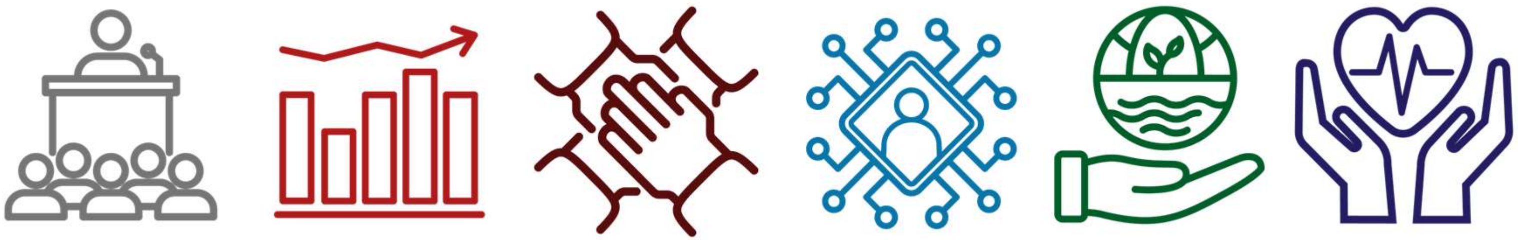
Future Trends for Scotland: Horizon Scanning 2024-25

TREND PACK



In the service of Scotland

Scottish Government
Riaghaltas na h-Alba

About Scottish Government Horizon Scanning

Foresight is a key tool to improve anticipation, prevention and preparation for different possible futures. It uses insights from the past and the present to explore what the future might look like and how we might shape it and be ready for it. The Scottish Government's Strategy Division undertakes regular horizon scans to anticipate issues that might grow in importance for Scotland over the longer term, to support decision making and preparedness.

Over the course of 2024-25, the Scottish Government led a Horizon Scanning project seeking to identify and understand key trends, risks and opportunities that could be important for Scotland over the next 10 to 20 years.

The aims of the project were to:

1. Enhance our understanding of key trends, risks and opportunities and use these insights to:
    - Inform and shape key strategic and delivery priorities for a stronger future for Scotland
    - Highlight key topics requiring deeper strategic investigation to ensure that Ministers are fully informed of the issues that may impact Scotland in the longer term, and are supported in building capacity now to address these.
2. Increase awareness of the value of the Scottish Government's Horizon Scanning and foresight work. Help build capability and support longer-term planning and delivery among internal stakeholders, as well as with partners in the wider public sector, voluntary sector and private sector in Scotland.

We are publishing this material as a contribution to wider debate about future trends affecting Scotland, and to support organisations in their own futures planning and preparedness work. The Scottish Government is already using this material to foster internal discussions and workshops around future preparedness across diverse policy areas.

The Scottish Government would like to express its gratitude to the project advisers, interviewees, workshop participants and reviewers who have contributed to the development of this material.

Horizon Scanning: Project methodology

- The first phase of this Horizon Scanning project included a review of published global evidence, primarily drawing on data and evidence from global institutions and multilateral organisations, to identify major global trends with the likelihood of affecting the UK and Scotland. Through this process, major trend categories and a set of trends of potential relevance for Scotland were identified.

- This was followed by a review of published evidence relating to risks and trends affecting Scotland and the UK to understand which trends are likely to be most important for Scotland, and to identify evidence for how these are developing.

- Alongside the published evidence review, the team undertook semi-structured interviews with over 100 internal and external stakeholders. External stakeholders were drawn from a wide range of public sector, private sector, third sector and academic institutions. The pool of stakeholders who were interviewed was designed to ensure coverage of each of the major trend categories identified during the evidence development.

- Interviews followed a broad set of guide questions, based loosely on the 'seven-questions approach', in order to explore interviewees' views on which trends, risks and opportunities are of most importance for Scotland. This was combined with questions intended to capture interviewees' expertise in relation to specific areas of interest. The interviews were used to support prioritisation of the identified trends, to explore specific questions and highlight gaps in the evidence base and to provide challenge and diverse perspectives to broaden the analysis. The interview material was anonymised, analysed and coded to identify key themes and topics. Interview insights are presented here on each slide, in interviewees' own words.

- The selection of trends in this pack was developed based on the review of published evidence in combination with the interview analysis. Scottish government analysts reviewed all the material in order to synthesise the list of trends presented here. This material was then used as an input for a series of Horizon Scanning workshops which took place in November 2024.

About this Horizon Scanning trend pack

- Through the Horizon Scanning process, we identified **60 key trends that we think may be important for Scotland over the next 10-20 years**. This trend pack summarises each of these 60 trends in a single page.

- The trends are organised into six thematic areas: Politics and Governance; Economy; Society and Communities; Technology; Natural Resources, Energy and Climate Change; and Health. For each theme, we have identified several subthemes.

- This trend pack briefly summarises and sets out analysis underpinning each trend. Each slide draws on both published evidence and interview insights. Interview insights are non-attributed.

- The material for each trend has been kept deliberately concise, so that readers can see the key findings at a glance. We are not endeavouring to provide a comprehensive or detailed overview of each topic.

- Where possible, for each trend we have tried to present available relevant evidence from Scotland. Where we present evidence drawn from UK or other wider contexts, this is indicated in the text.

Politics and Governance	Geopolitics and global development
	Conflict
	Migration
	Democracy, polarisation and misinformation
Economy	Living standards and inequality
	Labour market and skills
	Trade, investment and supply chains
	Fiscal sustainability and financial markets
Society and Communities	Demography
	Poverty and wealth
	Education and justice
	Society and culture
	Housing and infrastructure
Technology	AI and emerging technologies
	Green technologies and life sciences
	Global technology companies and data
	Cyber
Natural Resources, Energy and Climate Change	Climate change and just transition
	Biodiversity and soils
	Water and marine ecosystems
	Food, agriculture, forest, land and waste
Health	Population health
	Infectious diseases
	Mental health
	Health systems

Cross-cutting themes: Interconnections between trends

- It is recognised that these trends **are highly interconnected across thematic boundaries.** By presenting the trends in thematic groupings, it is not possible to reflect all the interconnections and drivers that link and underpin them. Developing understanding of these thematic interconnections was an important focus for a series of workshops which were undertaken as part of the project in November 2024.

- In these workshops, participants also identified **'foundational' trends** – trends that appear to be driving change in fundamental and cross-cutting ways, such as demographic change, technological change, climate change and changes in the ways in which people use and access information. Feedback from participants on the ways in which trends interconnect, reinforce or work in opposition to each other was used to develop a series of 'trend clusters' linking trends across different thematic areas.

- The clusters of trends identified through the workshops were:
    - Climate change and eco-system collapse
    - Fiscal sustainability and public services
    - Geopolitical challenges – Scotland in an uncertain geopolitical environment
    - Lifelong learning, education and skills
    - Mental health, wellbeing and loneliness
    - Mis- and disinformation, trust, democracy and polarisation
    - Population, ageing and health
    - The adoption of AI is increasing
    - Wealth, inequality and socio-economic wellbeing.

- The workshops are described more fully in the accompanying report **Future Trends for Scotland: Findings from the 2024-25 Horizon Scanning Project**.

Cross-cutting themes: Inequalities and Public Engagement

Inequalities and future trends

- The trends that affect Scotland's future will have differential impacts for different equalities groups. Intersecting inequalities and disadvantage may reduce the resilience or the ability of both households and communities to adapt to future challenges, or to take advantage of future opportunities. In many cases, the trends have the potential to drive and deepen inequalities even further.

- While the brief trend descriptions here reflect some of the ways in which the trends interact with inequalities, a systematic review of evidence relating to all equalities dimensions of the trends described in this pack was outside the scope of this project. We hope that this work provides a useful basis for future analysis to explore the inequalities dimensions of horizon trends more deeply.

- The Cross-cutting Insights Section provides examples of a few of the ways in which the horizon trends are likely to interact with inequalities.

Public engagement on Horizon Scanning

- While it was not possible to undertake extensive public engagement as part of this project, we recognise the importance of understanding public views about future trends, risks and opportunities.

- We have undertaken small-scale direct engagement with young people, described on the next page in more detail.

- We also integrated a series of questions on views of the future into polling by YouGov for the Scottish Government with a representative sample of the Scottish public. This data was gathered in July 2024 and the results are summarised in the Cross-cutting Insights Section.

Cross-cutting themes: Children and Young People

- We recognise that the trends identified in this Horizon Scanning work are likely to affect children and young people differently, or disproportionately, compared with impacts for older generations.

- This is in part because children and young people must live with identified trends for longer, and the long-term future has particular importance for those who are youngest now. Young people may also experience societal transformations differently from older generations because they are often at the leading edge of change or technology adoption. As such, their perspectives may differ from those of older generations and are particularly valuable for foresight work.

- Recognising the importance of young people's perspectives in this work, the Scottish Government has undertaken small-scale direct engagement with young people as part of this Horizon Scanning project. This work was undertaken with support from the UK Government Office for Science (GO-Science), working in partnership with Futures researchers from Demos Helsinki and with the Scottish Youth Parliament.

- This project combined evidence gathering and participatory futures activities to explore future trends with a small group of young people, piloting a methodology for undertaking Horizon Scanning work with young people which can be used by others in future.

- The trend material in this pack was used as a starting point for the engagement with young people but does not reflect the outputs of this work. The engagement with children and young people is fully described in a separate report: **Young People and the Future of Scotland: A Participatory Horizon Scanning Engagement** . The Cross-cutting Insights Section of this pack provides some examples of the ways in which horizon trends may impact on children and young people differently or disproportionately, drawn from evidence collection undertaken to support the engagement with children and young people.

Horizon Scanning: Project limitations

Users should be aware of a number of important limitations in relation to this work:

- The Horizon Scanning project team has made decisions on which trends to include, how broad or specific the trends are, how to reflect published literature and interview responses, and what to exclude. These decisions have been based on wide research and analysis, interviews and workshops. While we have confidence that the trends we have identified are important, it is likely that our list of 60 trends **does not represent all possible trends that could impact Scotland** over the horizon time period.
- This trend pack presents very concise summaries of a few key findings for each trend. These are **not comprehensive summaries of all available published evidence or data** for each trend. The ways in which these trends develop and the impacts they have may differ between urban and rural areas, or across different parts of Scotland. It has not been possible to include extensive data on subnational differences within these summaries.
- The majority of this trend material was pulled together in October 2024 as an input for a series of Horizon Scanning workshops. While we have made a few necessary updates to the trends based on stakeholder feedback and to reflect key new evidence that affects our conclusions, **the majority of this material has not been updated since October 2024**.
- This trend material presents evidence about likely future trends based on available evidence. Although we may draw on data from projections, forecasts or models, **our trend descriptions are not predictions, forecasts or models**.
- We have made a conscious choice to present material on trends for which there is evidence that the trend is already occurring, rather than potential new trends that may develop in the future. This means that our analysis is rooted in today's world and **may not reflect more unknown or unexpected possibilities**. We also acknowledge that many of the trends identified in this pack are negative, this may reflect a wider **'negativity bias'** arising from the literature on risk that has informed this work.
- **The material in the pack does not represent Scottish Government policy**. It does not represent the views of Scottish Government ministers

Contents

Contents

Click the links below to navigate between the different thematic sections of the pack:

Themes

Navigating this trend pack

- This trend pack includes six thematic sections. Each thematic section opens with a summary of the key trends.

