

4 The future(s) of OECD regions: Scenarios 2045

The chapter discusses how readiness to respond to change is critical to secure prosperity and social cohesion in the next 20 years. The first section focuses on the value of leveraging strategic foresight to manage transnational and intergenerational risks related to megatrends and shocks and to future-proof regional development policy. The second proposes three scenarios for OECD countries and regions in 2045 and what these different pathways could imply for regional inequalities and policies. A final section sets out ways forward to future-proof regional development.

In Brief

- Around the world, megatrends – including climate, demographic and technological change – have emerged with the potential to profoundly transform societies in the coming decades. These megatrends will result in widely different trajectories across regions, creating, in turn, different public investment needs, challenges and opportunities and reinforcing the importance of place-based foresight and responses.
- Recent crises – from the COVID-19 pandemic to Russia’s war of aggression against Ukraine – have increased awareness of vulnerabilities to shocks and the need for preparedness and resilience. The significant costs of managing the consequences of increasingly regular crises have reinforced the need to better anticipate, understand and price risks within global, national and regional systems, including those from ongoing megatrends and potential new ones such as artificial intelligence (AI).
- Strategic foresight is a critical tool to explore possible future changes and their implications for decision making today. Territorial foresight in particular is needed to address asymmetric risks of shocks and megatrends and to future-proof regional development policy.
- Building on a participative foresight exercise, this chapter proposes three scenarios for 2045. “The foregone region” scenario imagines the emergence of fully centralised power and top-down decision making in OECD countries, combined with less citizen engagement and growing distrust. The “hyper-connected region” scenario sees regional and national authorities collaborating actively together and with citizens to elaborate effective solutions to pressing challenges. “The region-state” scenario explores a power shift whereby regions form into separate, almost independent entities, each operating within their own ecosystem and competing for wealth and resources.
- Two priority avenues emerge to futureproof regional development policy and build up resilience in the next 20 years: i) building systemic and strategic approaches to fiscal systems and governance structures; and ii) developing the strategic foresight capacity of policy makers at the national and subnational levels. In addition, the scenarios reveal some strategic considerations for how the core purpose of regional development policy may need to adapt in the future.

Introduction

OECD countries and their regions are in the midst of rapid changes that are influencing how people live, work, communicate, create, produce, consume, exchange, think and decide. These social, technological, economic, environmental, political and geopolitical forces are occurring arguably faster than ever before and are profoundly reshaping human relations within societies, between places and with the natural environment. Awareness of such forces and their impacts on societies and economies is critical.

Whilst there are inevitably many uncertainties on what these widespread and long-term changes will mean for regions and regional inequalities, and how policy makers can begin to contemplate potential challenges and opportunities that may result, it is already clear that they are not on a distant horizon but already underway and reshaping the geography of opportunities today. The impact of these megatrends will differ from region to region, exacerbating risks of increasing the already large and persistent regional disparities evidenced in Chapters 2 and 3. Faced with this reality, societies and their governments cannot afford to remain passive or complacent. Adequate policy responses need to factor in this geographic diversity and act on these risks now.

COVID-19 and Russia's war of aggression against Ukraine have demonstrated that our societies can be disrupted virtually from one day to the next (as discussed in Chapter 1). The uptake of remote working and the development of e-commerce and a wide array of digital tools, though already underway, was drastically accelerated during the first few weeks of COVID-19. Disruptions to global supply chains from COVID-19 and then exacerbated by the war in Ukraine have re-opened the question of reshoring/nearshoring as a means of making economies more resilient through shorter supply chains. Yet, even before the pandemic, broader transitions – e.g. urbanisation, technological change, population ageing – were happening at a rapid pace.

As major uncertainty becomes the “new normal”, regions in OECD countries are facing a renewed need to learn to better anticipate, prepare for and rebound from different crises. Addressing the challenges stemming from recent shocks, in conjunction with challenges that preceded them, such as persistent inequalities and environmental degradation, will be central to building more resilient regional economies. A key lesson from the past is that any short-term savings from not acting in anticipation can be significantly outweighed by the costs of remedial actions.

While the importance of including future thinking into policy is increasingly acknowledged, more can be done to support policy makers, especially at the regional and local levels, to think more long-term and be proactive. Actively thinking about different futures is a means to identify and learn from new threats and opportunities coming from even unthought-of impacts in order to agree upon actions today. This is particularly relevant at the regional level where actions require interaction and co-ordination across different levels of government to be successful. To support policy makers in this endeavour, this chapter recalls the global and territorial changes shaping the future. It discusses why territorial foresight is essential to future-proof decision making on regional development. It also explores three scenarios for 2045 and their implications for regional development policy, including the steps to take today to be more resilient and adaptive to whatever the future may entail.

Why think of the future(s)?

Regions in times of global changes

Around the world, several trends have emerged that have the potential to transform society in unpredictable yet profound, ways in the coming decades. Evidence of this can be found in the most significant, so-called “megatrends”, a term used to refer to transformations that are unfolding across the globe in a number of countries and that can drive the global economy and society in specific directions over the coming years.

Megatrends are likely to result in meaningful, long-term changes impacting social, economic, political, environmental and technological issues. Despite their potential for high impact, they often unfold slowly and follow relatively stable trajectories over several decades.

Megatrends that are likely to impact countries around the world include demographic change (including migration), economic interconnectedness, climate change, digitalisation and urbanisation, among others. In addition to megatrends, “weak” signals of other changes and developments are emerging and could grow over time, including the role of states vs. markets or the influence of non-state actors (OECD, 2021^[11]). These, on top of potentially unpredictable events and shocks, could similarly have a significant impact on the future of societies and the world order.

Megatrends create different public investment needs, challenges and opportunities across regions within countries. Reaching the objectives of the Paris Agreement on climate change will require scaling up and tailoring actions and investments to the needs and realities of different localities and regions as mitigation and adaptation challenges and opportunities differ widely across places (OECD, 2017^[12]). Demographic change, particularly population ageing and shrinking, will especially affect remote and rural regions across the OECD. Digital divides are emerging across regions, limiting access to the advantages of the digital transition, establishing and intensifying divides as the pace of digitalisation accelerates. Finally, regions differ in the degree they are embedded in global value chains and migration patterns, leaving some territories more prone to the impact of global shocks (e.g. COVID supply chain bottlenecks) than others, which may demand a rethink of their regional strategies. Table 4.1 recalls some key projections related to these megatrends and their impact on regions.

Table 4.1. Key trends and projections related to megatrends and their impacts on regions

Megatrends	Key trends and projections worldwide	Impact on regions
Climate change, resource management and availability	<ul style="list-style-type: none"> • More than a century of burning fossil fuels as well as unequal and unsustainable energy and land use has led to global warming of 1.1 °C above pre-industrial levels. This has resulted in more frequent and more intense extreme weather events that have caused increasingly dangerous impacts on nature and people in every region of the world. (IPCC, 2023^[31]). • Almost half of the world’s population lives in regions that are highly vulnerable to climate change. In the last decade, deaths from floods, droughts and storms were 15 times higher in highly vulnerable regions (IPCC, 2023^[31]). • Greenhouse gas emissions will need to be cut by almost half by 2030, if warming is to be limited to 1.5°C (IPCC, 2023^[31]). 	<ul style="list-style-type: none"> • In metropolitan areas, climate change will increase local urban heat island effects, which, in addition to increasing local temperatures, alter small-scale meteorological processes (e.g. land-sea breeze effect) thereby increasing the risk of heat-related morbidity and mortality (IPCC, 2018^[41]). • CO₂ emissions from urban mobility are expected to increase by 26% by 2050, while demand for urban passenger transport could grow by 60-70% in the same period if cities go back to the pre-COVID urban transport demand levels (OECD, 2020^[51]). • Average wages in the key manufacturing sectors most likely to be impacted by the green transition are often higher than average wages in the economy as a whole, meaning that job loss or job transformations pose risks for wealth in the regions hosting them (OECD, 2022^[61]). • In the European Union, the largest share of regions most vulnerable to the industrial transition to climate neutrality lag on several socio-economic indicators, especially gross domestic product (GDP) per capita and average regional wages (OECD, 2023^[71]).
Demographic shifts and urbanisation	<ul style="list-style-type: none"> • Since 1970, life expectancy in OECD countries has increased on average by more than ten years (OECD, 2017^[81]). Life expectancy at age 65 is higher, implying that a large part of the population in OECD countries can expect to live for more than 20 years after retiring (OECD, 2019^[91]). 	<ul style="list-style-type: none"> • An increasing share of the OECD population will move into large cities and their commuting zones (functional urban areas, FUAs). Between 2020 and 2030, the OECD population living in FUAs will increase from 950 million to 1 billion inhabitants. The population is expected to increase in larger FUAs with more than 1 million inhabitants, while the population in smaller FUAs is expected to shrink (OECD, 2022^[141]).

