuring sustainable transportation etc.) could reduce emissions by as much as 40-70% by 2050.⁽¹⁹⁾ In parallel, they could also improve wellbeing. However, not only the design of proposed measures but also their perception and behavioural effects matter. Shifting to more sustainable behaviours and consumption can be perceived positively and be more acceptable, if framed around fairness, and life satisfaction⁽²⁰⁾. Without factoring them in, proposed measures will lead to public opposition, and subsequently slow down or even prevent plans for introducing them⁽²¹⁾.



3. INCREASING PRESSURE TO ENSURE SUFFICIENT FUNDING

The green transition requires unprecedented investments. Overall, additional investments of over EUR 620 billion annually will be needed to meet the objectives of the Green Deal and RepowerEU. By far the greatest part of these will have to come from private funding ⁽²²⁾. Member States budgets will also play an important role. The EU is already set to spend EUR 578 billion – at least 30% of its budget – on climate-relevant action for the 2021-2027 period. Still, the full costs and consequences of the climate and biodiversity crisis are unknown. The increasing impacts of extreme weather events already today lead to severe economic losses. For example, for droughts they amount to around EUR 9 billion annually ⁽²³⁾ and for river floodings EUR 7.6 billion ⁽²⁴⁾. Boosting the resilience to climate change in key areas, such as transport infrastructure, digital, energy, resource storage, health, food, buildings, or manufacturing plants will also entail significant resources. Furthermore, the increasing frequency of climate catastrophes could render insurance unaffordable for households ⁽²⁵⁾ and many businesses, and further increase pressure on public budgets. The upcoming European Climate Risk Assessment Report will provide further evidence on climate related risks. All this builds as well a strong case for prevention: every euro invested in early warning systems returns an average of EUR 131 from avoided losses, response costs, and additional societal benefits ⁽²⁶⁾.

Other strategic investments are also growing. Bridging the EU's investment gap for the digital transition will cost at least EUR 125 billion annually ⁽²⁷⁾. The price tag of the new geopolitics will also be high: for example, in 2021, Member States' defence expenditure grew significantly to EUR 214 billion, with additional spendings of EUR 75 billion forecast until 2025 to build adequate defence capabilities ⁽²⁸⁾. Finally, the reconstruction of Ukraine will require from all the partners EUR 384 billion over the next 10 years ⁽²⁹⁾.

At the same time, demographic change and the economic transformation will challenge public budgets at all levels. For instance, the old-age dependency ratio could grow from 34.4% in 2019 to 59.2% in 2070, resulting in a possible increase of age-related expenditures by two percentage points to 26% of GDP ⁽³⁰⁾. The current EU tax framework, based mainly on labour taxes, including social contributions, does not reflect the ongoing changes ⁽³¹⁾. Since the share of working-age people will shrink drastically over the coming decades, and productivity growth is unlikely to offset this evolution, the ability of labour taxation to generate the same amount of revenues as today will very likely be reduced. Furthermore, economic transformation and globalisation result in the increasing role of intangible assets and the greater international mobility of economic activities. Moreover, the green transition itself will have an impact. It could contribute to the contraction of the traditional tax base, due to the phase-out of fossil fuels, changes in consumption patterns, and growth fluctuations. At the same time, this can be counterbalanced to some extent by new sustainable activities, products, and services. New forms of taxation (e.g. on carbon emissions, waste, unsustainable or unhealthy products and services) could also gain in importance to complement labour taxes and boost sustainability of the public finance and of the welfare state.

Achieving the sustainability transition will depend on securing sufficient and swift funding by the private sector.

Hence, focusing on unlocking private investments will be of the essence for the public sector, while avoiding crowding-out effects on private funding or triggering a subsidy race between economies. The EU has developed a comprehensive sustainable finance framework supporting companies and the financial sector in scaling up their investments needed for transition towards sustainability, which includes a taxonomy, sustainability disclosures, climate benchmarks and green bonds. However, various challenges persist. The gap in productive investments between the EU and the US has widened since the 2008 financial crisis and reached 2% of GDP in 2022 ⁽³²⁾. In addition, private investments are hampered by the lack of a truly single market for capital and of a fully-fledged Banking Union. This impedes the channelling of the high savings in the EU – the surplus of domestic savings over domestic investments in the EU averaged almost EUR 300 billion over the last 10 years ⁽³³⁾ – towards financing future growth. While banks will continue to play a key role in funding the EU economy, more needs to be done to diversify sources of funding. For example, the EU level of venture capital investment, although catching up with the US, still falls short, particularly when it comes to later-stage funding, and successful European start-ups and scale-ups struggle to raise in the EU the capital needed to grow. This results in a lower innovation rate and the potential of capital markets for financing the transitions remaining underdeveloped. Additional obstacles include expected productivity slowdown and the accumulated debt of firms following the pandemic ⁽³⁴⁾. This is exacerbated by rising costs of borrowing ⁽³⁵⁾, which likewise heightens concerns about the ability of the private sector to make the necessary investments now, particularly in renewable energy ⁽³⁶⁾. Finally, public instruments to crowd-in private investments are sometimes used in a too risk averse way to trigger investments in high-risk, low-return, or future-oriented projects.