- Each trend is then explored in a slide which includes:
  - Some evidence/ background on each trend
  - A chart (where applicable)
  - Insights from stakeholder interviews relating to that trend.

- Following the thematic sections, a short cross-cutting section pulls together some brief insights on equalities and on children and young people from across the themes, as well as some data gathered in July 2024 on Scottish public opinion about the future.

- A list of evidence sources is provided for each theme at the end of the trend pack.

List of acronyms used

ADHD	Attention Deficit Hyperactivity Disorder
AI	Artificial Intelligence
AMR	Antimicrobial resistance
APS	Annual Population Survey
ASN	Additional support need
CBI	Confederation of British Industry
CMD	Common Mental Disorder
EIU	Economist Intelligence Unit
EU	European Union
FCDO	Foreign, Commonwealth and Development Office
FDI	Foreign Direct Investment
FT	The Financial Times
GDP	Gross Domestic Product
GDPR	General Data Protection Regulation
GVA	Gross Value Added
HPV	Human papillomavirus
HBSC	Health Behaviour in School-aged Children
IMF	International Monetary Fund
IPPR	Institute for Public Policy Research
NATO	North Atlantic Treaty Organization
NatCen	National Centre for Social Research
NCA	National Crime Agency
NRS	National Records of Scotland
OBR	Office for Budget Responsibility
OECD	Organisation for Economic Co-operation and Development
OFCOM	Office of Communications
PFAS	Per- and polyfluoroalkyl substances
PISA	Programme for International Student Assessment
PWC	PricewaterhouseCoopers
SEPA	Scottish Environment Protection Agency
SFC	Scottish Fiscal Commission
SIMD	Scottish Index of Multiple Deprivation
SSEN	Scottish and Southern Electricity Networks
UK	United Kingdom
UN	United Nations
UNSC	United Nations Security Council
US	United States of America
WEF	World Economic Forum
WHO	World Health Organization
WTO	World Trade Organization

Horizon Trends

Politics and Governance

Scottish Government Horizon Scanning

Politics and Governance

Horizon trends

Geopolitics and global development

Trend 1
The global geopolitical environment is increasingly unpredictable

Trend 2
Multilateral institutions are increasingly unable to respond to global challenges

Trend 3
Progress in global development and inequality is stalling

Conflict

Trend 4
The number and severity of conflicts is increasing globally

Trend 5
Conflict is changing, incorporating new technology and actors and expanding into space and cyberspace

Migration

Trend 6
Voluntary and involuntary migration are increasing

Democracy, polarisation and misinformation

Trend 7
Democracy faces challenges globally and dissatisfaction with political institutions in the UK has increased

Trend 8
Political and social polarisation are increasing

Trend 9
Mis- and disinformation are a growing risk in the UK, and trust in institutions is falling

Insights

"Recalibration is needed of the UK's place in the world – and Scotland as part of that. The UK is still trying to behave as a superpower, but we are not really in any of the relevant groups… We need to be more collaborative."

"Five to ten years ago, high-end cyber weapons were tools of nation states, but now …the barrier to entry is much lower. We either need to get much better at defence or accept more attacks… Within 10-20 years we should expect attacks against critical national infrastructure."

International and rest-of-the-UK net migration to Scotland are projected to continue to be positive, and to constitute the main driver of population growth in Scotland over the next 25 years.[1]

A study tracking satisfaction with democracy in 12 countries found the percentage of people who said they were satisfied with the way democracy is working fell in 9 of the 12 countries, with the greatest fall in the UK: from 60% in 2021 to 39% in 2024.[2]

Trend P1: The global geopolitical environment is increasingly unpredictable

Global geopolitics are entering a more volatile insecure phase where norms, institutions and alignments that characterised post-WW2 global relations are increasingly contested

- The next few decades are likely to see intensifying 'great power' rivalry between the US/China,[1] and a growing focus on the 'Indo-Pacific' region, which accounts for 60% of the global population and 60% of global GDP.[2]
- The US is turning away from multilateral and globalist stances towards more unilateral and nationalist foreign policy, with unclear implications for international cooperation.[3]
- Countries in the Global South seek multi-alignment and multipolarity, 'hedging' to maintain relations with Russia/China and with 'the West'.
- Fragmentation and formation of new alliances/blocs and networks around interests are likely, as well as expansion of the influence of large middle powers such as the BRICs.[4]
- The EU may grow: Future possible EU enlargement may lead to a two-speed/concentric circle model.

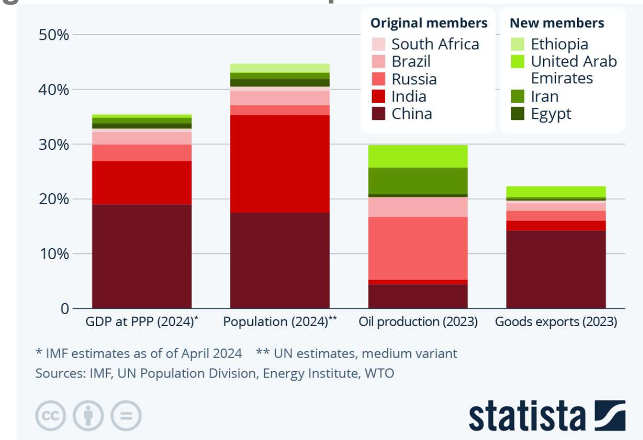
A new 'green world order' is emerging

- Mid-sized and low-income states hold a large share of the critical minerals and resources required for decarbonisation. This will redistribute geopolitical leverage.[3]
- Countries and trading blocs are 'derisking' supply chains including 'vertical globalisation' around strategically important assets and increasing protectionism.[4]

UK global role and political/economic relationships as a 'mid-sized offshore power' outside of major blocs are changing and uncertain[5]

- UK and/or Scotland may seek to develop closer relationships with the EU.

The global clout of the expanded BRICS



Source: Statista (2024)[6]

Interview insights

Interviewees reflected on geopolitical realignments including increasing multipolarity and the roles of Russia, China and the EU. Several reflected on the changing nature of UK and Scotland's global role and status outside of the EU.

- "Recalibration is needed of the UK's place in the world – and Scotland as part of that. The UK is still trying to behave as a superpower, but we are not really in any of the relevant groups. Risk of becoming very isolated. We need to be more collaborative."
- "Scotland needs to be more intentional in working out what sort of thriving economy and state we want to be and then forging intentional global partnerships and alliances... and use our international brand …for our benefit in progressing towards that."

Trend P2: Multilateral institutions are increasingly unable to respond to global challenges

Fragmentation, new alliances/rivalries and the shifting balance of power globally are creating challenges for global cooperation

- Institutions governing the global economy and trade (World Bank, International Monetary Fund (IMF) and World Trade Organisation (WTO)) face increasing calls for reform to reflect the changing global balance of power and more diverse interests.[1]
- The governance of global challenges may move away from multilateral towards more plural, 'nested' or ad hoc approaches.[2]
- The UN faces an ongoing funding crisis.[3, 4]

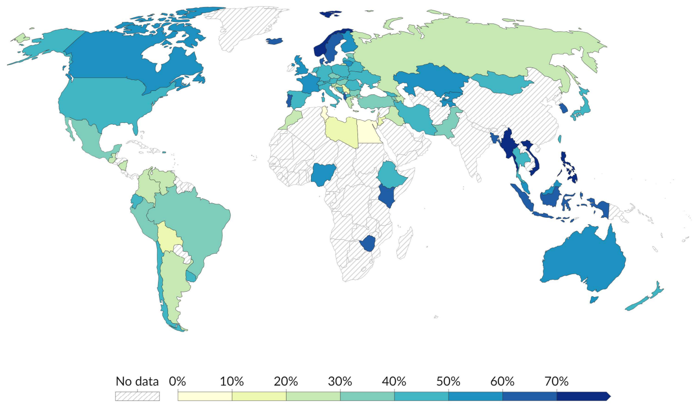
Multilateral processes for governing or resolving conflict are paralysed

- Calls for the UN Security Council reform to end the veto and promote wider representation have seen limited meaningful progress.
- Nuclear non-proliferation efforts are 'on life support'.[5]
- No new multidimensional UN peacekeeping operations have been deployed since 2014.[6]

Progress in responding to urgent global challenges is slow and difficult

- Multilateral annual climate negotiation processes continue but with slow progress on key issues such as climate finance.[7, 8]
- Post-pandemic multilateral efforts to agree a new Pandemic Accord and measures to support better global health governance have been affected by disinformation and lack of state willingness to compromise.[9]
- The multilateral system is struggling to develop responses and new governance mechanisms for emerging areas such as space, cyberspace, the oceans and artificial intelligence (AI).[10]

Share of survey respondents stating they trust the UN



Data source: Integrated Values Surveys (2022) OurWorldinData.org/trust | CC BY
Note: Trust here corresponds to responding to have "a great deal of confidence" or "quite a lot of confidence".

Source: Integrated Values Survey (2022) processed by Our World In Data[11]

Interview insights

Interviewees reflected on the growing challenges facing global cooperation. They reflected on Scotland's potential role as a global actor, and the need for policy coherence to support credibility in this.

- "Continuing trend for international space to become more contested, more actors,... difficult terrain for anyone to navigate."
- "[Scotland] can focus not just on trading partnerships, but also on advocacy partnerships raising collective voice to focus on climate justice or economic transformation."
- "Scotland cannot be a credible climate justice actor in the international space if we do not work on domestic factors. So, it is very problematic that Scotland has missed another climate target."