Megatrends	Key trends and projections worldwide	Impact on regions
	<ul style="list-style-type: none"> • At current rates, there will be almost global parity between the number of over-60s and the number of children by 2050. The old-age dependency ratio (the ratio of older people to the working-age population) is expected to increase significantly by 2050 in most OECD member countries, shifting the composition of the workforce from young to older workers (OECD, 2022^[6]). • Health spending as a share of GDP is projected to increase on average from 8.8% in 2015 to 10.2% by 2030 for OECD countries, with demographic changes accounting for about one-fourth of the overall projected change (OECD/EC-JRC, 2021^[10]). • Public expenditure on pensions is expected to increase in 21 OECD countries with an overall increase to 9.4% of GDP in 2050 (OECD, 2022^[6]). • In 2019, 5 million new permanent migrants settled in OECD countries, an increase of around a quarter since 2010 (OECD, 2022^[11]); 3.7 million arrived in 2020. New migrants include highly qualified foreign doctors, nurses and scientists, as well as individuals that work in low-skilled but important jobs. • An annual average of 21.5 million people have been forcibly displaced by weather-related events since 2008 (UNHCR, 2016^[12]). Available estimates suggest that up to 1.2 billion people could be displaced globally by 2050 due to climate change and natural disasters (IEP, 2020^[13]). 	<ul style="list-style-type: none"> • Across the OECD, non-metropolitan regions will experience population ageing the most. Across the OECD, elderly dependency rates remain significantly lower in metropolitan regions compared to other regions. As the population ages, the elderly share of the population (i.e. those above 65 years old) will increase in all regions but the increase will be largest in regions far from a metropolitan region (OECD, 2022^[14]).
Digitalisation and automation	<ul style="list-style-type: none"> • Across the OECD, 14% of all jobs are estimated to consist of more than 70% of tasks that are likely to be automated, whereas another 32% of all jobs consist of 50-70% of tasks that are likely to be automated (Nedelkoska and Quintini, 2018^[15]). • Average mobile data usage per subscription in OECD countries quadrupled between 2015 and 2019, and prices for high-usage mobile broadband fell by 59% over 2013-19. As of June 2020, 5G (fifth-generation technology standard for broadband cellular networks) commercial services were available in 22 OECD countries (OECD, 2020^[16]). • OECD economies counted 113 high-speed mobile Internet subscriptions per 100 inhabitants as of June 2019, up from 32 per 100 a decade earlier, while non-OECD countries counted 60 such subscriptions per 100 people (OECD, 2020^[16]). 	<ul style="list-style-type: none"> • In some OECD regions, the share of jobs at high risk of automation is as low as 4% whereas in others, it is close to 40% (OECD, 2018^[17]). • In the first quarter of 2022, people living in metropolitan areas experienced, on average, 40% faster fixed Internet connections than those in regions far from metropolitan areas (OECD, 2022^[14]). • Throughout 2020, across European countries, the average gap between the large regions (TL2) with the highest and lowest shares of individuals working remotely was close to 10 percentage points. On average, 20% of workers in capital regions worked remotely most of the time in 2020 compared to only 10% in all European regions. (OECD, 2022^[14]). • In OECD countries, teleworking grew from around 16% of employees before the crisis to around 37% during the first wave of the COVID-19 pandemic in April 2020.

Specific trends are shaping the future of regions

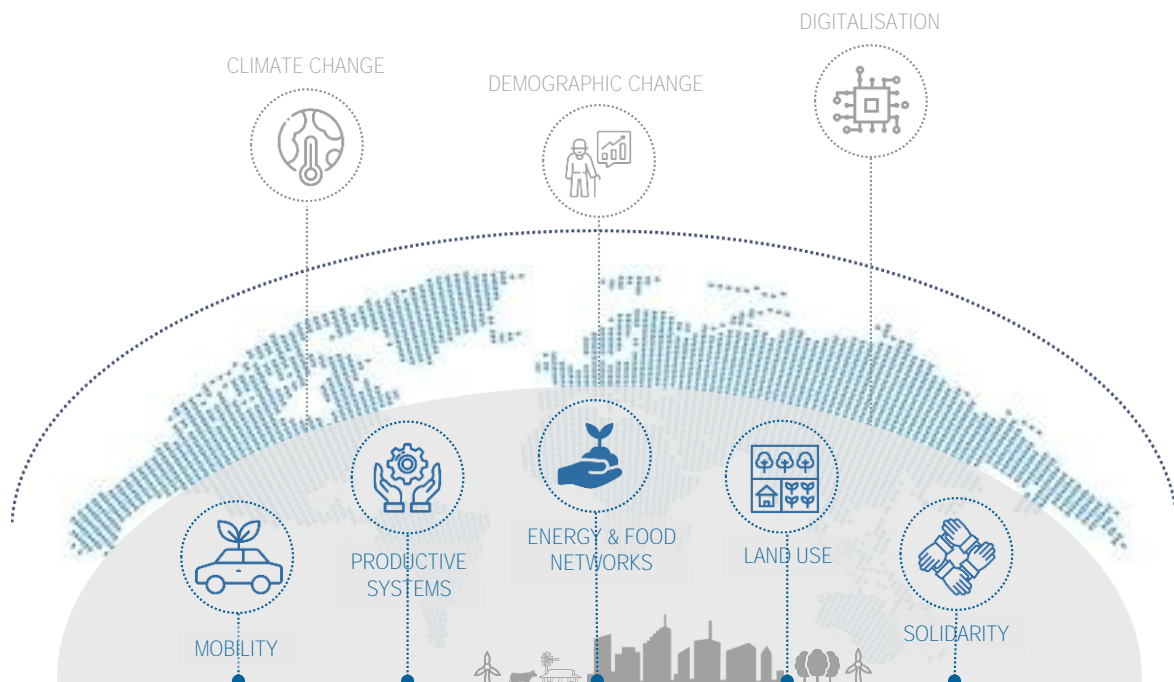
As Table 4.1 exemplifies, megatrends are not impacting regions within countries equally, while at the same time, they overlap with specific trends that are playing out at the regional level (illustrated in Figure 4.1). These latter trends are characterised by strong place-based effects that will result in widely different trajectories and responses at the regional level, i.e. not all regions and places are and will be impacted in the same way, and their capacities to engineer collective solutions will be asymmetric as well:

- **New forms of mobility:** With fossil fuels becoming scarcer and green subsidies scaling up, daily mobility costs will continue to increase. While regions have been deeply shaped by easy access to inexpensive modes of individual transport, new forms of mobility will decisively impact regions in

the short term as people adapt their daily life and, in the long term, with the emergence of new functional approaches based on shorter distances.