4. GROWING DEMAND FOR SKILLS AND COMPETENCIES FOR THE SUSTAINABLE FUTURE

The transitions will require strong European education and training systems, placing a premium on adaptability. The availability of workers with the appropriate technical and soft skills will be crucial for the viability of the transitions and the EU competitiveness. For instance, reducing the STEM gender gap, essential for green and digital technologies, might potentially lead to an improvement of EU GDP by up to EUR 820 billion in 2050 ⁽³⁷⁾. Already now, the lack of available staff with the right set of skills is an additional factor hampering investments for 85% of EU firms ⁽³⁸⁾, both in established and new industries. Workforce shortages are a growing issue in several labour-intensive sectors, such as healthcare, long-term care, construction, or agriculture, not least in the face of an ageing European population. They are also a concern in sectors key for the transitions. For instance, the EU needs 180,000 trained workers in the fuel cell hydrogen industry by 2030 and up to 66,000 in the photo-voltaic ⁽³⁹⁾. At the same time, basic competences of European youth have deteriorated ⁽⁴⁰⁾, and the pandemic worsened the learning outcomes in many Member States ⁽⁴¹⁾. Moreover, while EU's workforce is the most educated in its history, there are still 60 million low-educated and low-skilled adults. On top of it, skills mismatches are not the only cause of workforce shortages. There is also a problem of the availability of quality of jobs, related to poor working conditions, pay and contracts, work-life balance, and the lack of development or career opportunities. Demographic trends and the decline of the working age population have a marked territorial impact, with 82 EU regions accounting for 30% of the European population facing or risking a talent development trap ⁽⁴²⁾. If left unaddressed, this will hamper European cohesion.

Our education and training systems are not yet fit for the magnitude and speed of the transformations. Skills are becoming increasingly important on top of formal qualifications. This is coupled with shifts in values and aspirations of new generations towards work-life balance and meaningful jobs. Digital technologies, including generative artificial intelligence, create new teaching and learning opportunities, both for regular schooling and for life-long and on-the-job learning. However, they also pose challenges for existing education and training systems. For example, in terms of digital literacy of teachers, pedagogic approaches, assuring quality and trustworthiness of systems and their content, ensuring equal opportunities (e.g. concerning the access to basic technological infrastructure and equipment), or ethical concerns.

The skills challenge goes beyond mere economic considerations. Digital literacy and skills will be key not only for finding quality jobs, but also for actively participating in civic life or distinguishing facts from mis- and disinformation, also related to sustainability. Currently only 54% of EU citizens have at least basic digital skills ⁽⁴³⁾. In addition, environmental sustainability competences ⁽⁴⁴⁾, together with civic and entrepreneurial skills as well as resilience will equally be important for community-based social innovation, agency, and participation. Finally, skills matter also for the public sector, as a competencies gap can limit its capacity to act effectively. For example, 69% of EU municipalities reported the lack of environmental and climate assessment skills as a factor slowing down their climate-related investments ⁽⁴⁵⁾.

Persisting transmission of educational disadvantage between generations will add to these issues. For instance, students of low socio-economic status in the EU are 5.6 times more likely to underachieve in school than students with a high status ⁽⁴⁶⁾. This shows limits to existing social mobility and hampers the possibilities to benefit from the opportunities offered by the transitions. It is also one of the factors affecting the EU's social cohesion.





5. INCREASING CRACKS IN SOCIAL COHESION

The European Green Deal relies on the ability to enable people to successfully participate in and benefit from the transition. In this respect, there is clear progress. Looking at general living standards or health, Europeans enjoy longer and better lives than previous generations. Their life spans will continue to lengthen. Since 2004, they have gained 4 years of healthy life expectancy ⁽⁴⁷⁾, with various new life and career possibilities emerging. Many European countries are among the happiest places to live ⁽⁴⁸⁾. Nevertheless, the foundations of the existing social contract need to be strengthened to withstand various challenges.

Climate change will affect territories unequally and with disproportionate impacts on the poorest and the most vulnerable. Low-income households will be the most exposed to higher food ⁽⁴⁹⁾ or energy prices ⁽⁵⁰⁾, as they generally have less room to buffer sharp increases in the cost of living through savings. Compared with other groups, they also spend proportionally more on essential goods such as food, electricity, gas, heating, and transportation. The poorest also often live in the more polluted areas of cities and are consequently more vulnerable to the effects of pollution, particularly on their health. 13.7% of EU citizens say they were exposed to pollution or environmental hazards ⁽⁵¹⁾. The most vulnerable segments of society are also disproportionately impacted by climate related disasters. At the same time, the adaptive capacity of our societies and institutions is unevenly spread across Europe ⁽⁵²⁾. Moreover, income and wealth disparities are tightly connected to ecological inequalities and to contributions to climate change. For example, the richest 10% of Europeans emit over three times more per capita than the rest ⁽⁵³⁾. However, other factors, such as age, housing type, or agglomeration size also determine household emissions, adding complexity to potential fiscal and redistributive policies linked to carbon emissions ⁽⁵⁴⁾.

Inequality between Member States has been decreasing, however inequalities within individual Member States are on the rise ⁽⁵⁵⁾. There is a strong perception in society that they have reached excessive levels ⁽⁵⁶⁾. In 2021, 38.2% of the total equivalised income in the EU was attributed to the 20% of the population with the highest income, while the 20% with the lowest income received merely a 7.9% share, albeit with major differences between Member States ⁽⁵⁷⁾. These numbers are reflected in attitudes among Europeans: 81% believe that income inequality is too high ⁽⁵⁸⁾. Many Europeans across regions and cities facing economic stagnation and decline are increasingly dissatisfied by disparities in education or job opportunities, social mobility, equality, life expectancy, or connectivity. At the same time, wealth concentration is significantly higher than income inequality and gradually increasing, directly hindering equal opportunities and upward social mobility ⁽⁵⁹⁾, but also feeding political polarisation ⁽⁶⁰⁾. Statistics show that social transfers do reduce income inequality – in 2021, the Gini coefficient for income was 52.2% before social transfers, but decreased to 30.1% after taking them into account ⁽⁶¹⁾. Moreover, the effects of climate change can also have a direct impact on inflation dynamics. Resulting inflationary pressures, e.g. on food or energy prices, coupled with a decrease in purchasing power, could further intensify inequalities, as their impacts significantly differ for low and high-income households. Without appropriate measures, this could widen poverty, including energy poverty, social exclusion, and territorial asymmetries across the EU ⁽⁶²⁾.