Trend P3: Progress in global development and inequality is stalling

Development gains are stalling/reversing

- Levels of extreme poverty fell rapidly between 2010-19. Since then, progress on reducing poverty has stalled. Just 16% of the Sustainable Development Goal targets are on track.[1]
- Developing country debt is at record levels,[2] with the poorest countries spending four times more on debt servicing than a decade ago.[3] The development financing gap is growing, estimated at $4.2 trillion annually.[4] International aid fell in real terms in 2024 and is expected to fall further in 2025 given US and UK FCDO aid cuts.[5]
- While some countries will make gains from global decarbonisation, a nexus of conflict, climate change and poverty means others may fall further behind – concentrated in sub-Saharan Africa and parts of Asia. This will drive deeper insecurity, inequalities and poverty. [6]

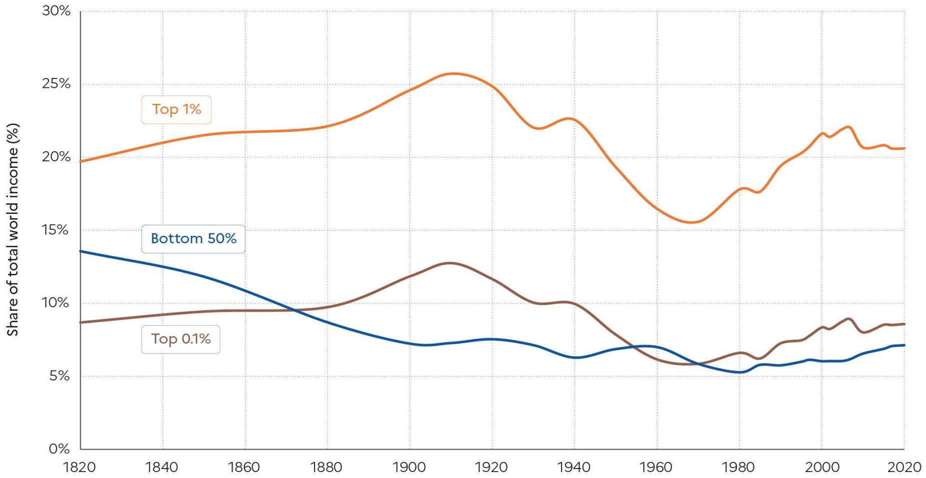
Wealth and income inequality remain high, but the middle class is growing in Asia in particular

- Inequality between countries has decreased, but inequality within countries is increasing sharply. The global bottom 50% income share remains historically low despite growth in the emerging world in recent decades.[7] Women make only 35% of global labour incomes.[8]
- A new, young middle class is growing rapidly in Asia – especially in China and India – and will drive consumption trends and economic growth.[9]

Populations in Africa and South/Central Asia are growing and young

- While populations in Europe and North America are projected to decline, countries in sub-Saharan Africa are expected to continue growing through 2100 and to contribute more than half of the global population increase anticipated through 2050.[10]

Global income inequality 1820-2020



Source: World Inequality Report (2022)[11]

Interview insights

Interviewees talked about the need for transformation of the global economic system and the role Scotland could play in supporting this. Others considered the challenges and opportunities that global development trends pose.

- "There is growing recognition that this extractivist capitalist system needs to change...Increasingly we see calls for transformation in the FT, The Economist, Davos, etc.."
- "Wealth concentrations across China and India and outside of typical contexts where we engage... Conversely, by 2030 global poverty will be concentrated in Africa."
- "…we have added the wellbeing economy goals on to the traditional measures of economic success…Wellbeing indicators need to replace traditional goals."

Trend P4: The number and severity of conflicts is increasing globally

Conflict is increasing, and becoming increasingly deadly[1]

- The number of conflicts globally has been increasing over the past decade. Conflict fatalities have also increased from 2021 onwards. Ongoing conflicts in Europe, Middle East and Sahel continue or are escalating with security and economic implications for Europe/UK. There is little progress in resolving conflicts.[2]
- The global number of nuclear warheads kept on high operational alert increased in 2023. While the overall number of nuclear weapons is declining, the US and Russia are modernising their nuclear capability. China, India and Pakistan continue to build inventories. Russia is distancing itself from arms control agreements.[3]
- There is a growing possibility of conflict in the Pacific. Climate change impacts may increasingly drive future conflicts.[4]

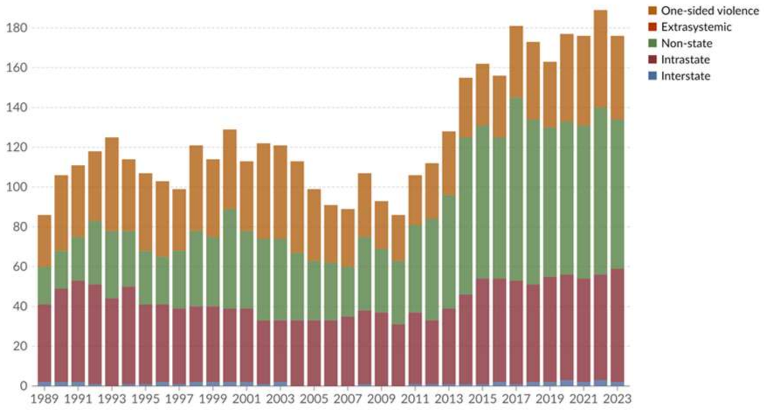
Military expenditure is increasing

- World military expenditure totalled $2443 billion in 2023 – the highest level recorded – and spending per person was the highest since 1990 at $306.[5]
- European security is dependent on NATO, and US future support for NATO is unclear:[6] European countries and UK are increasing military spending and cooperation. European NATO members' defence spending increased by 18.7% between 2022-23.[7] UK military spending increased by 7.9%; UK has committed to increase defence spending from 2.3% to 2.5% of GDP.[8]

Arctic regions have increasing strategic importance

- Military capability in Scotland plays a key role in the defence of the UK's interests and critical infrastructure in the North Atlantic and the Arctic.[9, 10]

Number of armed conflicts in the world, by year



Source: Uppsala Conflict Data Program processed by Our World in Data (2024)[11]

Interview insights

Interviewees highlighted increased defence spending and a global realignment towards militarism – with the opportunity costs this entails – impasses in conflict governance, and the links between conflict and climate change. Some discussed Scotland's strategic role in the Arctic.

- "Going from 2-2.5% -3% of GDP is starting to get real currency."
- "What we see already is a lot of conflict and an inability to intervene and solve it. We don't even have ceasefires. The world has more conflicts going on now almost than ever."
- "The struggle for climate justice and to tackle climate change, biodiversity loss and ecological collapse is being overshadowed by an increasingly militaristic and conflict-focused world."
- "Northern and Arctic nations are going to be very much in the forefront of NATO's thinking about defence, probably to an extent we haven't seen before."

Trend P5: Conflict is changing, with new technology and actors and expanding into space and cyberspace

Conflicts increasingly play out in space, cyberspace, and across social, economic, political, technological and military dimensions[1, 2]

- Conflictual and adversarial relations between states are increasingly characterised by hybrid and ‘grey zone’ activities. Conflicts increasingly involve non-state actors including militias, private militaries and security companies, often with the support of external parties. This proliferation makes conflicts more complex and intractable.[3]
- Technological advances including AI are being harnessed for military purposes such as autonomous weapon systems, new means of cyber and information warfare, ‘decision support’ and surveillance and targeting. There are rapid increases in the use of weaponised drones by state and non-state actors. AI may also have applications in humanitarian operations.[4]

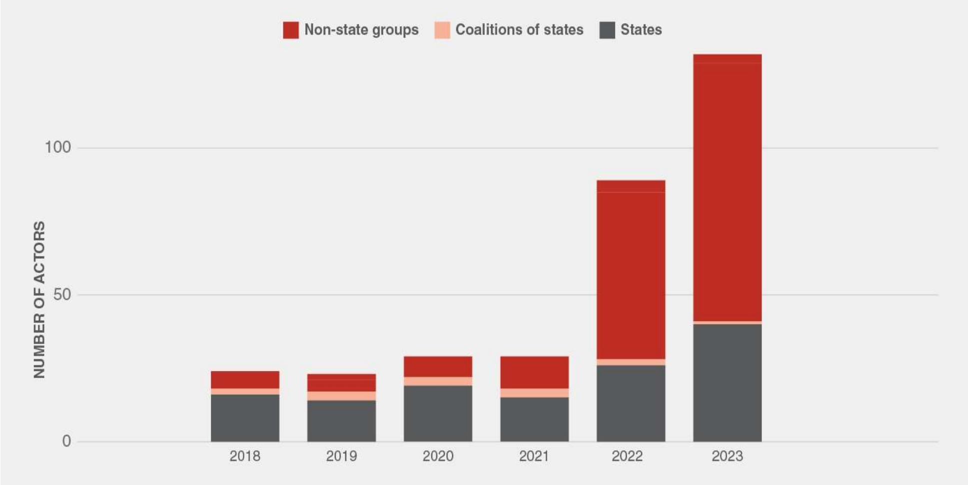
Space is an increasingly important frontier for global confrontation as actors compete for assets and dominance

- Space is crowded and increasingly accessible. Commercial interests are increasingly active in the space-military complex. As new actors expand activities the likelihood of flashpoints is more acute.[5]
- Space assets such as satellites support critical civilian and military infrastructure. Scotland has an important developing space industry, with military and commercial applications. This could make Scotland’s space industry a target for hostile actions.[6]

Cyberwarfare plays a growing role

- Attacks on essential civilian infrastructure and disinformation campaigns are increasing. The barriers to entry are low: cyberattacks can be contracted out to private groups or individuals, with lines between state and criminal actors increasingly blurred.[7]

Use of drones by group type, by year



Source: Institute for Economics and Peace (2024)[8]

Interview insights

Interviewees focused on the threats to Scotland/UK posed by cyberwarfare, the blurred lines between military and civilian infrastructure and the role of Scotland’s space industry in defence and military applications.

- “Five to ten years ago, high-end cyber weapons were tools of nations states, but now the commercialisation of malware means the barrier to entry is much lower. We either need to get much better at defence or accept more attacks… Cyber is increasingly a proxy for traditional armed conflict. Within 10-20 years we should expect successful attacks against critical national infrastructure.”

Trend P6: Voluntary and involuntary migration are increasing

Migration to OECD countries reached a record high in 2022[1]

- A combination of demographic transition, global inequalities and pressures from climate change and conflict is likely to result in continued high migration and refugee flows, from low-income countries with younger populations towards higher-income countries with high labour needs.
- Support for anti-immigration political movements is growing across Europe.

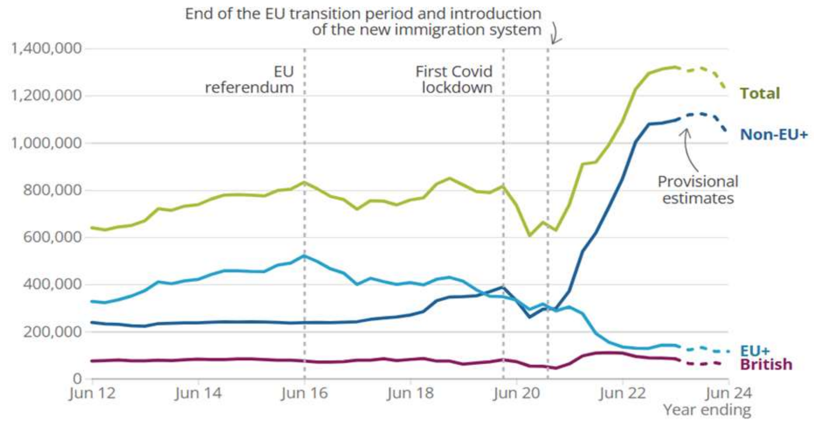
Net migration to Scotland is projected to be the primary driver of population growth over the next 25 years

- UK long-term net migration has been increasing since the mid-1990s. In the year to June 2024, net migration was estimated at 728,000,[2] driven by visas for study and for health and care workers.[3] Migration from non-EU countries increased rapidly since 2021 while migration from the EU fell.[4]
- Between 2020-21 and 2022-23, net migration to Scotland almost tripled, from 22,200 to 61,600 – of which 47,700 was net international migration. This was due to growth in international student numbers, and fewer people leaving Scotland.[5]
- International and rest-of-the-UK net migration to Scotland is projected to constitute the main driver of population growth over the next 25 years.[6]
- Migrants are generally younger than the population as a whole. The most common age groups for international moves to and from Scotland in the year to mid-2023 were 16 to 34 years.[7]

Numbers of forcibly displaced people globally have increased rapidly since 2011. The majority are in neighbouring and low- and middle-income countries[8]

- Asylum applications in the UK rose from 2010-2022. Across the UK, Glasgow is the local authority with the most housed asylum seekers.[9]
- Recent UK refugee resettlement schemes have included schemes for Syrians, Afghans and Ukrainians.[10] By the end of 2024, 40,667 visas had been issued for Ukrainians to come to Scotland, and 28,334 arrivals were registered.[11]

Number of migrants to the UK, by year and type



Source: ONS (2024)[12]

Interview insights

Interviewees spoke about migration and its impacts in relation to climate displacement and in response to demographic pressures.