- **The transformation of productive systems:** Three major trends are expected to transform productive sectors, i.e. i) the emergence of Industry 5.0 and large-scale digital and technical transformations in production processes (automation, robotisation, etc.); ii) the development of more circular and low-carbon production and consumption cycles; and iii) a declining and ageing labour force, whose relation to work will evolve (e.g. remote working, search for meaning, etc.).
- **The advent of place-based carbon-free energy and food networks:** This transition, which is already on the way in many regions, is likely to accelerate as energy and food strategies become increasingly localised. The development of local energy and food networks will translate into very different dynamics across places, depending on their strategic choices and their capacity for action.
- **The shift in land use balance and people's relationship to nature:** Land use will change significantly in the coming decades and trade-offs will be required between different needs, such as preserving farmland for food production while developing renewable energy, raising the value of wood resources while strengthening the carbon storage capacity of forests, supporting re-industrialisation strategies and preventing further land loss (e.g. related to urban sprawl or commercial uses). At the same time, people's relationship with nature and space will continue to change as they search for a better quality of life, access to nature and more proximity in their everyday lives.
- **Poverty and new solidarity models:** Repeated crises will have a significant impact on disposable income, leading to more and more people living in precarious conditions. At the same time, in a context of increasingly constrained public budgets, it is likely that new models, mechanisms and networks of solidarity will emerge at the regional and local levels.

Figure 4.1. Regions have to anticipate the overlapping effects of megatrends and specific long-term transformations at the territorial level



Making sense of these trends at the regional level will be critical to prepare and adapt regions. Such transitions are likely to require structural transformations in how regions grow, supply energy, provide essential services, do business and use land. To continue to thrive, regions will also need to develop technical know-how and human and social skills. It is equally important to raise awareness and buy-in from those who will be most impacted by these policy choices. The following section discusses how strategic territorial foresight can be leveraged to help prioritise challenges, mobilise governmental and non-governmental actors, and identify a collective path forward to take an active rather than passive role in shaping the future of regions.

Territorial foresight to futureproof regional policy making

Strategic foresight to better prepare for an uncertain future

Strategic foresight is a structured approach to exploring possible future changes and their implications for decision making today. Foresight is based on the premise that one cannot predict the future but one can prepare for it. It entails scanning the horizon for new developments and emerging trends, constructing alternative scenarios about what future changes could occur and designing forward-looking strategies for advancing values and objectives under a wide range of possible circumstances (OECD, 2021^[11]). Foresight helps to prevent poor decisions based on unquestioned assumptions about the future. Practising foresight allows for spotting new challenges sooner, so as not to be caught by surprise, and perceiving a broader universe of opportunities. Box 4.1 presents some of the main concepts and benefits of strategic foresight.

Box 4.1. Key concepts and benefits of strategic foresight

The OECD defines strategic foresight as a structured and systematic way of exploring different plausible futures that could arise, the opportunities and challenges they could present and using those ideas to make better decisions and act now. Foresight can support government policy making in the following main ways:

- **Better anticipation:** to better anticipate changes that could emerge in the future.
- **Policy innovation:** to reveal options for experimentation with innovative approaches.
- **Futureproofing:** to stress test existing or proposed strategies and policies.

Strategic foresight is not forecasting. It does not attempt to offer definitive answers about what the future will hold. Foresight understands the future as an emerging entity that is only partially visible in the present, not a predetermined destiny that can be fully known in advance (predicted). There are no hard facts about the future and the evidence base is always incomplete. The objective is not to “get the future right” but to expand and reframe the range of plausible developments that need to be taken into consideration. One of the main contributions of foresight is to give meaning to the future and help actors better understand its complexity.

Strategic foresight is not strategic planning. Doing strategic foresight alone will not produce a strategy or plan. The task of developing strategies and plans is enhanced and supported but not replaced by the process of considering multiple alternative futures and their implications. Strategic foresight instead aims to pose key questions that might have gone unasked in developing a strategy and to reveal and challenge potentially fatal assumptions and expectations built into current policies and plans.

Source: OECD (n.d.^[18]), *Strategic Foresight*, <https://www.oecd.org/strategic-foresight/ourwork/>.

Over the last decade, foresight has become a highly visible and widespread way of informing decision-making and policy-planning processes. It is used to more systematically debate future prospects and desires, with a view to influencing present-day decisions and actions. It is particularly useful to leverage the knowledge of a wide range of stakeholders on new developments as well as on societal and business needs. The tacit and tangible “results” of foresight are recognised as valuable inputs to the setting of priorities for public and/or private initiatives, vision building, network formation, education and knowledge dissemination among relevant actors, especially among policy decision makers.

Across the OECD, more and more governments use forecasting and strategic foresight instruments to future-proof regional policy. Responses to an OECD survey conducted in 2018 showed that more than two-thirds of countries in the sample had a national long-term planning or strategic foresight unit at the centre of government, and nearly two-thirds of the countries used both forecasting and strategic foresight in regional planning processes (OECD, 2019^[9]). Examples from Canada, France and Switzerland of using strategic foresight in policy making and strategic planning are provided in Box 4.2.

Sceptics may argue that adequate strategy and policy-planning methods and processes are already well-established at all levels of policy making. But the rules of the game are changing rapidly and radically, eroding the value of more rational planning and linear methods of policy development, and accentuating the need for more real-time interactive approaches that characterise foresight. The value of traditional planning approaches depends largely on long periods of relative stability and these approaches are currently challenged by the acceleration of environmental and technological changes, among others. The prevalence of interactive and participative methods of exploratory analysis and study is what could be termed a new paradigm. The methods are not “new” in the strictest sense, as they have been practised and developed over several decades. Nor do they replace more traditional forms of planning or rigorous academic research. However, their value is becoming more and more extensive, and they increasingly constitute a decisive element within a planning exercise. What foresight methods impart is a much more “emergent”, real-time planning approach.

Box 4.2. Using foresight to develop future-oriented policy and programmes at the national level: Experiences in Canada, France and Switzerland

Canada

Policy Horizons Canada is a federal government organisation that conducts foresight to help the government of Canada develop future-oriented policies and programmes that are more robust and resilient in the face of disruptive change on the horizon. To fulfil this mandate, Policy Horizon Canada analyses the emerging policy landscape, the challenges that lie ahead and the opportunities opening up, engages in conversations with public servants and citizens about forward-looking research to inform their understanding and decision making, and builds foresight literacy and capacity across the public service.

In 2017-18, Policy Horizons Canada, with the support of the Privy Council Office, ran the Canada Beyond 150 programme with the goal to: develop leadership for a diverse cohort of public servants; experiment with new methods in open policy, to build the required skills and encourage a culture shift to a more open, innovative, collaborative public service; and engage external partners in the development of longer-term analyses and innovative ideas to inform future policy making. The programme gathered a Canada-wide group of federal public servants who learned skills in foresight analysis, design thinking and engagement, and explored five themes: reconciliation, feminist government, sustainable development goals, open and transparent government and socio-economic inclusion, which includes the future of work, capital and debt, and future of well-being. The programme

delivered seven thematic reports exploring key opportunities, challenges and policy issues across the different themes, as well as possible solutions and strategies.

France

In line with its commitments under the Paris Agreement, France launched two initial national low-carbon strategies. These strategies will imply important systemic transformations that will mobilise all stakeholders and require major technical, institutional and social innovations. In 2022, to inform the French government's decisions in this regard, the French Agency for Ecological Transition (*Agence de la transition écologique*, ADEME) produced four scenarios that propose very different economic, technical and social options for achieving carbon neutrality. The report *Transition(s) 2050* presents the scenarios in detail, provides a cross-scenario comparison according to energy, climate, and resources considerations and proposes some lessons across several sectors such as territorial planning, housing, mobility, agriculture, waste management and industrial production.