Intergenerational fairness is also becoming increasingly salient. Young Europeans are benefiting from great generational improvements, with 67% agreeing that the EU offers them brighter prospects for the future ⁽⁶⁵⁾. However, they are also facing new challenges. They are better educated yet have less disposable income than previous young generations, and they are more likely to work in unstable forms of employment ⁽⁶⁴⁾. Consequently, young people have replaced older people as the group most at risk of poverty ⁽⁶⁵⁾. Children born in 2020 will experience a two- to sevenfold increase in extreme weather events and the associated health risks, compared with people born in 1960 ⁽⁶⁶⁾. In addition, especially young people are affected by mental health issues, including eco-anxiety or solastalgia ⁽⁶⁷⁾. This can be heightened by unhealthy use of digital media ⁽⁶⁸⁾ and the repercussions from the pandemic. More than 45% of young people admit experiencing such anxieties ⁽⁶⁹⁾. This is also why they expect more decisive action: nine out of ten young Europeans agree that tackling climate change would improve their health and wellbeing ⁽⁷⁰⁾. Their concerns also extend to public debt, as younger generations are likely to contribute more to the welfare state, while receiving less than their forebears in return. With the relative proportion of young voters diminishing, the issue of intergenerational fairness has also gained political traction. The lack of intergenerational solidarity on climate, economic, and societal issues may contribute to their political alienation and disillusionment with the capacity of the current political class and system to address generational challenges.





6. THREATS TO DEMOCRACY AND EXISTING SOCIAL CONTRACT

Inequalities are deeply linked with lower trust in national and EU institutions ⁽⁷¹⁾, **as well as in liberal democracy at large**. Disenfranchisement, growing discontent, and the lack of a positive agenda combine into an erosion of trust in public institutions, polarisation, and an enhanced appeal of extremist, autocratic, or populist movements. Globally, the level of democracy enjoyed by the average citizen has fallen back to levels last recorded in 1989 ⁽⁷²⁾. Democracy is increasingly challenged as the governance model best suited to deal with growing socio-economic issues ⁽⁷³⁾. In the EU, some of the core requirements for a functioning democracy are impaired. This is visible through challenges to the rule of law, and an increasing silent citizenship, e.g. a consistent decrease of electoral turnout in many Member States in both national and European elections ⁽⁷⁴⁾, or the growing lack of interest in general democratic life. For example, 47% of citizens agree that their voice counts in the EU while 49% think it does not ⁽⁷⁵⁾. The personalisation of politics, with political leaders considered more important than political parties, is also on the rise. Polarisation of the political debate and the sense of isolation are amplified by mis- and disinformation, group dynamics in social media, or algorithmic bias ⁽⁷⁶⁾ amplified by mis- and disinformation, group dynamics in social media, or algorithmic bias. Moreover, places which feel left behind fuel disengagement and discontent. If the development traps of stagnating regions are unaddressed, citizens will be less likely to support European integration and values, in what has come to be known as the geography of discontent ⁽⁷⁷⁾. On the positive side, new forms of political activism and social mobilisation also appear. Still, failure to address the health of European democracies will challenge both the roll-out of sustainable policies and the transition itself.

The existing social contract is not fully fit for the new socio-economic reality. The current social contract has its origins in the mid-20th century, under different socio-economic conditions. Europeans' realities have since evolved drastically, with new ways of learning, working, and living, anchored in demographic change and migration. The implications of longer lives will be profound for individuals, businesses, communities, and governments. Therefore, gaps remain and new tensions could arise in the future. For example, while 'non-standard' forms of work (including self-employment) currently account for 40% of the working population ⁽⁷⁸⁾, social protection schemes are still mainly designed for traditional forms of employment (e.g. full-time, permanent, dependent employees). Changes are needed so that some parts of the workforce, in particular young people, those born outside the EU, and women are sufficiently covered by social protection systems. Otherwise, these gaps could threaten the welfare of individuals and their families, especially low-income households, and may have a detrimental impact on pension entitlements and welfare in later life. They could also undermine the financial stability of existing welfare arrangements and can affect overall competitiveness through less efficient labour markets, with people less inclined to take risks, switch jobs, move in or out of work, start a company or close one down. Finally, for many Europeans, work is also no longer paying enough. The most telling indicator is housing affordability: it is now at its lowest level both for those seeking to buy a house, and for those renting ⁽⁷⁹⁾.

In parallel, the geo-economic role of public and private actors is evolving. We observe a growing convergence of the economic and the security domains, as economic choices are increasingly driven by security concerns. Expectations towards the state are changing and pursuing the transitions, open strategic autonomy, and economic resilience, will require appropriate tools and competencies. On the other hand, the ongoing diffusion of power, with an increasing global relevance of large multinational corporations, challenges the existing role of the state in the economy, democracy, or social life.

KEY AREAS FOR ACTION

The issues presented above will have direct impacts on the social and economic aspects of sustainability, challenging the feasibility and viability of the transitions. That is why, achieving a sustainable Europe by 2050 requires already now coordinated intervention across all policy domains. Building on the outcome of the foresight process, the areas for action outlined below present ideas for addressing the challenges identified in the previous sections.