- “There is a very young population in Africa… migration of young people from African countries may be an important workforce response to demographic challenges.”
- “The increased rigidity of national borders is a major problem for populations moving in response to climatic perturbations. Both temporary and longer-term population movements should be expected in response to climate events.”
- “…increase in the number of displaced people globally, with questions on how that’s going to affect Scotland, given our experience of refugees, asylum seeking and displaced communities."

Trend P7: Democracy faces challenges globally and dissatisfaction with political institutions in the UK has increased

Democracy is under pressure with democratic reversals, and attempts by hostile external actors to influence elections

- The EIU Democracy Index noted democratic reversals in 68 countries in 2023. The index score has been declining since 2015.[1]
- Attempts by external actors to interfere in democracy have increased, with evidence of persistent efforts by hostile states to interfere in elections, including in the UK.[2]

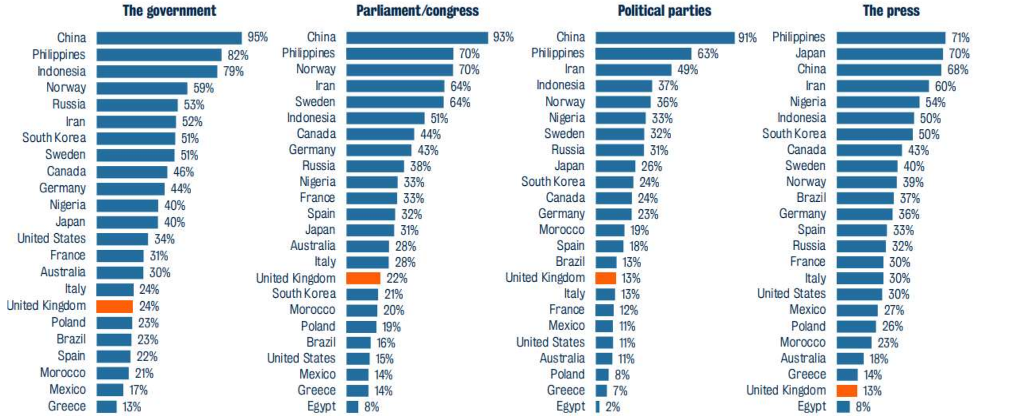
UK citizens increasingly express dissatisfaction with political institutions

- According to a Pew Research Centre study tracking satisfaction with democracy in 12 countries, the percentage of people who say they are satisfied with the way democracy is working fell in 9 of the 12 countries, with the greatest fall in the UK: from 60% in 2021 to 39% in 2024.[3]
- Research into reasons for dissatisfaction with democracy in the UK highlights concerns about politicians' behaviour and honesty and integrity in public life.[4]
- The World Values Survey found that UK respondents were among the least likely to have confidence in UK political institutions - particularly among younger people[5] – compared with data from 23 other countries (see figure).

UK citizens are committed to democracy but support for reform is growing

- The World Values Survey finds that the percentage of people who say that a democratic political system is a very/fairly good way of governing the UK has increased gradually since 1999.[6]
- However, NatCen found support for electoral reform in favour of representation of smaller parties was at its highest recorded level in 2023.[7] Interest in electoral and governance reform at different levels in the UK is likely to grow.

% of respondents with a great deal/quite a lot of confidence in institutions



Source: World Values Survey (2023)[8]

Interview insights

Interviewees focused on the links between hostile actors, disinformation and risks to democratic processes and public trust. Others talked about the future of governance in Scotland/UK and the need for governance reform and democratic innovation.

- "I would put an emphasis …[on] freedom of speech and transparency and accountability rather than participation in elections. The fact that politicians are not being seen as accountable…"
- "Can democracies deliver for people in the face of all these challenges?... There are enormous opportunities for democratic innovation… but it requires elected officials to let go of power."
- "Impact of AI, tech etc on democratic processes – likely to accelerate falling of trust in institutions and polarisation."

Trend P8: Political and social polarisation are increasing

Polarisation appears to be increasing in the UK

- Overall, the trend in the UK has been towards greater liberalism or progressivism across a range of social and economic attitudes, for all age groups, over the past four decades.[1]
- However, the gap between left- and right-leaning people's views on social and economic issues is widening. World Values Study findings for 24 countries rank the UK as the second most polarised society after the US – albeit the UK is much less polarised than the US.[2]
- Social and cultural issues appear to drive deeper and more persistent polarisation than political or economic ones.[3]

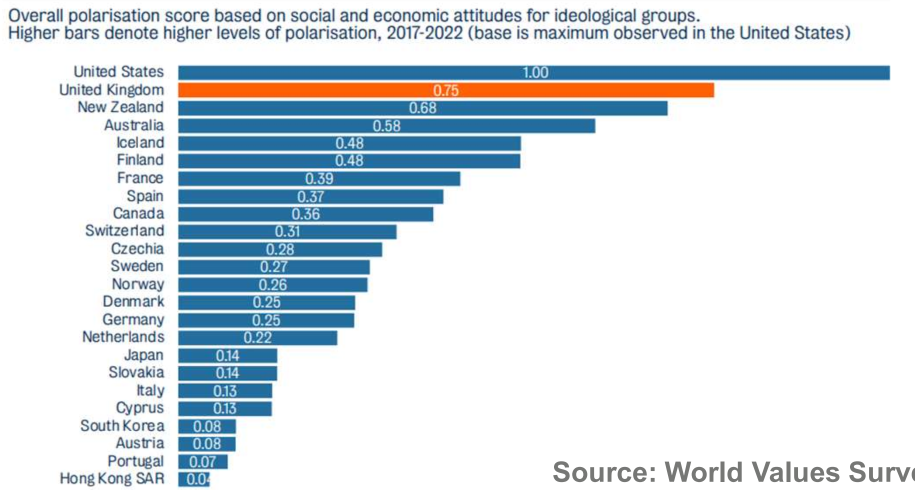
Populist political movements are growing around the world

- Populist political movements are growing across Europe, the US and Latin America. Populism takes diverse forms but is usually characterised by mistrust in the prevailing establishment and associated institutions, characterised as 'elite'.[4]

In the UK, polarising issues include Brexit, immigration, climate change and 'culture wars'

- The UK immigration attitudes tracker finds that although more people think immigration has a positive impact on Britain (40%) than negative (37%), the gap is narrowing, and the percentage who want immigration to be reduced is increasing. Views on migration are polarised by age and political preference.[5]
- Attitudes of the Scottish public towards migration in 2024 appeared to be more positive than those of the wider UK public but were less positive than they were in 2023.[6,7]

Overall polarisation score 2017-2022



Source: World Values Survey (2024)[8]

Interview insights

Interviewees talked about hostile actors, dis- and misinformation, access to extreme content, social media algorithms and the rise of populism as linked phenomena driving polarisation in Scotland and the UK. Some reflected on the riots in the UK in August 2024.

- "Social media…drives the polarisation and disharmony we see right now. The most effective content is …negative and appeals to an ever-increasing radicalised viewpoint and sorts into self-selecting communities. Drives worrying behaviours at population level…and shows how malign forces can target the population of a nation."
- "The constitutional debate makes us more vulnerable to polarisation than perhaps other parts of the UK."
- "While we didn't see the same rioting in Scotland, we shouldn't assume Scotland is immune… think the volatility was just catching its breath for a bit and may return."

Trend P9: Mis- and disinformation are a growing risk in the UK, and trust in institutions is falling

How people access information and news has changed fundamentally

- Between 2013-2024 in the UK, the proportion of people accessing print media for news in the past week fell from 59% to 14% while those getting news from social media increased from 20% to 37%.[1] In Scotland, Facebook was the second most frequently cited source of news in 2024.[2]
- Young people increasingly cite social media as their main sources of news, favouring video platforms like TikTok and YouTube.[3]

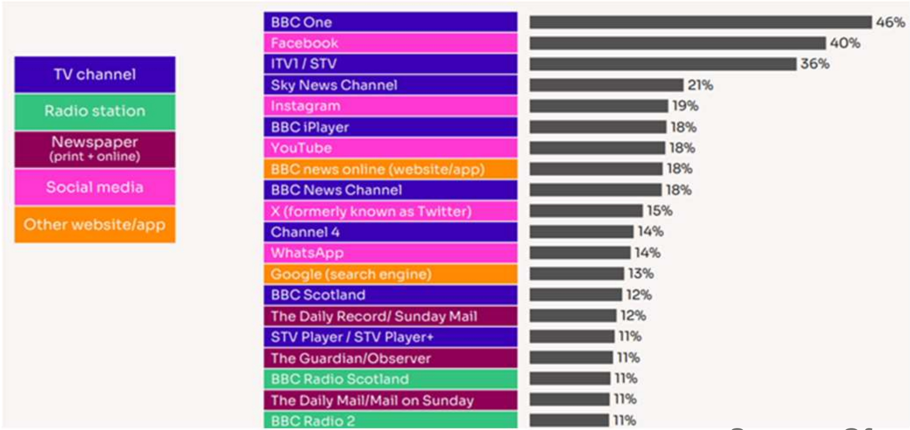
Mis- and disinformation are an increasing global concern

- In 2024 and 2025, the World Economic Forum cited misinformation as the biggest short-term risk. There are concerns about the use of technology to generate misinformation and deepfakes, linked with the ease and speed of sharing via online platforms. Threat actors are using disinformation as a tool to destabilise and drive division.[4]
- Disinformation often focuses on divisive 'wedge' issues and there are concerns that it is driving social polarisation and reductions in trust. In the UK, there is evidence that mis/disinformation during the coronavirus (COVID-19) pandemic led to vaccine hesitancy and reduced compliance.[5]

Trust in institutions and information is falling in Scotland and the UK

- The percentage of people who trust the Scottish Government to work in Scotland's best interests fell from 72% in 2015 to 47% in 2023. Younger people are more likely than older to trust the Scottish Government.[6]
- Trust in the news is decreasing. While public broadcasters such as the BBC, ITV and Channel 4 continue to be the most trusted sources of news, in 2024 just 36% of UK citizens said they 'trust most news most of the time', compared with 51% in 2015.[7]

% of adults 16+ in Scotland using each source for news in 2024



Source: Ofcom (2024)[8]

Interview insights

Several interviewees discussed the growth in mis/disinformation and the impact this has on trust and polarisation.