Switzerland

For more than ten years, the Territorial Concept Switzerland has provided the joint strategy of the Confederation, the cantons and the municipalities for the future regional development of the country. It outlines a vision of Switzerland for the future and, since its first publication in 2012, has become an important planning tool for decision makers. In 2023, the three levels of government decided to update it as new challenges have gained importance, notably climate change, energy production and digitalisation, which should be integrated into the Territorial Concept. The process will include a multi-level, government-wide reflection on what Switzerland could look like in 2050, with all major institutional partners involved. Workshops will be organised with foresight experts on themes such as climate, economy, energy and cohesion and a youth conference will be organised, all with a view to producing an updated Territorial Concept by 2025.

Source: Government of Canada (n.d.^[19]), *Policy Horizons Canada*, <https://horizons.gc.ca/en/home/> (accessed on 3 February 2023); Government of Canada (n.d.^[20]), *Canada Beyond 150*, <http://canadabeyond150.ca/> (accessed on 3 February 2023); ADEME (2022^[21]), *Transition(s) 2050. Choisir maintenant. Agir pour le climat*, <https://transitions2050.ademe.fr/>; *Projet de territoire Suisse* (n.d.^[22]), *Homepage*, <https://projet-de-territoire-suisse.ch/> (accessed on 12 April 2023).

The rationale for foresight applies in equal measure at any territorial level. However, issues and priorities for a region can be very different from that of an entire country given the immediacy of their various socio-economic constituencies and highly variable (from region to region) situations, including the different responsibilities of subnational governments across and within countries. This means that territorial foresight is different in many ways from national foresight, though there are important similarities and synergies. The following section delves into the specificities of territorial foresight and how it can contribute to futureproofing regional development policy in particular.

Territorial foresight: Objectives and approaches

Territorial foresight has specific characteristics. First, territorial foresight approaches are inherently multi-faceted and consider the economic, social, environmental and political dimensions that make up regional economies and ecosystems. Second, the scope of territorial foresight exercises looks beyond administrative boundaries to consider the multiple connections a region shares with neighbouring regions and other parts of the world. Third, territorial foresight serves as a tool to reconcile different perspectives and priorities among actors of the same region by providing a platform for dialogue (e.g. workshops, reflection groups, fora, etc.) where these actors can confront different views of what is possible and desirable in the future, and the risks and opportunities they need to anticipate, which in turn fosters collective learning and strategic planning.

In a territorial foresight exercise, regional actors ponder key questions that imply different assumptions, biases and trade-offs, e.g. should a region prioritise technological or behavioural changes to address climate change? Should a region specialise or diversify its economy? Should a region focus on developing its endogenous resources and skills or building linkages and partnerships with neighbouring regions? Answers to these questions can set a region on different paths. Box 4.3 presents some experiences across OECD countries of using territorial foresight.

Box 4.3. Experiences in territorial foresight across the OECD

In **Australia**, the government agencies of New South Wales set up a foresight and futures team to equip decision makers across the sector with an ability to navigate future uncertainty and anticipate challenges and opportunities on the horizon. The team developed a digital platform – the Trend Atlas – accessible to all New South Wales government agencies that provides a test bed for building collaborative intelligence into government systems. The Trend Atlas provides information on over 275 local and global trends, including a detailed analysis highlighting the drivers, impacts and possible developments of each trend. Multiple foresight and risk management taxonomies are also applied to the trends to enable effective user navigation and sense making. A horizon-scanning database of over 3 500 articles gives users indications of weak signals of change. The platform makes future analysis easier to integrate into government decision making, strategic planning, policy development and service redesign.

In **Finland**, given the increasing polarisation of the regional structure and as part of future planning efforts, the Ministry of Economic Affairs and Employment commissioned a study on regional development scenarios for 2040. The scenarios are intended to enable discussions on possible options for the future of regions. Fifty key issues to be addressed by the scenarios relate to ensuring world-leading knowledge concentrations and finding the most suitable role for each region, as well as ensuring smart adaptation and good living conditions including in areas that fall outside the top-performing regions.

In **France**, the Brière regional park launched a territorial foresight process in 2019 on the impact of climate change, population growth and tourism on its future. Over the course of 3 forward-looking workshops, more than 100 stakeholders explored different possible futures over a 40-year period, to outline a desirable future for the park. The process revealed that the park was not yet equipped to meet upcoming challenges and risks, and called for rethinking spatial planning, environmental management and tourism strategies. The foresight process led to the creation of three “transition labs” tasked with inventing new ways for local actors to work together and seek collective solutions. One of the innovation labs focused on the future of urban planning and looked at how to rethink a “net zero artificialisation” planning approach in an area highly exposed to floods while preserving ecosystems. The lab brought together urban planners, citizens and land use developers to design a new charter for future urban planning in the park.

The Government Office for Science in the **United Kingdom** conducted a plausible scenario-led foresight assessment (*Futures of Cities*) to develop an evidence base on the future of United Kingdom (UK) cities (challenges and opportunities towards 2065), to inform national- and city-level policy makers. The study was conducted through the commissioning of working papers and essays, and interactive workshops, with over 25 UK cities participating. By combining megatrends analysis and scenario planning, for instance, the study “produced” a plausible future consisting of considerable climate shocks presenting key urban challenges by 2065, e.g. drier summers and heatwaves affecting the United Kingdom’s southern cities, and high levels of precipitations affecting western cities during the winter.

The state of Kansas in the **United States** piloted a novel framework, Our Tomorrows, to ensure that policies and practices meet the needs of families. The framework set out to achieve three goals: i) gather stories about thriving and surviving from families across Kansas utilising a complexity-informed narrative research approach called SenseMaker; ii) make sense of patterns that emerged from the stories through community SenseMaking workshops with stakeholders at various levels of the system; and iii) take action and enable bottom-up change through community action labs. Our Tomorrows laid groundwork to introduce anticipatory innovation to state decision makers while providing avenues at the community level for immediate participation and is being scaled statewide.

Source: NSW Government (n.d.^[23]), *Case Study: New South Wales (NSW) Trend Atlas*, <https://data.nsw.gov.au/nsw-government-data-strategy/case-studies/case-study-new-south-wales-nsw-trend-atlas>; Futuribles (n.d.^[24]), *Prospective Parc naturel régional de Brière 2060*, <https://www.futuribles.com/la-prospective/etapes-de-la-demarche/exemples-de-demarches/prospective-parc-naturel-regional-de-briere-2060/>; UK Government (2016^[25]), *Future of Cities: Foresight for Cities*, <https://www.gov.uk/government/collections/future-of-cities>.

Territorial foresight can take many forms and seek different goals, from one-off workshops to a multi-year process, and involve a few or many stakeholders (see Box 4.4). In addition, different methods can be used to explore the future, notably:

- **Prospective backdrop:** This method consists in summarising the major changes and uncertainties at global, national and regional levels. Actors of a region are invited to select and prioritise the changes that seem to have the greatest impact and then reflect on their possible implications for the region. This method enriches strategic reflection, in particular on the vulnerability of the region and the resilience measures to be taken as a result.
- **Normative foresight:** This approach is based on a common objective for the future of the region. This objective can be represented by a story or images, in order to represent as concretely as possible what would constitute a desirable and unifying horizon. Generally, this common objective is defined by one or more key players in the region (elected representatives, entrepreneurs, citizens) and finds consensus. The goal of the foresight exercise is then to determine the most appropriate trajectory to achieve it.
- **Exploratory scenarios:** In this method, the aim is to construct a simplified representation of the possible futures of a region. To this end, a rigorous method makes it possible to identify the main components (or variables) of the region, study their dynamics and formulate hypotheses on their possible future evolution. Finally, these hypotheses are combined to build scenarios. This method is an opportunity to get stakeholders to work together and to build a common understanding of the region and of priorities for the future.

