

Ageing population, emerging technologies and fiscal sustainability can influence EU's path to sustainable future

Reaching Europe's goal of a sustainable future faces many hurdles. The EEA report '[The sustainability transition in Europe in an age of demographic and technological change](#)' explores fiscal and financial strategies posed by an ageing European population and by the technological transition, which is neither guided by nor primarily concerned with sustainability aims. The consequences of the demographic transition may be eased by the introduction of new technologies as they can support the economy amid a shrinking working force.

The EEA report says the demographic and the technological transitions could dominate not only fiscal and financial systems but may also affect European environmental policy plans meant to shift the EU to a sustainable future. The release of the EEA report follows [a European Commission report on the impact of demographic change](#).

The EU has already embarked on a path towards carbon neutrality. This involves a fundamental transformation of the food, energy and mobility systems which is a key part of the European Green Deal and its wide range of specific strategies and proposals. Both fiscal and financial policy instruments have a critical role to play in this transition – from enabling experimentation and innovation and correcting market incentives to ensuring a fair share of the costs and benefits across society, the report finds. However, the fiscal and financial systems could potentially face significant difficulties due to the social and economic changes brought by changing demographics and new technologies.

So how will this impact Europe's environmental policy targets and goals? The report builds on previous EEA work on the green economy and the sustainability transition, analysing how policymakers can better prepare for the challenges posed by demographic and technological transitions. The report highlights how these transitions have direct connections to the environment and how they have important indirect connections to sustainability strategies through the fiscal and financial systems. Key areas analysed in the report include the limits of green technologies and eco-innovation, fiscal competition among public policy areas and how this threatens the transition, and the role of sustainable finance for the transition process.

An ageing population, evolving technologies, fiscal systems and the environment

The ageing of Europe's population will lead to changes in the level and composition of consumption. For example, an older population is expected to

consume more house- and home-related services, but less transport-related services. This will result in changes in energy consumption and emissions. An ageing EU population is also expected to have a negative effect on fiscal sustainability because it can increase the need for spending on social protection and health, while also threatening to erode the tax base through a reduced labour force. Population ageing will therefore have diverse, interrelated effects on sustainability transitions and on the public institutions that seek to navigate societal change.

Gains in resource efficiency and decarbonisation of the economy are expected to arise from technological innovations especially when combined with social and policy innovations, for example, in the circular and sharing economies. However, the report cautions that there are certain drawbacks to be considered. Productivity gains could worsen labour substitution, increasing the pressure on government budgets through a shrinking tax base. This in turn affects government spending and investments.

Additionally, increased artificial intelligence technology and automation, used in self-driving cars and sharing platforms, may be not as environmentally sound as expected. These emerging innovations may require large amounts of additional energy or have uncertain effects on the demand for resources.

In coming decades, demographic changes as well as achieving stricter EU environmental and climate policy targets are expected to erode current tax bases. Public finances will play a major role in enabling sustainability transitions through investments in innovation, infrastructure and ecosystems but these will compete with expanding demand for spending on areas such as pensions and health.

Overall, in this multiple-transition setting environment and climate actions can be seen to take up a more central position in macro-level economic, financial, fiscal and social policies. This, in turn, could enable Europe to achieve a “just” sustainability transition in coming decades that addresses social, economic and environmental objectives in a balanced and fair way across society.