- "Different states seek to use social media to influence things in a way that will be helpful to them… Any area where division can be stoked will be used to create confusion and the real sense that people are in two different camps and there's …no commonality between them."
- "Misinformation is causing an erosion of trust in any kind of digital media: we have no idea of what is real and what is not."
- "If I hold a particular view, I'm never going to see that misinformation ... it's aimed at somebody else who holds a slightly different view and basically that individual and I will just get further and further apart in our views because it's being amplified in different ways."

Horizon Trends

Economy

Scottish Government Horizon Scanning

Economy

Horizon trends

Living standards and income inequality

Trend 1
Real earnings growth has been relatively flat since 2008. Technology and net zero could determine future living standards

Trend 2
Income and wealth inequality have fluctuated over recent decades but remain largely unchanged

Labour market and skills

Trend 3
Scotland's working-age population is growing, however ageing and ill-health create uncertainty for the future labour market

Trend 4
Automation and decarbonisation are expected to change the labour market, displacing and creating jobs

Trend 5
The focus on lifelong learning and skills will grow in future

Trade, investment and supply chains

Trend 6
The global economy is becoming more diverse, driven particularly by growth in Asia

Trend 7
The likelihood of supply chain disruption is increasing

Trend 8
There is growing focus on private investment to meet future challenges, but views differ on the role of foreign investment

Fiscal sustainability and financial markets

Trend 9
Fiscal sustainability challenges are leading to increased pressure on public service provision

Trend 10
Following a period of relative financial stability, global debt and financial market risks are growing

Insights

The potential productivity impacts of AI have been estimated at anywhere between 0.1% and 2.9% per year over the next 10 years, with most central estimates being somewhere in between.[1,2]

"Risk is that AI and tech… removes a whole 'middle' part of the labour force, leaving only the very top and very bottom."

"We are owned overseas to an unusually large degree which means that profits and dividends … are being sent overseas."

"Worry over 20 years that there could be a radical change in internationalised economy for Scotland."

The gap between Scottish public spending and funding could reach 11% on average each year over the next 50 years (£14 billion per year).[3]

Trend E1: Real earnings growth has been relatively flat since 2008. Technology and net zero could determine future living standards

Living standards have grown relatively slowly post-financial crisis

- Real average earnings in Scotland were around the same level in 2024 as they were in 2008.[1]

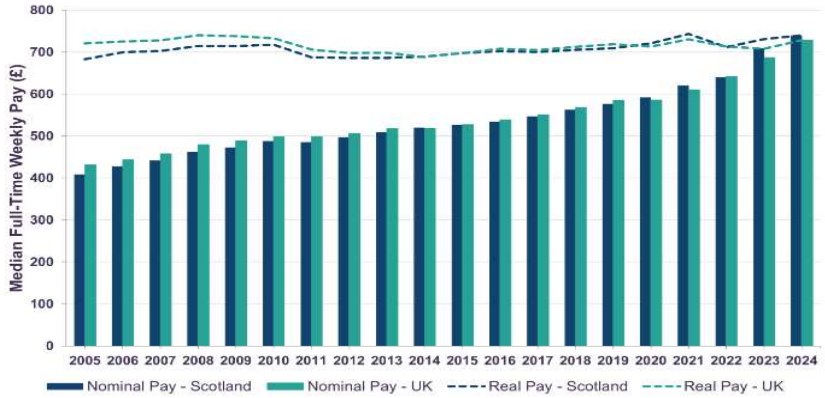
The medium to longer-term outlook is stable

- The Scottish Fiscal Commission (SFC) forecast average real earnings to grow by around 1.2% on average per year over the next four years from 2024.[2]

Going forward, the focus will be on whether technology change and decarbonisation can boost living standards

- The potential productivity impacts of AI have been estimated at anywhere between 0.1% and 2.9% per year over the next 10 years, with most central estimates being somewhere in between.[3 4]
- The transition to net zero could improve productivity and living standards by improving energy and resource efficiency and shifting from low productivity sectors to the higher value-added sectors of the clean economy.[5]
- However, these transitions could create some disruption for certain sectors over time, including sectors such as oil and gas, which could lead to growth in inequality between groups, or between regions. This is highlighted by the recent announcement of the closing of an oil refinery in Grangemouth.[6]

Gross median weekly earnings for full-time employees (nominal and real), Scotland and UK, April 2005 to April 2024



Source: Scottish Government analysis of Annual Survey of Hours and Earnings (ASHE), ONS[7]

Interview insights

Interviewees talked about stagnation in living standards and the risk that slow growth could continue if action is not taken.

- "We've had a lost decade and a half and are on track for two lost decades if we don't do something quite major about this."
- "The transition to net zero could boost productivity and living standards but it is likely not to be as productive as oil and gas was."
- "Areas where oil and gas are important... are way behind in terms of growth in total pay/compensation compared to the rest of the country – could see those parts of those country hit particularly hard – perhaps becoming part of post-industrial Scotland."

Trend E2: Income and wealth inequality have fluctuated over recent decades but remain largely unchanged

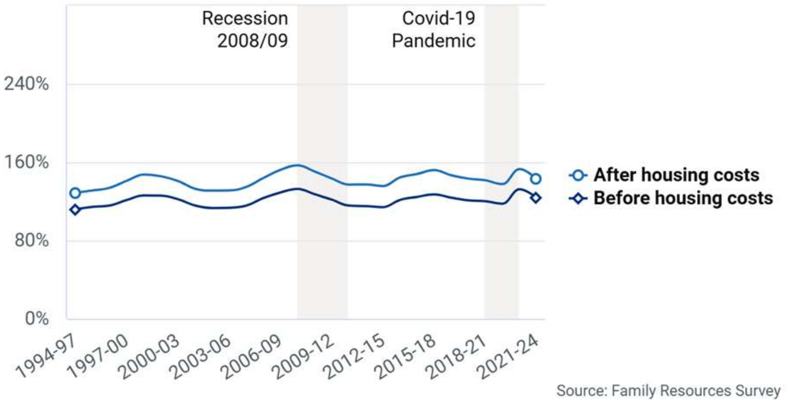
Overall inequality fluctuated over the past few decades

- Income inequality in Scotland as measured by the Palma ratio has been fluctuating since the beginning of data collection in the mid-1990s.[1]
- Inequality in Scotland and the UK showed consistent growth in the 1980s and has fluctuated since then. At the UK level, the Gini coefficient grew from around 25% in 1970 to 37% in 1990.[2]
- In 2021-2024, the top 10% of the population had 23% more income (before housing costs) than the bottom 40% combined.[3]

Wealth inequality is broadly stable

- Wealth is more unequally distributed than income. Wealth inequality in households in Scotland as measured by the Gini coefficient has fluctuated since data collection began in the mid 2000s and is broadly stable.
- However, the absolute wealth gap between the least wealthy and the wealthiest is increasing, making it ever more difficult to attain high wealth compared to the rest of society.[4]

Palma ratio of income inequality, Scotland



Source: Scottish Government (2025)[5] *The Palma ratio measures total income of the top 10% divided by the total income of the bottom 40% of population

Interview insights

Interviewees said there is greater awareness of the importance of tackling inequality, and discussed positive and negative trends.

- "There is a greater appreciation that tackling inequality is not just a good thing to do but also has long-term effects on the economy."
- "Scotland has a good story to tell about fair work... fewer high wage workers than UK but higher median wage...suggests we have a chunk of folk closer to the middle, but the UK probably has more inequality"
- "Poverty is now becoming ingrained in work. 20 years ago … getting people to work and that would get them out of poverty, but now we have people in work poverty."

Trend E3: Scotland's working-age population is growing, however ageing and ill-health create uncertainty for the future labour market

Scotland's labour force is expected to grow for the next couple of decades, but growth is slowing

- Scotland's working-age population (aged 16-67) is projected to grow modestly in number until 2050 and then decline.[1]
- However, because the number of people in older age groups is increasing more quickly, the share of the population aged 16-64 is projected to fall by 5.2 percentage points over the next 50 years.[2]
- Despite the working-age population being expected to grow in the coming decades, Scottish Fiscal Commission projections suggest that the economic participation rate could decline because many workers are reaching older age, where they are more likely to be inactive, for example, due to early retirement.[3]

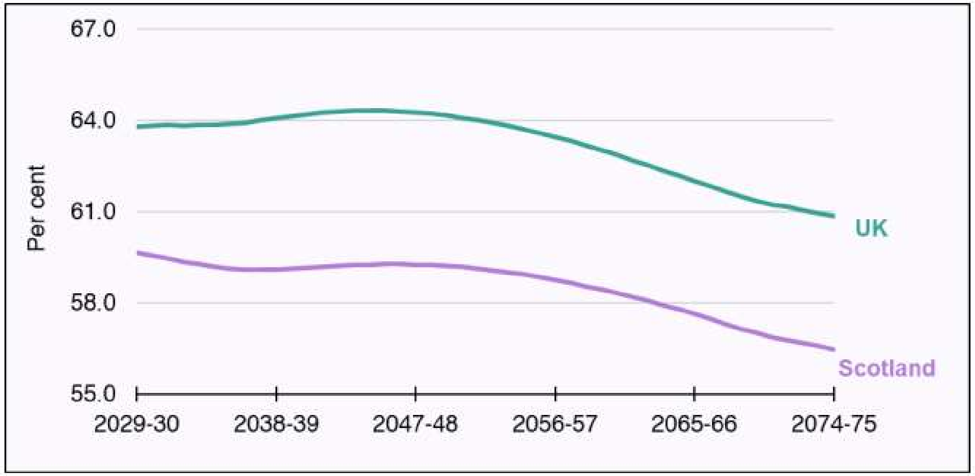
Inactivity rates have been relatively stable over the past 10 years, however more people are inactive due to ill-health

- Scotland's inactivity rate in September to November 2024 was 22.9%.[4]
- Around 33.5% of those aged 16-64 who are inactive attributed this to long-term sickness. This has been increasing since 2008.[5]

There are many factors which could change inactivity in future

- The direction of ill-health trends – an ageing population combined with growing health-related inactivity is one of the largest sources of medium-to-longer-term fiscal sustainability.[6]
- Pension age – under current law, the state pension age will increase to 68 between 2044 and 2046. Proposals to bring this forward to 2037 to 2039 have been delayed, partly because improvements in life expectancy have stalled.[7]

Projection of the overall economic participation rates, Scotland and UK, 2029-30- 2074-75



Source: Scottish Fiscal Commission (2025)[8]

Interview insights

Interviewees noted that labour market challenges could be a big constraint in future, particularly due to demographic change.

- "Not dealing with the same issues (at same degree), such as unemployment, which is an advantage for Scotland. Observable progress in participation by groups with otherwise lower participation. We are not there yet …differences in participation rate for different groups."
- "Demography is a constraint when it comes to workforce and skills – work on energy transition shows this."