Box 4.4. How to use territorial foresight: Different approaches for different purposes

Regions and places are diverse in their characteristics, challenges and strategic contexts. As a result, territorial foresight approaches adapt to this diversity and can have different forms and goals, as illustrated below.

Territorial foresight to challenge preconceived ideas of the future

A foresight approach can be brief and made of short sequences, for example, interviews with regional/local actors, a foresight pre-diagnosis and a few workshops. This approach provides an opportunity to discuss with regional/local actors their views and representations of the future and to have them sketch the outline of foresight thinking. This type of approach is useful to challenge preconceived notions, uncover new issues or challenges and raise interest to go further. This type of

brief approach still requires careful preparation to frame the issues for discussion in the specific context of the region. It typically proves useful as a first step or prelude in a more structured and long-term foresight process.

Territorial foresight to manage uncertainty and build resilience

At a time of rapid and unpredictable changes, regional and local actors need to map and anticipate these changes to be prepared. Territorial foresight can be used to better understand ongoing and upcoming changes, to clarify the possible implications for a region or place in terms of exposure and vulnerability, and to design a resilience strategy. Such a strategy can be designed to manage risks and adapt to a changing environment. This type of foresight approach makes an important contribution to regional resilience strategies, which are often based only on an understanding of past and present risks.

Territorial foresight to set a course for transformational change

Territorial foresight can be used to prepare for major transformations in a region, such as industrial transition. These are more complex strategic approaches, where foresight brings meaning and coherence as well as an exploration of the future that enriches collective thinking and strategic planning. Generally, these approaches are structured in three main stages: i) a diagnostic of how the main strengths and challenges of the region and its environment; ii) the development of exploratory scenarios to identify possible futures and lay the foundations for a vision of the region's future; and iii) the design of the vision and future trajectory of the region.

Source: Information provided by Futuribles.

Scenarios for OECD regions in 2045

To better understand the challenges regions in OECD countries may face in the coming decades, this section explores several plausible alternative futures using scenario planning. This approach challenges current assumptions about where regions may be headed. These scenarios are intended as an initial contribution to further reflection and decision making on regional development in the years ahead.

The scenarios are not prescriptive or predictive, nor are they exhaustive or mutually exclusive. They are imagined future contexts, crafted to stretch plausibility about what the future may hold. The scenarios represent possible future disruptions that could create significant strategic considerations for territorial disparities and regional development policy. They do not aim to fully reflect the diverse realities across all OECD regions but instead seek a common denominator by describing possible developments in a generalised way, with a focus on issues of mutual interest with an OECD-wide perspective.

Scenario building process and overview

The scenarios are informed by emergent OECD findings on the impact of megatrends and transitions on regions and were developed in collaboration with the delegates of the OECD Regional Development Policy Committee (RDPC) during a series of participatory workshops organised in 2022-23 to scan the horizon for important drivers of change in regions, think of different possible futures and explore what these futures mean for regional development policy (Box 4.5).

Box 4.5. The Regional Outlook 2023 foresight exercise

The scenarios described in this chapter were developed in close collaboration with the delegates of the RDPC. The foresight process consisted of two participatory workshops organised between November 2022 and March 2023 with the participation of 30 to 40 representatives of different member and non-member countries.

The first workshop, “A Day in 2045: What’s driving the future(s) of OECD regions?”, engaged RDPC delegates in discussions and ideation about the main drivers of change for OECD regions in the future. In break-out groups, participants first imagined what a typical day in the lives of people living in different types of OECD regions in the year 2045 could possibly look like. Each group pictured the day of different people living in a region of an OECD country, considering his/her job/education, mobility, connectivity, food, environment, social life, culture, etc. and discussed the main factors of change shaping the person’s future. These people were a 19-year-old migrant, at university, living in a dense metropolitan region, a 55-year-old small and medium-sized enterprise (SME) owner with 3 children, living in a semi-dense region, and a 30-year-old doctor, living in a sparsely populated region. Participants then reflected on the factors influencing or changing the way these people live, work, consume and interact in the future, considering in particular:

- What do they notice about the person’s life in the future and what stands out?
- What are the assumptions they are making about the future?
- What have they found out about the future they are imagining?

The second workshop, “Building forward-looking scenarios for OECD regions”, had participants engage in exercises designed to help them imagine different paths OECD regions could take over the coming 20 years as they are influenced by major transformations and what policy choices and interventions are needed to prepare for and adapt to these possible futures. Participants were first presented with and further elaborated on three sketch scenario narratives, including to ensure their consistency, plausibility and clarity. They then imagined these sketch scenarios happening today to consider:

- What needs to be done to adapt to these new realities? What policy actions can be carried out today?
- What policies/solutions need to be invented to improve the lives of people in the future?
- What could happen to change that reality from coming true, for better/worse?

Among the drivers of change identified as part of the foresight workshops, which included societal, economic, technological or environmental factors, the state of multi-level governance was selected as the most impactful and uncertain in shaping regional realities across the OECD in the future. Multi-level governance generally refers to the interactions among and across levels of government, which are mutually dependent, and with a broad range of non-governmental stakeholders, including private actors and citizens, when designing and implementing public policies with subnational impact (OECD, 2023^[26]). Discussions in the foresight workshops highlighted how multi-level governance systems will be instrumental to shape the responses to many challenges and transitions different regions will face and how their evolution in the years ahead can be decisive for regions’ future development.

Using multi-level governance as the main driver of change, three scenarios emerge, set in 2045. They are summarised in Table 4.2 and elaborated in the following sections. The scenarios consider the different degrees of either co-operation or autonomy at the national and regional levels across OECD countries, from highly centralised policy making to effective and balanced co-operation among levels of government to high levels of autonomy at the regional level. Each of the three scenarios also considers developments of other drivers of change identified during the workshops (climate change, natural resources availability,

technology, infrastructure, etc.). To illustrate different possible futures, contrasts between scenarios may appear exaggerated.

The “foregone region” scenario explores the emergence of fully centralised power and top-down decision making in OECD countries, combined with less citizen engagement and growing distrust. The “interconnected region” sees regional and national authorities collaborating actively together and with citizens to elaborate effective solutions to pressing challenges. The “region-state” explores a power shift whereby regions form into separate, almost independent entities, each operating within its own ecosystem and competing for wealth and resources.

Table 4.2. Scenario overview

	“Foregone region” scenario	“Hyper-connected region” scenario	“Region-state” scenario
Description	Regional authorities have all but disappeared as national governments (re)centralised all decision- and policy-making powers. The absence of a multi-level approach to managing transitions led to even-deeper asymmetric impacts of megatrends within countries and untenable territorial disparities between those most and least affected regions.	There is strong co-ordination and collaboration across national and regional governments, including across borders. Transitions are managed in a networked and integrated way. Communities and citizens play an active role and engage almost exclusively in the metaverse. While inequalities within countries are subsiding, inequalities between countries are widening.	OECD countries are fragmented as regions have become (more) autonomous and embraced widely different economic models and ideas of social value, with territorial inequalities running wild as a result. There is a lack of co-ordination on global challenges such as climate change. National governments are relegated to the role of regulator and must mediate rising competition and tensions between regions.
How it happened	After the COVID-19 pandemic, disasters and crises continued and led OECD countries to centralise and consolidate decision making in order to tackle climate change and regulate sustainability, mostly with techno-solutions.	As citizens fear further pandemics and increasingly large-scale and frequent natural disasters, they demanded greater collaboration between national and regional governments to lead the green transition.	The proactive role played by subnational governments during and in the aftermath of the COVID-19 pandemic strengthened public support for more regional autonomy, leading to regions-states with their own authority.
Assumptions challenged	That the regional development paradigm was widely adopted and supported, and countries rely on multi-level governance and decentralisation to build resilience in the face of megatrends.	That effective co-ordination between national and subnational governments would be difficult to achieve, and that there is no value-added in collaborating with the central level.	That the nation-state and national sovereignty would remain the dominant model in the world order.