1. ENSURING A NEW EUROPEAN SOCIAL CONTRACT FIT FOR A SUSTAINABLE FUTURE

The EU should continue to encourage Member States to develop inclusive, high-quality social services that enhance people's capacity to contribute to the economy and society while realising their potential and aspirations. It also entails updating welfare policies following a social investment approach over the whole life-course. This includes supporting labour market participation and inclusiveness, further adapting social protection for non-standard forms of employment and to new climate-related risks, ensuring an adequate level of social protection, as well as an active inclusion approach onto the labour market. It should take into account the new demographic reality, with its challenges (ageing) and opportunities (longevity). It also means ensuring effective integration of migrants and EU citizens with a migrant background, to generate significant fiscal gains for Member States and provide an important contribution to face the welfare challenges posed by demographic change. Continuous monitoring of social indicators, in particular for the most vulnerable households, will be key to combatting poverty, social exclusion, and social and territorial inequalities. A new social contract should include a stronger focus on a just and inclusive transition, sustain regional cohesion, and employ intergenerational fairness as well as upward social convergence as guiding principles. It should also further focus on living in a healthy environment as a key public good, and on addressing root causes of mental health issues, like social exclusion, discrimination, and the impact of climate change.



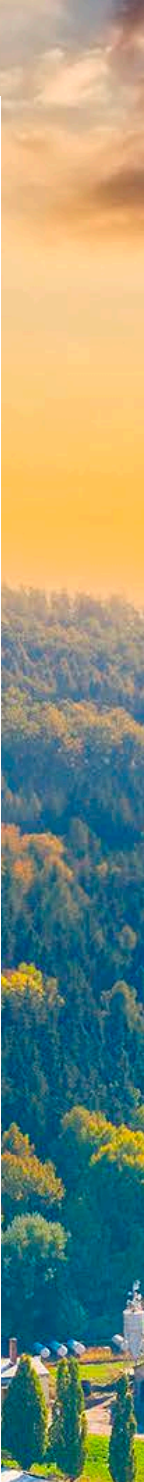
2. LEVERAGING THE SINGLE MARKET TO CHAMPION A RESILIENT NET-ZERO ECONOMY

The EU should continue strengthening its coordinated framework to achieve open strategic autonomy, including economic security. In particular, building on the existing mechanism for screening current strategic dependencies, the EU and its Member States should further develop tools to assess future dependencies across strategic sectors (e.g. health, food, digital technologies, energy, space, water). The EU should also make better and more strategic use of trade defence instruments, the regulation on foreign subsidies, and procurement instruments. Expansion of the Single Market will be key to safeguard the future economic power of the EU. Adequate levels of strategic intelligence and anticipatory governance should guide the futureproofing of a growth-enhancing regulatory framework, notably for the Single Market ⁽⁸⁰⁾. Renewed focus ⁽⁸¹⁾ is needed on tackling barriers, as well as on enforcing existing rules, in ecosystems with the greatest potential for the transition. This needs to be matched with robust and fit-for-purpose competition rules. Incentivising sustainable business models and ensuring sufficient support for the rapid development and deployment of net-zero technologies will also be important. The EU should also keep on safeguarding the level playing field for all market participants, ensuring strong linkages between market access and high sustainability standards. Finally, support is also needed for rapid manufacturing of essential components for the energy transition, such as raw materials or net zero technology equipment.



3. STRENGTHENING THE INTERLINKAGES BETWEEN THE EU'S INTERNAL AND EXTERNAL POLICIES, ALSO TO BOOST THE EU'S OFFER AND NARRATIVE ON THE GLOBAL STAGE

Geoeconomics is increasingly calling for combining agile approaches and strategic partnerships. In this context, the Global Gateway should continue to be used to develop partnerships on strategic projects, for instance with countries facing challenges with the energy transition or water security. Such partnerships should stimulate new local value chains to attract investment and create jobs and opportunities for younger generations. Building on the existing free trade agreement model, new, more flexible, and targeted types of partnership agreements could be explored with the European Neighbourhood, Africa, Asia, or Latin America. Synergies and links between these agreements and the Global Gateway need to increase. Creating a green transatlantic marketplace facilitating access to incentive schemes and preventing discrimination would support green investments and sustainable production. Moreover, through the Team Europe approach, the EU should strengthen its voice in multilateral fora that are key for global sustainability efforts, including those shaping the future of sustainable financing (e.g. the Bridgetown Initiative, reforms of the World Bank and the International Monetary Fund). It should also continue leading efforts to deliver on the Sustainable Development Goals ⁽⁸²⁾ and contribute to the discussion on their future beyond 2030. In addition, the EU should lead action to preserve the global commons (biodiversity, soil, fresh water, oceans, etc.), including through financing or cooperation in technology and innovation (both high- and low-tech). New funding arrangements for adaptation and resilience, focused on the most vulnerable countries, should be explored. The EU also needs to ensure that its climate, environmental, and energy policies are designed and implemented in a consistent manner with the EU's international ambitions and commitments. This entails taking into account the perspectives of its trading partners, as well as the impact of EU legislation on them. This could be achieved through increased dialogue, communication, diplomacy (green, digital, or cultural), and cooperation in their design and implementation ⁽⁸³⁾. It should also continue proactive engagement on its European Green Deal policies in the World Trade Organization. In addition to developing its own legislative framework, the EU needs to forge broad international alliances and agreements on high-impact and sustainability-enabling emerging technologies, such as artificial intelligence, in ways that reflect its values and strategic objectives and manage the risks. It should also join forces with like-minded partners to fight threats and attacks, such as disinformation. Finally, strengthening the Youth Action Plan in EU external action could help building support from young generations outside the EU.