Trend E4: Automation and decarbonisation are expected to change the labour market, displacing and creating jobs

Estimates of the impact of automation vary significantly by source

- IMF researchers estimated that 40% of global jobs were at high exposure to AI in the coming decades, rising to 60% in advanced economies.[1] However, roughly half of the exposed jobs may benefit from AI integration, rather than replacement.
- Another UK Government estimate suggests around 10-30% of existing UK jobs are highly automatable and may be subject to some level of change over the next 20 years.[2]

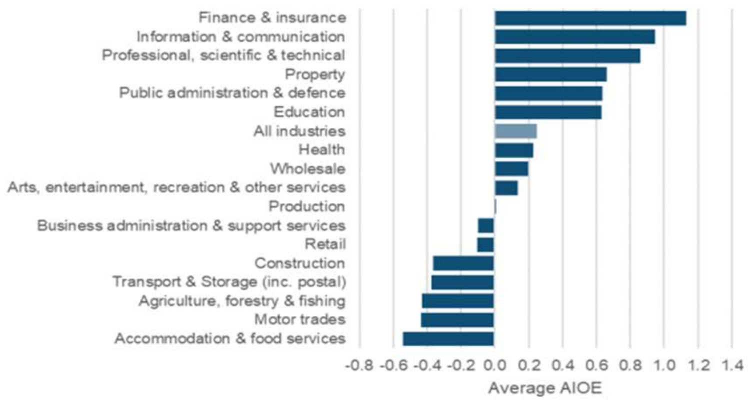
The impact of AI by sector will vary significantly

- Some of the most exposed occupations to automation include clerical work and finance, law, business management and teaching.[3]
- Least exposed sectors include accommodation and food, motor trades and agriculture.[4]

Decarbonisation and potential future impacts

- Evidence suggests the net zero transition won't repeat the job destruction of deindustrialisation, but 4% of UK workers in 'brown' jobs – as well as another 13% in 'green' jobs – face direct change in the nature of their work over the next five years.[5]

Exposure to AI by industry, UK



Source: UK Government (2023)[6]

Note: AIOE = AI occupational exposure score. A lower AIOE score means a sector is loss exposed to AI, and higher scores means a sector is more exposed to AI.

Interview insights

Interviewees reflected on the potential impact that AI and transition to net zero could have on the labour market. Views on the scale of potential labour market disruption varied.

- "The oil and gas sector employs a lot of people directly and indirectly in well-paid jobs, but if we are going to meet our climate targets this will need to be phased out."
- "Risk is that AI and tech… removes a whole 'middle' part of the labour force, leaving only the very top and very bottom."
- "As for the potential of AI taking people's jobs, not all are things that can replace people, especially in the public services domain."

Trend E5: The focus on lifelong learning and skills will grow in future

The changing economy means people will increasingly have to reskill multiple times over their lifetime

- The Learning and Work Institute suggests that longer working lives and changes in the UK economy will likely increase the need for people to change careers and reskill multiple times over their lifetime.[1] This echoes research from the Institute for Public Policy Research (2017) in Scotland, which suggested that in 2030 people would more likely be working for longer and have multiple careers across their working lives.[2]
- Analysis by CBI suggests that nine in ten UK employees could need to reskill by 2030 at an additional cost of £13 billion a year.[3]

As the labour market changes, the types of skills people have will also likely change

- There is increasing focus on 'meta-skills', i.e. skills that create adaptive learners and thinkers such as communication, collaboration, creativity and critical thinking.[4]
- Demand for green skills is also growing and the number of jobs advertised in Scotland has tripled since 2021.[5]

Responding to skills gaps will have implications for individuals, business and the public sector

- Investment in training by businesses in Scotland is down over the longer term, with the average investment in training per employee falling from £2,111 in 2011 to £1,684 in 2022.[6]
- Individual learners are also accessing more learning online. Global use of the learning platform Coursera grew from 21 million in 2016 to 92 million in 2021. It has 2.4 million users in the UK.[7]

'Meta skills' categories

Source: Skills Development Scotland (2018)[8]

Interview insights

Interviewees discussed the need for more flexible approaches to vocational training to ensure learning pathways for people at different points in their life in response to labour market changes.

- "In a world with automation, AI, declining young people… can you find other ways of training and educating people over a shorter period so they can get into labour market quickly but also continue to have access to skills and training?"
- "Employers have underinvested in workforce skills."
- "Upskill and reskill is imperative – all evidence suggests to get ahead that every worker should be thinking about what the need will be and how to transition as occupational change unfolds."

Trend E6: The global economy is becoming more diverse, driven particularly by growth in Asia

The structure of the global economy has changed significantly in the past 50 years

- According to the World Bank Database, Asia has risen as a share of global GDP from around 18% to 30%.[1]
- This has coincided with a reduction in the share of Europe and America in global GDP. [2]

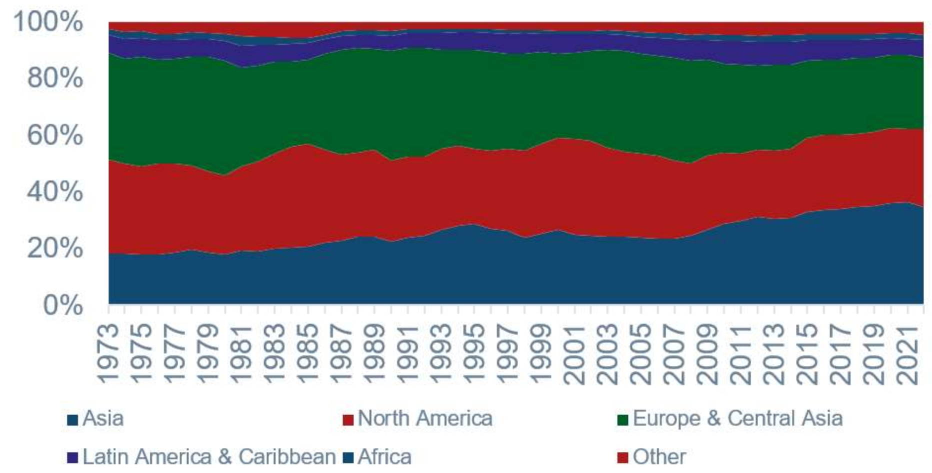
The global economy will continue to change in the coming decades, particularly due to growth in Asia

- PWC projected that China and India would grow their collective share of the global economy from 25% to 40% by 2050, while Indonesia, Mexico, Egypt and Poland could see significant growth over this period.[3]
- Meanwhile, countries such as Japan, Germany, the UK, France, South Korea and Spain are all projected to fall in the ranking of largest economies globally.[4]

While economies are growing, geopolitical tensions and the threat of protectionism create uncertainty for the future global economy

- The International Trade Council (2024) observe a rise in protectionism in various regions, including North America, Europe and Asia, largely driven by growing geopolitical tensions.[5]
- Geopolitical risk has already been driving some changes in trade between countries. For example, a survey by Boston Consulting Group found that 90% of the North American manufacturers had relocated some production away from China in the past five years and that North American exports to India grew significantly over this time.[6]

Regional GDP as a percentage of global GDP, 1973-2021



Source: Scottish Government analysis based on World Bank Databank (2025)[7]

Interview insights

Interviewees talked about how the growth of India and China will change the global economy over the coming decades, as well as implications for Scotland of shifting global economic power.

- "Geopolitical power [is] shifting not just to China, but also India, Indonesia, Vietnam, Pakistan, South America and Africa (all experiencing huge growth). Scotland could grow/expand from traditional to these markets."
- "Worry over 20 years that there could be a radical change in internationalised economy for Scotland."
- "Scotland is as good as doing business as anywhere in the world."

Trend E7: The likelihood of supply chain disruption is increasing

Increasing supply chain risks

- Supply chain risks are one of the key risks noted by the latest World Economic Forum (WEF) Global Risks Report.[1]
- The WEF warns that disruptions caused by extreme weather events could cause vital supplies to be delayed and cause massive unrest in many nations.[2]

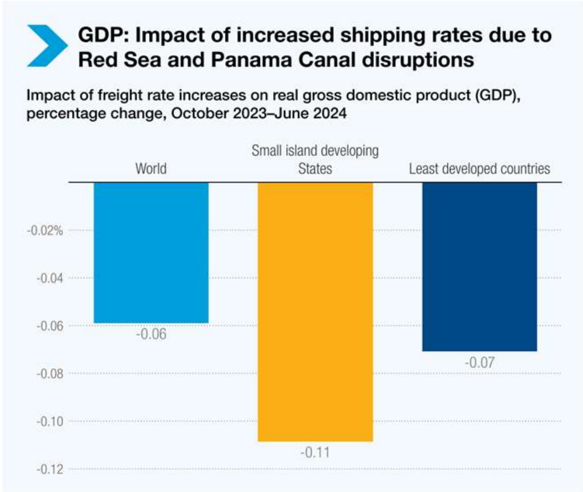
New supply chains for renewable energy are uncertain

- As European countries move away from fossil fuels, they will not become immediately self-sufficient. It is not clear yet what shape the new supply chains will take, or where the industry will shift, but it is certain that our highly-interconnected energy network will look very different in the next decade.[3]

Critical raw materials are increasingly important for renewables yet supply chains are uncertain

- Reliable supplies of raw materials such as cobalt, copper and lithium are critical for the energy transition. Alongside China's increasing role in global supply chains for critical minerals and clean energy technologies, the European Union plans to seek opportunities for sourcing critical minerals domestically, promoting technology innovation, and promoting diversification of sources.[4, 5, 6]

Impact of disruption to seaborne trade on global GDP



Source: United Nations Trade and Development (2024)[7]

Interview insights

Interviewees discussed supply chain resilience and many agreed that access to resources would be more challenging in the future due to increased competition and geopolitical factors.

- "We are highly dependent on imports of critical commodities e.g. oil, gas, steel – from countries that may be stable but not particularly friendly. The potential ability of one country to place a stranglehold on others… is a big risk."
- "We import copper, and everyone will need copper to build more electrification infrastructure. Countries will not be exporting copper."
- "Security of materials is an issue: we are currently importing minerals."