The “foregone region” scenario

Scenario highlights

In 2045, OECD countries believe that fighting climate change is best done at the national level and centres of government now concentrate all decision-making powers. Regions and regional governments have all but disappeared as a result. For several years now, national governments have taken a top-down, mission-oriented innovation approach to manage the green transition, betting everything on new green technologies, such as sustainable green power and biotechnology. Environmental protection is seen as necessary to maintain growth, not as an end in itself. The dominant development model still depends on resource exploitation despite an increased focus on sustainability. National governments control essential infrastructures and collaborate closely with big technology companies. Citizens worry about the limited channels through which they can influence the new centralised politics and trust in government has plummeted, resulting in anti-democratic movements.

How we got here

After the COVID-19 pandemic, crises and disasters continued. Dramatic sea level rises in the 2020s and 2030s have caused people to abandon coastal communities across OECD countries. Climate change also resulted in the re-emergence of ancient pathogens. To avoid a full-blown climate catastrophe, national governments in OECD countries take charge of the sustainability agenda. Multi-level governance, decentralisation and stakeholder engagement are seen as hindrances, time-consuming and distracting from coherent and decisive top-down action to combat the climate crisis. Progressively, national governments (re)centralise policy-making powers and take over key competencies in major infrastructure (energy, water, transport) to be “more effective”, while dismissing the role of regions and subnational authorities. At the same time, national governments favoured technology development over changing consumption patterns to address environmental challenges and have implemented strong policies to promote the decarbonisation of economies, in a context of international competition and globalisation of trade. The place-blind, top-down policy model has led to the promotion of agglomeration and density in big dynamic cities in the 2020s and 2030s.

By 2045...

Regions and regional governments have all but disappeared. National governments have fully embraced a top-down and uniform approach to policy making and sustainability. The dominating policy strand is advocated on the belief that central decision making is more efficient while regional and place-based considerations are secondary and ineffective. These national strategies consider that good macroeconomic management and nationwide policies are what matter most to fighting climate change and maintaining growth levels.

Nature is seen as a set of resources to be exploited for the benefit of humans, in a relationship of mutual growth between natural ecosystems and intense human activity in all economic areas. Technologies are means of understanding, monitoring and regulating the impacts of climate change. Technological solutions also provide new flexibilities and capacities for adapting (e.g. precision agriculture, development of seawater desalination, home automation, etc.). Hence, lifestyles, travel and work are very similar to those of the 2020s and 2030s, but with some differences. For instance, food diets contain less meat and individual mobility is still prevalent but with lighter, electrified vehicles. By focusing on green or decarbonised technologies, energy and material consumption risks are insufficiently controlled. Green energy is big business, including for SMEs.

The best technologies are widely deployed and widely available to those who can afford them, notably big cities and rural areas that have specialised, e.g. in green technologies or resource extraction that contribute to strategic autonomy. Centralised transport systems focus on connecting cities and facilities. Meanwhile, poor regions are getting poorer and risk not having access to basic needs (hospitals, public transport, etc.) and losing their young and skilled. Inequalities within countries are at an all-time high.

Apart from isolated initiatives, citizens are less involved in political decisions. As people feel disconnected from government and elected officials, life is inwardly focused and more individualistic. Concentrations of power are weakening the foundations of democracy. Trust in government and social cohesion are dramatically eroded, leaving behind a vacuum that is increasingly filled by major technology companies. The line between government and business is blurry. Lower social trust also coincides with a withdrawal into virtual forms of engagement and misinformation is rampant.

Considerations raised by this scenario for the future of regional development policy

- How could regional development policy manage the tensions between achieving sustainability objectives and leveraging technological innovation across places?

- How could regional development policy further contribute to establishing frameworks and standards for regional well-being and quality of life in a far more centralised environment?

The “hyper-connected region” scenario

Scenario highlights

It is 2045 and the green transition is the thread that connects all regions together and with their national governments. OECD countries are on their way to climate neutrality by 2050. Fuelled by the success of the International Programme for Action on Climate (IPAC) and the Inclusive Forum on Carbon Mitigation Approaches (IFCMA) to help reach the targets of the Paris Agreement in the early 2030s, member countries have invested massively in green and digital transition technologies and paved the way to support governance structures that are more networked and co-operative. Regions are instrumental cogs in this new system and work together with national governments to achieve societal goals. All decisions are based on consensus and through compromise solutions. To facilitate this hyper-connectedness, most interactions, whether across levels of government or with citizens, now take place in the metaverse. The main channels to interact with the government are targeted applications and social media using a new generation of wearable technology. Diplomacy is more complex than ever before as relationships between national governments, subnational authorities, platform companies and citizens need to be delicately managed.

How we got here

As environmental degradation reached dangerous levels in the late 2020s, global initiatives like the OECD-led IPAC and IFCMA enabled dramatic reductions in greenhouse gas emissions in the early 2030s and convinced countries that co-operative and co-ordinated efforts are fundamental to safeguard humanity and should be mainstreamed across all policy issues and levels of government. The steady growth of deliberative democracy, citizen engagement and co-creation, reinforced by trends towards more transparency and accountability, have transformed society. With a framework of shared governance and regional co-operation, public institutions, the private sector, non-governmental organisations and civil society have found pragmatic ways to co-operate and maintain the social fabric while protecting the planet.

By 2045...

To achieve carbon neutrality, society relies on a progressive but steady change of the economic system towards a sustainable path combining sufficiency and efficiency. Consumption of goods becomes measured and responsible, and sharing becomes widespread. Transformation in housing (e.g. shared/community living, a ban on vacant housing), work habits, diet and travel change. Nature and biodiversity are appreciated for their intrinsic values. Changes in society's values provide for massive investment in efficiency and renewable energy, and in renewing and retrofitting infrastructure. Reindustrialisation policies are implemented in targeted industrial sectors. These investments are encouraged by financial incentives, defined by policies and regulations based on social and environmental criteria. The impacts are felt across all OECD countries as a global certification system on green infrastructure and products, and strict rules on imports of carbon-intensive goods are established, and international trade slows down to reduce carbon emissions.

Regions and regional governments are essential actors in the green transition alongside national governments and civil society. The co-ordination of the green transition across levels of government is essential for governance systems, and all policy decisions are made based on compromise among all

stakeholders, enabled by higher degrees of trust. Integrated, multi-level policy making means that environmental sustainability strategies are foregrounded across all areas of government.

However, as national and subnational governments strive to make progress on many policy fronts at the same time, seeking consensus from all stakeholders is time-consuming and slows down the transformation of production systems and lifestyles. Other by-products of the significant increase in co-ordination are now becoming more challenging, including the difficulty to agree on major policy reforms, decision paralysis, an expansion of the public sector including new co-ordination bodies, more bureaucracy around decisions and less agility and responsiveness in times of crisis.

Massive breakthroughs in digital technologies, such as blockchain, telepresence and augmented reality, allow immediate and constant access to relevant information and facilitate participation in decision making at all levels and tailored local implementation. The Internet of Things and AI systems provide evidence for policy making. Algorithms also drive day-to-day political life. They are used to customise messages addressed to different groups, assess the chances of success of proposed legislation and both contain and spread fake news. Much of people's everyday and civic life now takes place in the metaverse. Digital space is prioritised over the physical, including limiting carbon emissions, most public services are digitally based and economic life takes new forms on line. These technologies also contribute to more demographic spread and less stark urban-rural differences, as they open more places to live a quality life.