4. SUPPORTING SHIFTS IN PRODUCTION AND CONSUMPTION TOWARDS SUSTAINABILITY

On the production side, this entails reforms and investments across Member States to decarbonise and depollute the economy, especially industrial processes and energy intensive sectors, reduce impacts on biodiversity, and minimise the ecological footprint of consumption. Cutting red tape, speeding up administrative and permitting procedures, or increasing the accessibility and quality of local support are also key. Large-scale action is needed to strengthen EU's water-resilience, by addressing pollution and the increasing demands by agriculture, energy production, industry, or households. Measures to improve the governance of water (including appropriate pricing and allocation mechanisms), its efficient use, the development of sustainable alternative sources, the elimination of water pollution, and ensuring equal access are key. Pursuing sustainability will also require shifts in people's behaviours, in particular those with the highest carbon footprints, in order to minimise the ecological footprint of consumption. Ensuring the right price signals (e.g., through carbon pricing, green taxes, eliminating or reforming environmentally harmful subsidies, strengthening environmentally positive incentives) matched with safeguarding affordability and availability of sustainable products and services will also be key. To change companies' strategies and business models, the EU should continue designing policies and regulations to further tackle planned obsolescence, and to promote repair in the after-sale context, and design for circularity. Based on appropriate analyses, measures could also include banning the advertising of the most environmentally harmful practices or services. Taken together, these elements could constitute elements for a future broader legal framework, taking into account the long-term global competitiveness of the EU economy. Further analysing the distributional and territorial impacts in policy making and communicating more clearly the results could help to design new measures in a way that minimises possible negative impacts on poverty and inequality, and foresees accompanying policy measures that cushion such negative impacts. Finally, education and awareness raising on sustainable and healthy choices and lifestyles should be strengthened across all age-groups.





5. MOVING TOWARDS A 'EUROPE OF INVESTMENTS' BY INCREASING PRIVATE FINANCIAL FLOWS IN SUPPORT OF STRATEGIC INVESTMENTS FOR THE TRANSITIONS

Making decisive progress on the Banking Union and the Capital Markets Union is key to unlock private finance needed for the twin transitions. Sustainable finance tools such as European green bonds will finance sustainable strategic EU investments. Setting up an agile, fast, and responsive framework for boosting private investments, as well as ensuring a positive business environment, will be key for ensuring that the EU remains an attractive place to invest in the net-zero and circular economy. In this regard, public funding should be better used as a catalyst for private investments, notably for riskier, breakthrough sustainability projects, including their scaling up, and related manufacturing capacities in the EU. In particular, the European Investment Bank, the largest public bank in the world, should provide stronger support to strategic investments relevant for the twin transitions, such as raw materials, green tech, or biotechnology, especially for cutting-edge projects. It is also important to continue efforts to ease access to relevant sources of EU funding for European start-ups and small and medium companies. Other tools can also help to increase private financial flows: tax incentives, green and sustainable public procurement, and public-private partnerships, incentivising suppliers to adopt sustainable solutions, pre-commercial procurement, collaborations with non-governmental organisations for public service delivery, or with citizens and stakeholders for participatory budgeting. Tighter collaboration between the private and the public sector could also be achieved by upscaling blended finance strategies, e.g. through better intermediation from concessionary finance providers and by increasing the role of EU and Member States' development institutions. Finally, further efforts in incorporating climate-related risks into the assessment of financial stability will be important.





6. MAKING PUBLIC BUDGETS FIT FOR SUSTAINABILITY

Fiscal policies and taxation need to be adapted to the twin transitions, spare additional investment towards projects promoting them, and provide the right price signals and incentives to producers, users, and consumers, while improving fiscal sustainability. Implementation of the OECD's reform of international taxation is the first step in this direction, limiting the race to the bottom in corporate tax rates and ensuring that multinational enterprises pay a fair share of tax wherever they operate. The EU should continue to pursue global anti-tax avoidance strategies that further support the fairness of tax systems. It should also consider how to reduce the tax burden on labour and to shift it to other tax bases less detrimental to growth, also to address inequality in a context of population ageing and new forms of work. Enhanced efforts to optimise public spending by improving the quality and composition of public finances and enhancing the efficiency and effectiveness of public expenditure will be crucial to making best use of public funds. This includes strengthening public capacities in data collection and analysis, so as to better design fiscal measures. Fiscal policy should continue to be focused on protecting vulnerable households and firms, while being affordable and preserving incentives for sustainable behaviour. Finally, given the uneven impact of fiscal challenges and the need to boost strategic investment and ensure appropriate financing for EU common goods, further avenues for common action should be explored.