Trend E8: There is growing focus on private investment to meet future challenges, but views differ on the role of foreign investment

Investment in Scotland and the UK has been relatively low compared to other OECD countries, but Scotland is attractive for foreign direct investment (FDI)

- Investment in Scotland and the UK has been relatively low compared to other OECD countries – it was around 18% of GDP in 2023, which was in the bottom quartile of OECD countries (chart).[1]
- However, Scotland is the second most attractive location for FDI in the UK, accounting for 14.4% of all UK FDI projects.[2]

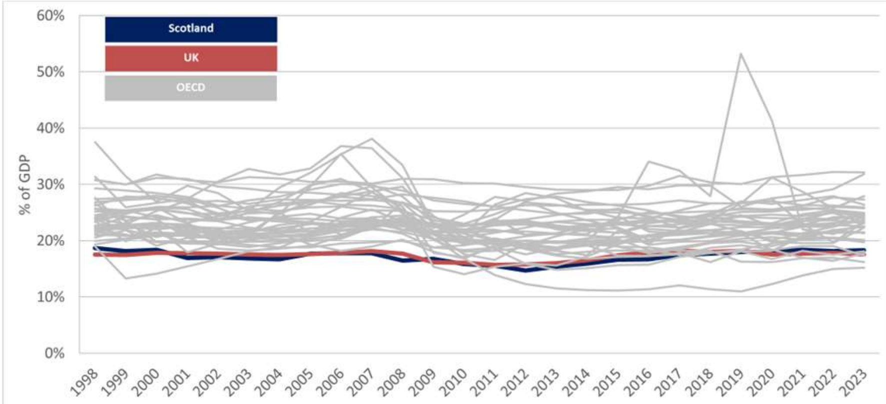
The investment challenges ahead are significant

- For example, the SFC estimates that an average of £1.1 billion a year (in 2024 prices) will be required in additional capital investment from the Scottish Government to reach net zero over the period 2020-2050.[3]

Potential for private and community investment is growing

- The capital investment plan highlights that there is a significant supply of capital in global markets that could help fund net zero and technology transitions. For example, global private capital investment grew significantly from around £2 billion in 2013 to just under £4 billion in 2018.[4]
- One study found that Scotland's community-owned wind farms have provided, on average, 34 times more benefit payments to local communities than privately-owned wind farms.[5]

Investment (gross fixed capital formation) as a proportion of GDP, Scotland and OECD



Source: Scottish Government analysis using Quarterly National Accounts Scotland Q4 2024 and World Bank Databank (2025)[6]

Interview insights

Interviewees agreed that increasing investment was important for the future, but views differed on the role of foreign investment.

- "We are owned overseas to an unusually large degree which means that profits and dividends … are being sent overseas."
- [however] "Anchoring Scottish companies here is tricky so FDI plays an important role in filling gaps in supply chains and making Scotland competitive."
- "Generational investment kicking off in Scotland like we haven't seen since postwar, take utility companies… wind, oil and gas, broader construction … investment non-dependent on economic cycle."

Trend E9: Fiscal sustainability challenges are leading to increased pressure on public service provision

A challenging fiscal outlook

- The gap between Scottish public spending and funding could reach 11% on average each year over the next 50 years (£14 billion per year).[1]
- At UK level, the Office for Budget Responsibility projects that UK debt-to-GDP would rise unsustainably to 274% in 50 years without any action to reduce spending or increase taxes.[2]

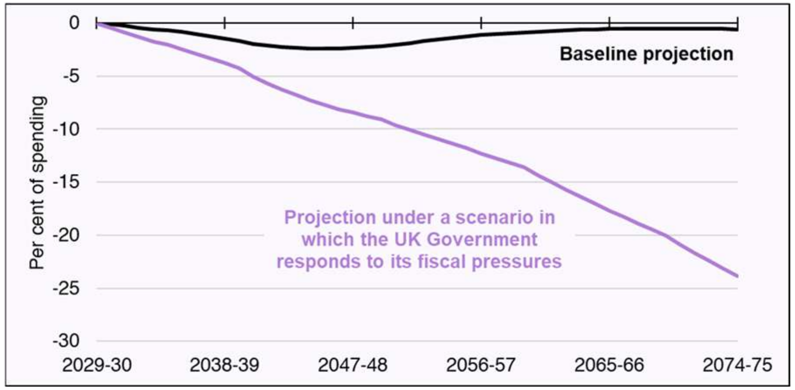
Some big drivers of future fiscal challenges

- Health spending is projected to grow from 34% of devolved spending in 2029-30 to 47% by 2074-75, driven by an ageing population, costs of new treatments and increases in chronic conditions.[3]
- Tax: the working age population will decrease as a proportion of the total population over the coming decades as the population ages (see also E3).[4]
- UK decisions and the block grant: the SFC shows that Scotland's fiscal position over the longer term is sensitive to UK tax and spend decisions and how these impact on growth in Scotland's funding over time.[5]

Implications for the future

- Focus on public service reform and productivity will grow. For example, a lot of attention has been placed on the role AI could have in public sector productivity.[6]
- Focus on new taxes could increase. For example, some economists focus on wealth taxes as a way of raising revenue.[7]

Annual budget gap and UK Government response to baseline OBR projection



Source: Scottish Fiscal Commission (2025)[8]

Interview insights

A number of interviewees across multiple sectors told us that fiscal challenges are a significant trend for the coming 20 years.

- "Climate change and the need to maintain/improve public services pose significant structural challenges for Scotland which will be key to next 10-20 years."
- "I think there is a risk there that you end up saying people will have to accept a significantly reduced state/level of services from the state while retaining the same levels of taxation. What you do is you break a social contract and that's really challenging."
- "Rising need for reductions in key areas as a result of declining number of children and their implications on schools, universities, colleges."

Trend E10: Following a period of relative financial stability, global debt and financial market risks are growing

The global financial system has been relatively stable since the global financial crisis in 2008

- Financial regulations and prudence brought about in the aftermath of the financial crisis have reduced the likelihood of financial disruption.[1]

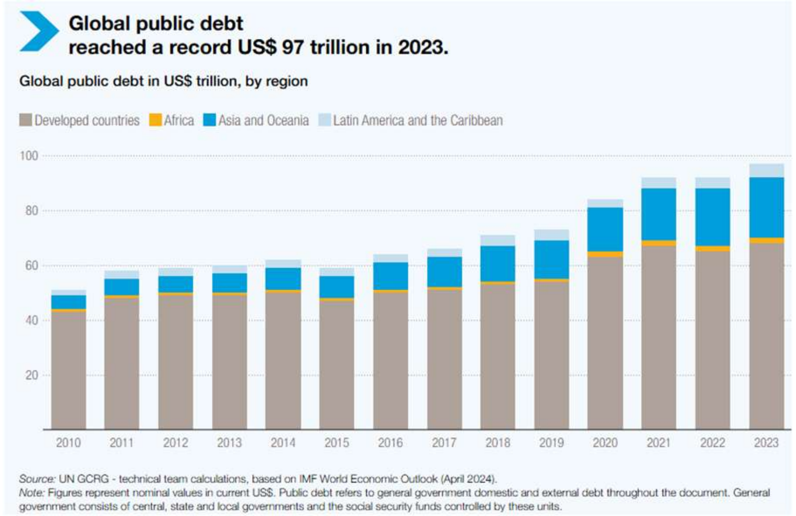
Increasing risks to financial market stability

- There are several potential risks to global financial markets in the medium term. For example, debt burdens in a number of countries are high and growing as a result of repeated economic shocks.[2]
- A number of analysts at major financial institutions have questioned whether generative AI will generate returns in line with investors' expectations. If AI investments do not generate sufficient returns this may lead to a bursting of the 'AI bubble'.[3]
- Recent trade disruption driven from tariff policy changes in the United States had a significant impact on financial markets across the globe and highlighted another avenue of potential risk and uncertainty for financial markets.[4]

There is growth and volatility in unregulated decentralised (crypto) currencies

- In one year (2021) the market capitalisation of cryptocurrencies grew from roughly around $650 million (at the beginning of 2021) to $2.6 billion (mid-2021) before falling back to under $1.8 billion (end 2021).[5]
- National central bank digital currencies are seen as a stable alternative to cryptocurrencies.[6]

Global public debt as a % of GDP



Source: United Nations Trade and Development (2024)[6]

Interview insights

Interviewees talked about the possibility of an AI bubble and its potential implications for financial markets.

- "Not saying the AI bubble will burst, but it will shrink. Investment will come down as AI is not giving the returns promised. However, the generative AI bubble will definitely burst, that is not delivering and there are tons of competitors… still, lots of hype around it, but you have to make time to examine where this is coming from exactly and the motivation."

Horizon Trends

Society and Communities

Scottish Government Horizon Scanning

Society and Communities

Horizon trends

Demography	**Trend 1** Scotland's population is expected to grow over the next 20 years, and will continue to age	**Trend 2** Scotland's population is becoming more urbanised, with depopulation in many rural communities	**Trend 3** Scotland's population is expected to become more diverse
Poverty and wealth	**Trend 4** Overall relative poverty rates have been broadly stable over the past decade	**Trend 5** Wealth inequality is growing between generations and within generations	**Trend 6** A growing number of older people risk not having enough pension savings for retirement
Education and justice	**Trend 7** Crime has fallen in recent decades, particularly youth crime, but crime is increasingly online and internationalised	**Trend 8** School populations are expected to decline in future, but pupils will have more complex needs	**Trend 9** Scottish further and higher education sectors compare well globally, but are under increasing financial pressure
Society and culture	**Trend 10** The number of people living alone or experiencing loneliness is increasing	**Trend 11** The growing use of social media is increasing connection, but is also linked to polarisation and online harms	**Trend 12** The use of AI and online platforms are changing how people create and experience culture
Infrastructure and housing	**Trend 13** Housing affordability is a significant challenge, especially for low-income households renting privately	**Trend 14** Infrastructure costs are growing, making it harder to meet future challenges such as decarbonisation	

Insights

The number of over-67s is projected to rise by 38% between 2022-2047, while the number of under-16s is expected to decline by around 9%.[1]

"We are now at a point where most younger people are going to be worse off than their parents, and unable to afford houses."

Scotland's under-21 prison population has fallen significantly in the last 15 years. The under 21 prison population peaked at 1,040 in 2007-8 and has fallen to 168 in 2023-24.[2]

"And a big trend for the next 10 years is regulation because we have not learned the lessons of social media… and the massive harm this has done to children/young people and democracy."

The ratio of the median house price to median disposable household income rose from 4.1 in 2003-04 to 5.9 in 2007-08. At 5.6 in 2022-23 it remains elevated relative to the early 2000s (ONS 2023).[3]

Trend S1: Scotland's population is expected to grow over the next 20 years, and will continue to age

Scotland's population is expected to grow in the next 20 years

- Scotland's overall population is projected to continue growing until 2051.[1] This population growth is projected to be driven exclusively by positive net migration.[2]
- The number of deaths in Scotland are projected to exceed the number born, and the birth rate will continue to decrease.

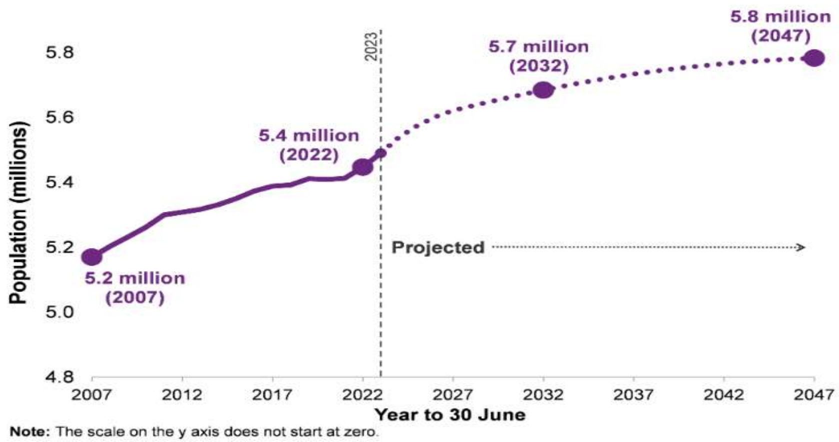
Scotland's population is projected to age

- The number of over-67s is projected to rise by 38% between 2022-2047, while the number of under-16s is expected to decline by around 9% over this time.[3]
- The number of working-age people (16-67) is expected to grow modestly, increasing by around 2% on 2022 levels by 2047, but to decrease slightly as a proportion of the total population.[4]

Potential changes to projections

- With the exception of the latest population projections, each set of National Records of Scotland (NRS) population projections produced over the 10 years (2014, 2016, 2018, 2020) was revised down compared with the previous release. This was due to revising the assumptions down to reflect a declining birth rate.[5] This highlights the potential uncertainty in the projections for population change.
- The drivers of population change are clear (ageing, migration and birth rates) but the impacts relating to these are less certain.