As states and regions increasingly co-operate, decisions are locally scaled and sensitive to spatial issues, and regional disparities have subsided. However, whilst inequalities *within* countries have declined, inequalities *between* countries are widening. The metaverse is where most economic and social activity is taking place and a small group of technology giants provide the hardware needed to access it. Digital infrastructure, therefore, dictates inequality between countries as they differ in their ability to leverage access for their population. Some countries with a large share of youth are experiencing massive growth, while others are ageing rapidly, and their older populations struggle to adjust to cutting-edge technologies and the new socio-economic realities. The convergence process in the OECD during the 2000-20s is being reversed by an ever-growing digital divide, accompanied by rising social tensions. Cybersecurity is a major concern for governments at all levels. Interconnectedness means vulnerabilities can affect many actors. The elevated costs of cybersecurity are a barrier to many countries trying to bridge the digital divide.

Considerations raised by this scenario for the future of regional development policy

- What new relationships/connections may regional development policy makers need to broker in a more inter-connected world (e.g. global technology companies, local community movements)?
- How can regional development policy develop the necessary incentives to ensure hyper-connected regions continue to work together rather than consolidate their power and influence?

The “region-state” scenario

Scenario highlights

In 2045, OECD countries have become patchworks of regions. In this scenario, region-states have increased authority and operate as individual entities with different economic and social value models and standards. Prosperous regions negotiate directly with corporations around the world. In this setting, there is more of an inclination to hold on to the wealth they generate and compete for national and international legitimacy. National governments' limited strength resides in their ability to regulate and mediate rising competition and tensions between regions. The ability to pursue a co-ordinated sustainability agenda is diminished due to fragmented and disconnected agendas. Regional inequalities intensify as the gap between poor and rich regions increases.

How we got here

Public perception that regional governments were on the frontlines of the COVID-19 pandemic and handled the recovery better than national governments strengthened calls for greater autonomy and prompted the rise of independence movements and radical decentralisation across OECD countries. At the same time, the 2020s and 2030s were marked by increasing dissatisfaction with the redistributive model of most OECD countries. Leading regions grew tired of supporting lagging regions and precipitated a general collapse of public trust in national institutions. In the wake of this collapse, regions started to break away and pursue widely different economic models and arrangements within the same country.

By 2045...

OECD countries are fragmented as many regions have become independent or increased self-determination. Regions use their autonomy to move in different directions reflecting their self-interest. Different levels of government compete for legitimacy and social cohesion is low. Accountability is diluted and makes it easy to shift the blame on others. Meanwhile, national governments use the little power they have left to mediate internal conflicts between regions.

Some regions sustain themselves through rewarding relationships with international “patrons” and base their economies on strong external affiliations with global economic actors, while less successful regions struggle with public debt and have to be more frugal. As stronger regions share fewer budget resources with poorer performing regions, fiscal equalisation breaks down. As a result, successful regions become more appealing but less open to migration from poorer regions, which causes territorial disputes. Extreme regional inequalities and structural unemployment are growing in many countries.

Some regions lead the green transition and try to control their local environment to ensure their citizens’ well-being, while others have limited connections to nature and disregard such concerns. The fragmentation of climate efforts and funding creates incoherencies, tensions and divisions. Some regional renewal superpowers emerge but it is based on economic not environmental benefits and there is no consistent policy or facility to redistribute renewal energy. Regional energy systems have proliferated piecemeal and are hard to integrate. The failure to co-ordinate climate action has compromised critical ecosystem services, such as the provision of drinking water.

Some autonomous regions choose to bet everything on their comparative strengths and have over-specialised: many rural regions hold on to their natural resources and intensify the automation of farming (e.g. farm factories), forestry (bioengineered trees) and renewable energy production. Most automated farms are owned and managed by corporations with integrated processing of food and bio-based products. People living in these rural regions are forced to sell their land and move to cities. Large metropolitan regions are getting bigger and have become high-technology hubs but suffer from worsening air quality, congestion and insecurity. Higher-income groups have moved to the suburbs for better living conditions while low-income groups stay in city centres, creating new urban ghettos.

Considerations raised by this scenario for the future of regional development policy

- What new system of collaboration may regional development policy require to achieve effective co-ordination among regions-states and address global challenges?
- How can regional development policy support regional diversity while ensuring a minimum level of social cohesion?

Strategic considerations to future-proof regional development policy

The scenarios illustrate some of the ways in which the world could be substantially different in 2045. In this respect, they serve to broaden the perspectives about what the future may require in terms of regional development and what it could mean for regional development policy. How can regional development policy and policy makers begin to prepare for challenges and opportunities posed by these plausible – although by definition uncertain – futures and by global challenges that will continue to unfold over the next decades?

How can regional development policy prepare for the future

The scenarios serve to highlight how political, social and technological developments can challenge institutional and fiscal systems that operate on the basis of inflexible assumptions. But the coming decades could be highly unpredictable, marked by complex and non-linear systemic change and bringing an acceleration of significant challenges. Two priorities, in particular, emerge to prepare and adapt regional development policy and build up resilience in the next 20 years: building systemic and strategic approaches to fiscal systems, public investment strategies and governance structures to withstand unknown shocks and respond to emerging circumstances and developing strategic foresight capacity at the national and subnational levels.

Building resilient and adaptable fiscal systems, public investment strategies and governance structures

Strengthening subnational fiscal robustness, notably ensuring debt sustainability and bolstering subnational revenues, is the first important avenue to build more resilience in regional development policy. Many trends discussed in this chapter will affect subnational fiscal systems. The tax base of some regions and cities might fundamentally change due to demographic shifts, changes in the labour market and business income, as well as changes in land values and housing prices. This could lead to increasing disparities in fiscal capacity among regions.

A particular challenge for governments is to reconcile on the one hand the objective of ensuring that public debt remains at levels that are sustainable under scenarios that account for the longer-term fiscal impact of megatrends, such as population ageing and shorter-term effects on the public finances of global risks, and, on the other hand, the objective of accommodating public investment in priority areas, such as mitigation and adaptation to climate change, needed improvements in digital and other essential infrastructure, reducing the risk of future shocks like pandemics and dealing more effectively with their consequences when they materialise (de Mello and Ter-Minassian, 2022^[27]).

Across the OECD, national governments in federal countries can foster subnational fiscal sustainability for instance through agreements with regional governments or by creating incentives for those governments to adopt and implement appropriate fiscal responsibility frameworks/fiscal rules. Meanwhile, in most unitary countries, national governments are able to regulate the access of regional or local governments to borrowing and may choose to do so in different ways, ranging from administrative controls to standing fiscal rules or periodic agreements. Furthermore, in view of the increased incidence of unforeseen exogenous shocks, such as natural disasters, national and regional governments may need to take preventive actions, such as purchases of insurance and the maintenance (or increase) of their contingency reserves, including rainy-day funds.

To expand the fiscal space to attend to new spending needs in the future while respecting the requirements of sound fiscal responsibility frameworks, most subnational governments in OECD countries will need to both increase their revenues in an efficiency and equity-friendly way and rationalise their existing spending (de Mello and Ter-Minassian, 2022^[27]):

- National governments can support subnational own-revenue mobilisation efforts in a number of ways, including by helping subnational tax administrations through systematic exchanges of information, joint audits, technical assistance and financial support to their modernisation and digitalisation efforts or by providing appropriate incentives for subnational government to more fully exploit their revenue-raising potential.
- Subnational governments have a number of options to increase their own revenues, such as: broadening the base of existing own taxes, by reducing or eliminating existing exemptions and other preferential treatments and mitigating the impact of the changes on lower-income groups through targeted transfers, if needed; strengthening and modernising the administration of own taxes, e.g. property tax; or adopting or progressively raising “green” taxes and levies, among other possible reforms.