7. FURTHER SHIFTING POLICY AND ECONOMIC INDICATORS TOWARDS SUSTAINABLE AND INCLUSIVE WELLBEING

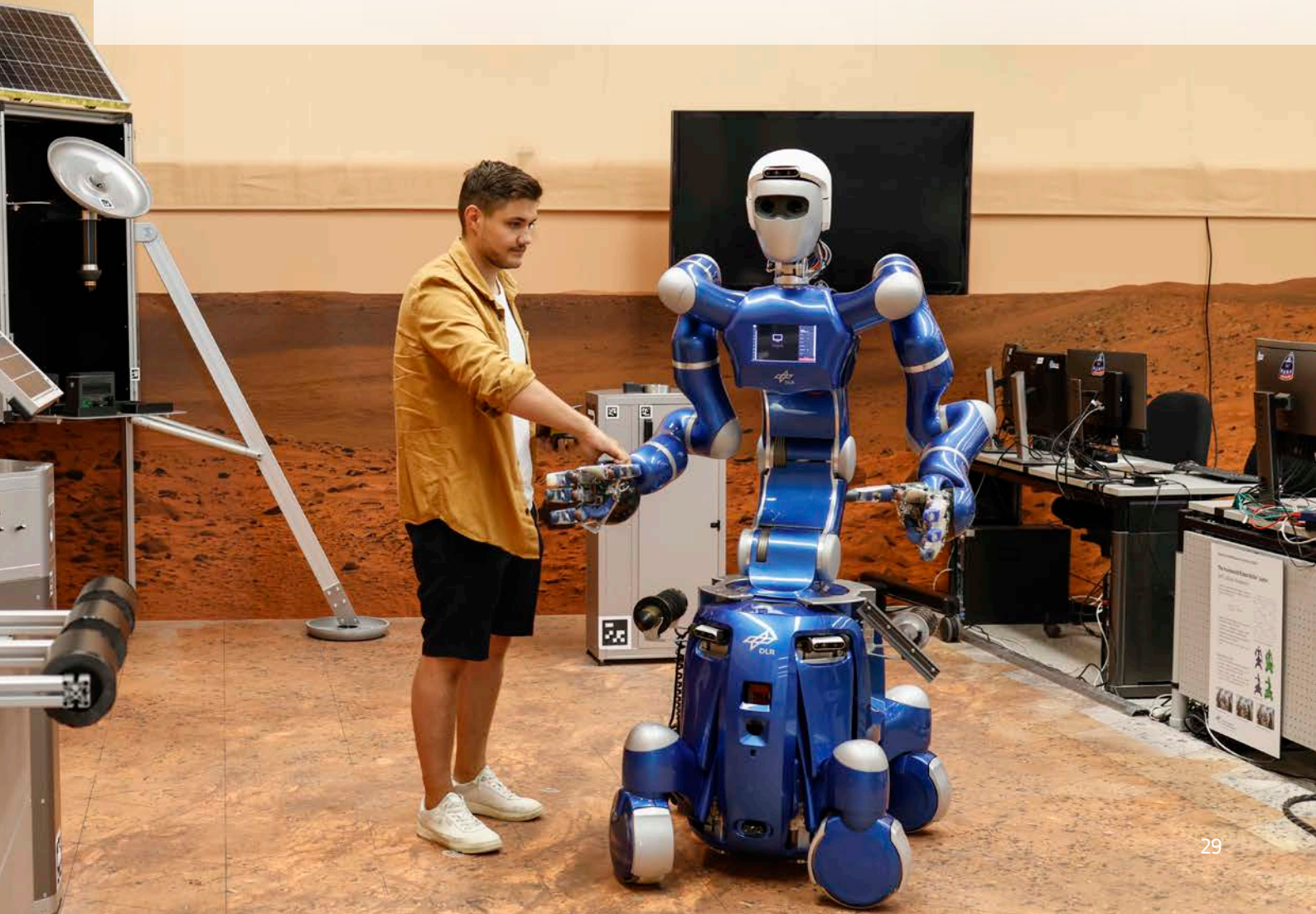
Environmental and social aspects are already taken into account in the decisions of both public and private actors, but need to be further mainstreamed. In this context, beyond-GDP metrics should be further developed and progressively embedded into EU policymaking. This will help monitor progress towards wellbeing, facilitate the communication of political challenges, and design the strategies to address them in a people- and planet-centred manner, while ensuring that economic growth does not destroy its very foundations. Additional work should also be pursued to improve monitoring tools by developing robust model-based indicators (for instance on planetary boundaries or the social-environment-economy nexus), and better integrated assessment models for projections and scenario analysis. To further inform policies, statistical standards for national accounts need to be complemented by additional indicators to better reflect the interdependence between economic activity, people's wellbeing, and the environment. This would address, for instance, the various ways in which resource depletion and environmental degradation undermine people's wellbeing and economic security and, conversely, the various impacts of economic activity on the environment. The EU will continue contributing to the discussions within the international community on how the interlinkages between the economy and the environment can be accounted for in national accounts and in environmental-economic statistics in a methodologically sound way. In addition, it will continue promoting the use of existing environmental-economic accounting to inform policymaking in various fields, notably by boosting the integration of existing economic and environmental statistics, and social accounting to better address social inequalities in revenue distribution.