Futureproofing public investment strategies is a second important avenue to build more resilience in regional development. Infrastructure investments will need to be made that anticipate shocks all while avoiding the “green gentrification” of cities and regions, which can make life less affordable for vulnerable populations in the name of sustainable development (OECD, 2022^[6]). Optimising existing infrastructure assets and making them more resilient also needs to be part of long-term infrastructure investment strategies. Upgrading existing infrastructure assets provides a solution for existing asset stock making it more effective, long-lasting and better value for money (OECD, 2021^[28]).

The investment mix should also be balanced and differentiated across places to properly address megatrends and reduce regional inequalities. The investment mix inevitably varies strongly from urban to rural regions, reflecting the specificities and assets of different territories. In addition, megatrends will impact regions differently and thus shape their investment needs. Challenges linked to megatrends, such as localised flooding or urban heating, are also profoundly local and place-specific. This means not only a need to target the investment mix to each place but also a need to balance investment in hard infrastructure with investment in human capital to maximise the potential for long-term growth and sustain a continuing improvement in living standards, environmental quality and well-being (OECD, 2022^[6]).

Making a multi-level governance structure more adaptable is a third important avenue for resilient regional development policy. To manage differences in terms of subnational autonomy, responsibilities or capacities, experimental governance that embeds learning-by-doing and trial-and-error processes into policy design can help governments to develop better approaches to address different local needs. A willingness and capacity to experiment with policy approaches – testing, adjusting and retesting – is particularly relevant when confronted with uncertainty, as megatrends can dramatically shift and shocks can occur, catching policy makers off guard and requiring a rapid policy response.

Such approaches can be combined with asymmetric decentralisation, which many OECD countries have moved towards in recent years. Asymmetric decentralisation arrangements can help regions, cities and rural areas that are particularly affected by global changes to better respond to opportunities and challenges. These types of arrangements allow subnational governments to adopt institutional and fiscal frameworks that are better targeted to local capacities and may allow them to better respond to local needs. This trend is likely to continue and can help to adapt governance to differences in regional, metropolitan and local conditions and capacities (OECD, 2019^[9]).

Developing the strategic foresight capacity of policy makers at the national and subnational levels

Developing the foresight capacity of policy makers is critical to constantly perceive, make sense and act upon ideas about future change emerging in the present. Building such capacity can help policy makers to envisage new solutions, stress test plans to make them more robust, develop early warning systems for threats and opportunities, and advance regional development policy objectives under conditions of continuous change.

Governments face barriers to the effective development and use of strategic foresight in the context of a still-dominant culture of forecast-based policy planning. As a result, high-quality policy-driven foresight is underused. Investing in foresight capacity for regional development policy making also requires overcoming day-to-day challenges (e.g. under-funded mandates) and taking a long-term view.

At the national level, avenues to develop and strengthen strategic foresight capacity for regional development policy include:

- *Leveraging territorial data to inform foresight:* Moving towards more proactive policy making requires mainstreaming strategic foresight and planning across sectors and jurisdictions. At a time when territorial data and indicators are increasingly driving regional development policy decisions, the ability to harness and make sense of that data as part of territorial foresight approaches becomes even more important. Policy makers must ensure that they either have the capacity to make data-driven decisions in the future or that other departments with that capacity are fully briefed on key trends and issues impacting regions to play a supportive role.
- *Promoting a culture of innovation and change management:* Governments can be challenged by the pace at which change and shifts occur. Promoting a culture of innovation within government will be critical to ensuring that megatrends are given due consideration within the decision-making process. The use of futures labs and scenario planning exercises, which tackle forward-looking issues through creative multi-stakeholder engagement, is one potential mechanism to promote a culture of adaptation, continuous improvement and future thinking. The focus on participatory forward thinking involving people with a common issue can strengthen the ownership of the foresight topic, possible territorial consequences and pointers for policy making.
- *Scanning the horizon over the long term:* Maintaining a system to identify weak signals of change is a useful approach to anticipating possibilities for the future and designing forward-looking scenarios. Such long-term planning approaches should bring together experts from different fields related to regional development. Strategies and decision-making processes should also be informed by actors on the ground, i.e. subnational authorities, private actors and citizens.

At the subnational level, avenues to develop and strengthen strategic foresight capacity include:

- *Optimising existing foresight work:* More and more regions and cities are using foresight to inform their policy making but these initiatives are often scattered. The sharing of existing foresight work, whether applied to specific sectors (e.g. climate change, future mobility) or to specific places, would provide regional actors with a considerable bank of knowledge and experiences. Similarly, the pooling of foresight methods and tools would equip these actors and ensure the foresight approaches they use have been stress tested.
- *Relying on networks of foresight practitioners:* Developing a community of practice on foresight at the subnational level would facilitate the dissemination of good practices and help policy makers to strengthen capacities and skills at the subnational level. These networks could support peer learning (e.g. between elected officials, between foresight officers, etc.), which is critical to ensure know-how and skills transfer. Bringing together the insights and knowledge of a wide range of different practitioners allows for approaching complexities and uncertainties where no quantitative information about the future is available.
- *Training subnational public officials to become more future-literate:* Raising awareness and building knowledge on cross-cutting disciplines can enable regional and local civil servants to better understand major systemic transformations at work, notably the green, digital and energy transitions. The ability to work as a team and in project mode should be part of such training. Stepping up regional and local engineering capacities is a necessity to enable subnational actors to prepare for, rather than react to, future challenges. This includes strengthening technical teams within regional and local administrations, notably their capacity to design and implement collective

strategies. Finally, foresight training should also target elected officials so they can better articulate their political vision with effective action on the ground.

Where should regional development policy be headed next?

Taken together, the three scenarios presented in the chapter reveal several strategic considerations for the future of regional development policy. These considerations are the result of brainstorming exercises during the foresight process. These are not exhaustive but aim to stimulate reflections and may serve as a stepping stone for future foresight reflections on regional development.

How would the core purpose of regional development policy need to adapt in the future?

The scenarios shed light on how the world could evolve in any number of directions over the coming two decades, each raising new implications for regional development policy. For instance, the digital transition could divide regions between those that stand to win or lose from it and could force regional development policy to focus investments only on a subset of regions at risk of staying digitally behind. As the territorial impacts of megatrends continue to evolve, what new purposes should regional development policy be ready to achieve in the future? These might include:

- Building foresight capacity at the subnational level (e.g. establishing regional/local foresight competency centres).
- Setting sustainable and digital requirements at the subnational level (e.g. regional sustainability and cybersecurity standards).
- Expanding inter-regional, inter-municipal and cross-border co-operation and optimising peer-to-peer learning opportunities to better understand and address global changes.
- Supporting more localised and clean production systems and manufacturing.

What mission would remain central to regional development policy?

The scenarios illustrate how the values and priorities of central and subnational governments could evolve. Different economic and social models and standards could proliferate within countries and polarisation may grow. Long-held values of regional development policy (e.g. spatial differentiation, multi-level governance, place-based approach) could be increasingly contested. In this context, what should remain the central mission of regional development policy?

This might include:

- Safeguarding regional well-being in an increasingly virtual world.
- Providing targeted, place-based support to address increasing territorial green and digital divides.
- Placing local knowledge at the centre of adaptation strategies to global changes.
- Ensuring continued connections and communication channels across levels of government and among regions.

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