8. ENSURING THAT EVERYONE CAN SUCCESSFULLY CONTRIBUTE TO THE SUSTAINABILITY TRANSITION

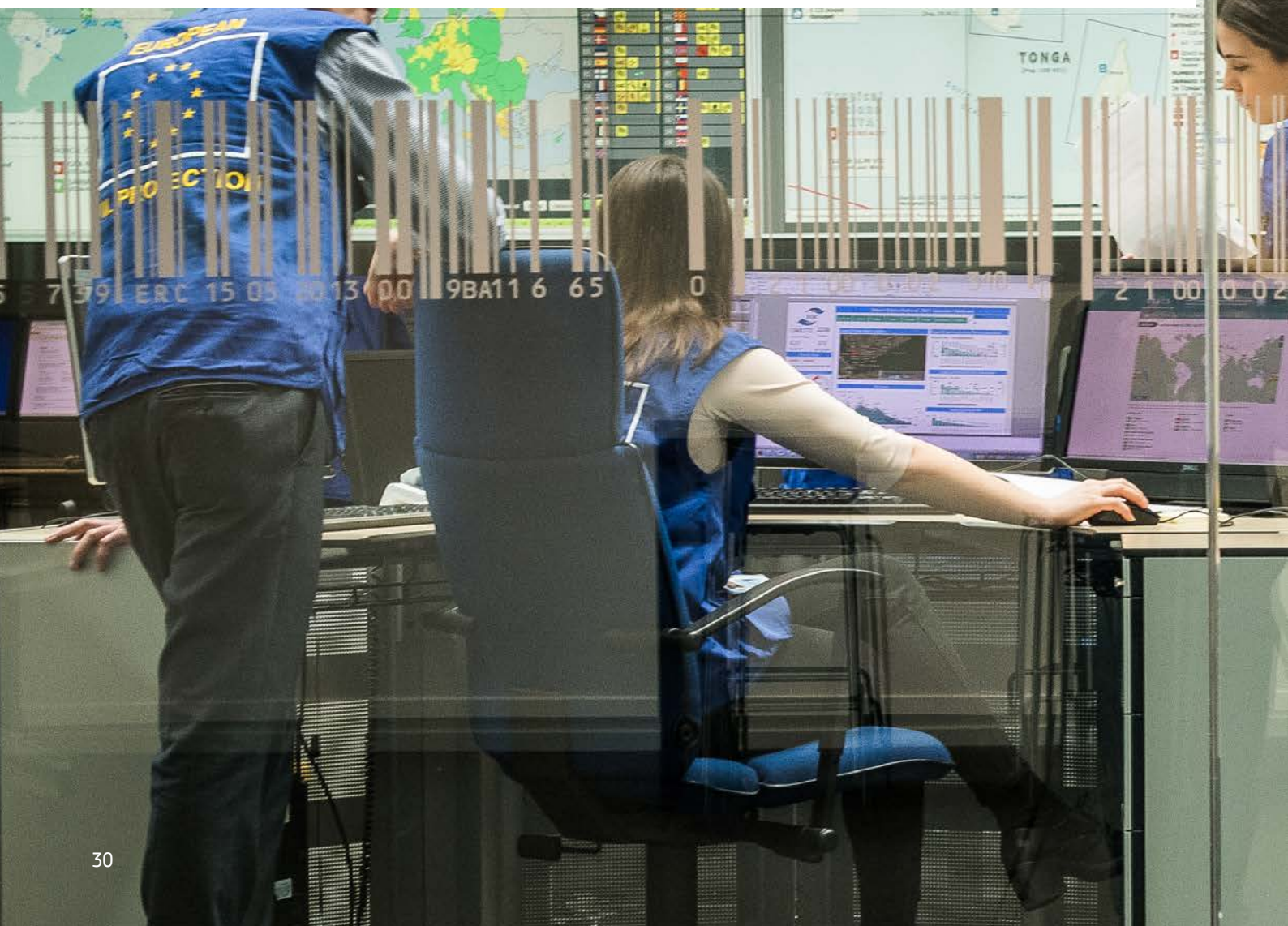
Sustained efforts are needed to increase labour market participation among all segments of the population, notably women, persons with disabilities, the elderly, young people, and other underrepresented groups neither in employment, nor in education or training. Investing in early high-quality education should be encouraged to close inequality gaps. In addition to technical skills, sustainability, digital, civic, resilience, or entrepreneurial skills should be given increased attention. Encouraging lifelong learning, e.g. through greater on-the-job training and vocational training, or innovative ways of teaching would increase the flexibility of learning. This needs to be matched with adapting workplaces and working conditions to new types of jobs, generational expectations, and the needs of workers. Cooperation between public, private and civil society actors, through established mechanisms (e.g., Pacts for Skills or Skills Academies) should be strengthened. Digital technologies should be used to enrich and adapt education and training, and boost learning possibilities for all. To manage demographic change, the EU needs robust tools for granular forecasting of skills and workforce needs in key sectors. Talent development traps need to be addressed at regional level by stimulating the supply and demand for talent with targeted measures and in cooperation with employers and educational institutions. Finally, to address specific labour market gaps and demographic challenges, the EU needs to attract more global talent and support the creation of talent pools and partnerships with third countries. This needs to be coupled with supporting the communities of origin and adapting education and training to enhance the integration.





9. STRENGTHENING DEMOCRACY, INCLUDING BY INCREASING CITIZENS' AGENCY

Building broad public support for sustainability requires increasing the participation of European citizens in democratic deliberations and policy-making processes, complementing representative democracy ⁽⁸⁴⁾. Inter- and intragenerational fairness, inclusive participation, and the agency of all citizens should lie at the heart of policymaking. For instance, embedding strategic foresight into policymaking can help governments adopt public policies based on future distributional (including inter-generational) impacts, putting in place strategies to minimise the probability that very negative social outcomes materialise. Increased openness of decision-making and the capacity to better engage and communicate with citizens will therefore be key. The EU should continuously strengthen its capacity to defend democracy and the rule of law ⁽⁸⁵⁾. To counter mis- and disinformation, and foreign interference, more effective instruments and their proper enforcement are important. It is crucial to make social media platforms more accountable and to support independent media. The impact of digitalisation on democracy must be also optimised, while addressing possible negative aspects (cyber-security of elections, hate-speech proliferation, and radicalisation). Finally, open, efficient, interoperable, and accountable public services will be essential. Therefore, the capacity of local institutions and other actors, such as social partners and civil society organisations, needs to be strengthened. This requires vast action to ensure that such institutions have the necessary skills, as well as financial and technological resources to contribute to and reap the opportunities of the twin transitions ⁽⁸⁶⁾.





10. REINFORCING THE EU'S TOOLBOX ON PREPAREDNESS AND RESPONSE TO COMPLEMENT CIVIL PROTECTION WITH 'CIVIL PREVENTION'

The EU needs to strategically anticipate potential disastrous events and prepare for their impacts, as recently demonstrated by the pandemic and Russia's war of aggression against Ukraine. The continued development of strategic foresight and monitoring capacities, including Early Warning Systems, will facilitate the translation of early information into early action, and should provide a compass to guide Member States' future investments and funding for better preparedness and prevention. European data spaces, digital twins, and new interaction modes will be crucial to better understand and use large amounts of complex information. The EU's ability to react quickly and efficiently to crises should also be steadily reinforced. For instance, the Single Market Emergency Instrument will ensure the free movement of goods, services, and people, with greater transparency and coordination in times of crises. To address the resilience of critical entities, the implementation of resilience-related EU Directives and Council Recommendations will be key ⁽⁸⁷⁾. The Emergency Response Coordination Centre should be further developed to become a core node linking all relevant EU crisis management actors (e.g. HERA) and strengthen operational preparedness for future emergency situations ⁽⁸⁸⁾. Various existing tools and instruments that are key for resilience in areas such as civil protection, migration, health, food, or water should be bolstered and synergies and cooperation between them strengthened. The EU should be also better prepared to address disaster and climate-related displacements. In addition to resilience actions, the EU will need to assess, prevent, prepare for, and manage risks in a systemic, one planet and one health approach. In addition, the development of common procedures should be supported by reinforcing or establishing new cross-sectoral linkages with relevant authorities at all levels, as well as the private sector, including risk managers and insurers. Finally, ways to further increase the availability of disaster risk financing should be explored.

4

DELIVERING ON THE PROMISE OF THE SUSTAINABILITY TRANSITION

The sustainability transition is built on a triple promise: a healthy planet and thriving environment; economic growth that is decoupled from resource use and environmental degradation; and an assurance that no person or place will be left behind. As the EU proceeds with this historic transformation, building a positive vision and preserving the sense of opportunity and optimism will be vital to building broad democratic support for the necessary changes and trade-offs, in challenging circumstances. This report outlines the key areas in which action is highly needed, if we are to achieve the sustainability transition and strengthen links between its environmental, social, and economic aspects.

Placing sustainability at the heart of the EU's open strategic autonomy is key to enable Europe to deliver on these promises. For current and future generations of Europeans, this will mean living healthier and longer lives, finding private and professional fulfilment, and having a greater say in the future they want. For EU business, using the first-mover advantage of a net-zero economy, with globally leading sustainable products and services. And for the other regions of the world, benefiting from cooperation and sustainable development.



RECONCILING WELLBEING AND PROSPERITY



1. Ensure a new European social contract with renewed welfare policies and a focus on high-quality social services.



6. Make public budgets fit for sustainability through an efficient tax framework and public spending.



2. Deepen the Single Market to champion a net-zero economy, with a focus on open strategic autonomy and economic security.



7. Further shift policy and economic indicators towards sustainable and inclusive wellbeing, including adjusting GDP for different factors.



3. Boost the EU's offer on the global stage to strengthen cooperation with key partners.



8. Ensure that all Europeans can contribute to the transition by increasing labour market participation and focusing on future skills.



4. Support shifts in production and consumption towards sustainability, targeting regulation and fostering balanced lifestyles.



9. Strengthen democracy with generational fairness at the heart of policymaking, to reinforce the support for the transitions.



5. Move towards a 'Europe of investments' through public action to catalyse financial flows for the transitions.



10. Complement civil protection with 'civil prevention' by reinforcing the EU's toolbox on preparedness and response.

ENDNOTES

- (1) This Communication builds on the Joint Research Centre's Science for Policy Report, based on a fully-fledged foresight process. It started with the creation of foresight scenarios describing alternative versions of the EU sustainable future by 2050. For each scenario, the sustainability transition pathways were derived using a co-creative backcasting technique. This allowed the identification of new, alternative practices and structures as well as the phasing out of existing unsustainable practices and structures by 2050, including the analysis of trade-offs, bottlenecks, and synergies along the transition pathways. A cross-cutting analysis of the diverse patterns of change identified critical domains enabling the transformational changes towards sustainability. The foresight process also included consultations with experts and stakeholders, discussion with Commission services, agencies and joint undertakings, publication of a call for evidence, discussions with institutional partners (European Strategy and Policy Analysis System) and Member States.
- (2) The 2022 Strategic Foresight Report focused on the interplay between Europe's twin transitions in a new geopolitical context. The 2021 edition evolved around important trends affecting the EU's open strategic autonomy and freedom to act in the coming decades. The 2020 report analysed the EU's resilience across four dimensions: social and economic, geopolitical, green, and digital.
- (3) Remarks by US National Security Advisor Jake Sullivan on Renewing American Economic Leadership at the Brookings Institution on 27 April 2023.
- (4) 36 % of the world's population live in countries which actively condemned and imposed sanctions on Russia. Nearly one third in a country that has remained neutral. Finally, another 32 % is in states where the government supported Russia's actions or narrative. Howey, W. (2022), Russia can count on support from many developing countries, <https://www.eiu.com/n/russia-can-count-on-support-from-many-developing-countries/>
- (5) EDGAR — Emissions Database for Global Atmospheric Research, European Commission.
- (6) The G7's Partnership for Global Infrastructure and Investment, of which the EU's Global Gateway is part of, aims to respond to the demand for high quality infrastructure financing in low- and middle-income countries.
- (7) University of Cambridge Institute for Sustainability Leadership (CISL), (2022) <https://www.cisl.cam.ac.uk/competitive-sustainability-index>
- (8) Net Zero Industry Act, COM(2023) 161 final.
- (9) European Economic Security Strategy, JOIN(2023) 20 final.
- (10) Investment needs assessment and funding availabilities to strengthen EU's Net-Zero technology manufacturing capacity, SWD(2023) 68 final.
- (11) Spain, together with other Member States, has developed under the framework of the EU-wide Foresight Network, a dedicated track to analyse current and future dependencies in four critical sectors (energy, digital technology, health, and food), also drawing on the methodology proposed by the Commission (see SWD (2021) 352 final, SWD(2022) 41 final, WP2023/14). This work provides recommendations on strengthening the EU's open strategic autonomy, including its economic security, and global leadership by 2030.
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- (33) Source: Eurostat, balance of payments (BPM6), current plus capital account. Reference period: 2013-2022. Data extracted on 28 June 2023.
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