Projected growth in Scotland's population, 2022-2047



Source: NRS (2025) calculated using ONS 2022-based projections[6]

Interview insights

Interviewees told us that Scotland's population will be impacted by many different factors, including birth rates, migration and ageing.

- "Ageing will definitely continue, but birth rates could do different things. However, it seems unlikely that they will go up as far as replacement levels."
- "It is likely fair to say that migration to Scotland will continue … and this is in part driven by international students, given the funding model of universities relies on foreign students."
- "Many academics are relatively positive that the falling birth rate will stabilise though there is no full agreement...only a few EU countries have lower birth rates than Scotland."

Trend S2: Scotland’s population is becoming more urbanised, with depopulation in many rural communities

Scotland’s population is becoming more urbanised, particularly in the East of Scotland

- A majority of council areas (18 out of 32) are projected to increase in population by mid-2028. 14 councils are projected to decline (more than the eight in the previous projections).[1]
- Population growth is largely projected to be concentrated in the central belt and urban areas. The fastest growing areas are in the East surrounding the City of Edinburgh.[2]
- Population decline is projected to be concentrated mainly in the West of Scotland, including Inverclyde, Na h-Eileanan Siar and Argyll and Bute.[3]

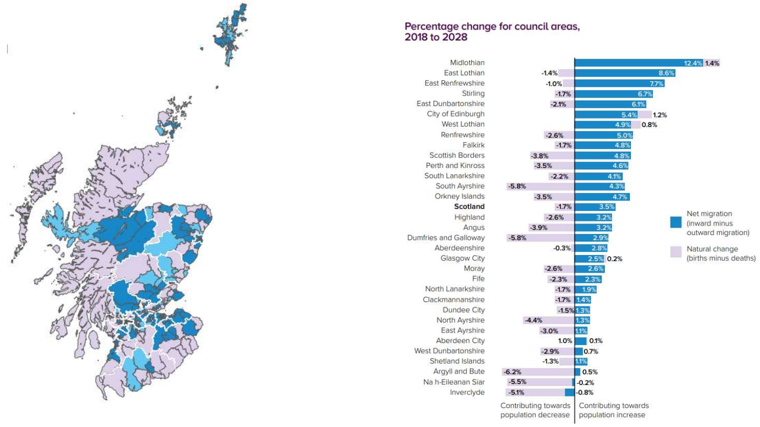
Drivers of population change

- In most council areas, the main driver of projected increases in population is migration. There are projected to be more deaths than births (“natural change”), however this has been offset by positive net migration which has outweighed natural change in recent years.[4]

Complexity at local levels

- Population projections covering entire local authorities can mask different trends occurring within smaller geographies.[5]
- For example, population growth in the Highlands is predominantly driven by Inverness, while the rural parts of the region are expected to decline. Likewise, the population in some island areas is growing (e.g. Orkney, although this is driven by growth in specific areas), while it is declining in others (e.g. Western Isles).[6]

Population projections by local authority to 2028



Source: Scottish Government (2024)[7]

Interview insights

Interviewees talked about the ways in which demographic trends are developing differently in different parts of Scotland.

- [on depopulation] “You can turn things round, but you can’t do it everywhere.”
- "[There’s] a shift from west to east in the country’s population. The classic ones that are always used are the Western Isles and Inverclyde to evidence that decrease in population.”
- "In the West of Scotland, the population numbers are falling. These areas face different kinds of challenges [than rural areas] – e.g. [depopulating] urban deprived areas … experience different challenges than rural areas like the Western Isles."

Trend S3: Scotland's population is expected to become more diverse

Scotland's population has become more multi-national and multi-ethnic over time

- In 2022 12.9% of people in Scotland had a minority ethnic background. This is an increase from 8.2% in 2011.[1]
- In 2022, over half a million people living in Scotland were born outside of the UK (554,900). The number of people living in Scotland who were born overseas increased by 185,600 between 2011- 2022.[2]

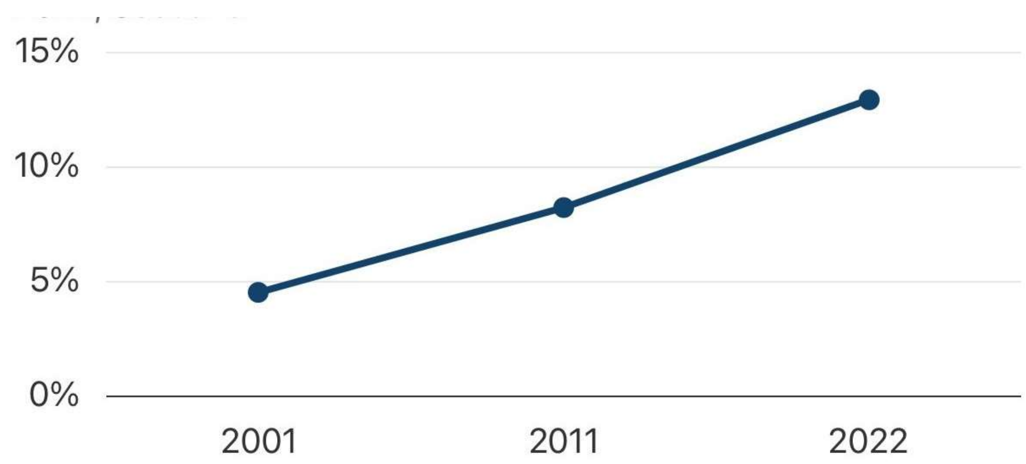
Scotland is expected to become more diverse in future, largely driven by migration

- International migration into Scotland remains high. The number of people moving to Scotland from outside the UK increased by around 47% in the year to mid-2022, and remained stable in the year to mid-2023.[3] Migration to the UK from non-EU countries increased rapidly since 2021 while migration from the EU has fallen.[4]
- Between 2022-2047, 70% of net migration to Scotland is projected to come from outside of the UK. International net migration is projected to add around 19,500 people each year on average between 2028 and 2047.[5]
- Migrants are generally younger than the population as a whole. The most common age group for international moves to and from Scotland in the year to mid-2023 was people aged between 16-34.[6]

Diversity of local populations varies widely across Scotland

- In 2022, around 24% of Edinburgh's population were born outside of the UK, followed by Aberdeen City (21%) and Glasgow (19%). In contrast, 3% of East Ayrshire's and North Ayrshire's population were born outside of the UK.[7]

Percentage of people with a minority ethnic background in Scotland



Source: Scotland's Census 2024[8]

Interview insights

Interviewees talked about the growth in diversity in the population and potential benefits of migration to Scotland. Some felt that more consideration would need to be given to how to approach this.

- "My general feeling is that migration will continue to be more diverse and that's something that Scotland needs to think about."
- "Huge pressure on migrants to assimilate with local communities. Migrants are constantly adapting their lives in rural areas."
- "If the asylum system changes and people are recognised and granted status, then we would have a mobile young population. … that would be a huge benefit to Scotland."

Trend S4: Overall relative poverty rates have remained broadly unchanged over the past decade

Relative poverty grew slightly since the late 2010s, but has mostly shown a stable, yet high, trend over the past 20 years

- It is estimated that 20% of Scotland's population was living in relative poverty after housing costs in 2021-2024.[1]
- Absolute poverty has remained broadly unchanged over the past 20 years but fell significantly in the 90s: the absolute poverty rate (after housing costs) in Scotland fell from 38% in 1995-1998 to 18% in 2007-2010.[2]

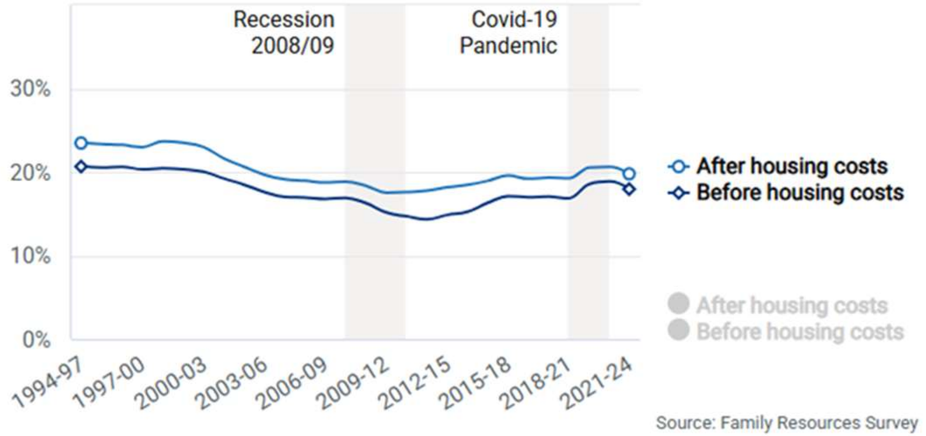
Child poverty has remained broadly unchanged in recent years

- The proportion of children living in relative poverty has declined over the longer term, from 32% in 1995-1998 to 24% in 2007-2010, but has remained fairly stable between 2007-2010 and 2021-2024.[3]

While poverty rates have been relatively stable overall, they are consistently higher for certain sub-sections of the population

- In-work poverty has increased over the long term but has remained stable, yet high, over the short term. For 2021-2024, 61% of working-age adults in relative poverty were living in a household where someone was in paid work compared with 51% in 2011-2014.[4]
- Relative poverty is highest for the youngest households and appears to have increased over the short term.[5]
- For 2019-2024, the relative poverty rate was 43% for 'Asian or Asian British' ethnic groups and 50% for 'Mixed, Black or Black British and Other' ethnic groups, compared with 20% for 'White - Other' and 18% for 'White - British' groups.[6]

Relative poverty rate, before and after housing costs, Scotland



Source: Scottish Government (2025)[7]

Interview insights

Interviewees told us of the importance of addressing poverty, which has far-reaching impacts. Some said that inequalities have been increasing and will have negative impacts in the long term.

- "Scotland has a very high level of child food insecurity (and even food poverty) in spite of it having good ability to produce and import food...results in inadequate development of children's cognitive abilities which can reduce lifelong health."
- "Ultimately society is getting more unequal in the past 20 years. All the various crises have impacted those at the bottom end more."
- "Poverty is now becoming ingrained in work... 20 years ago, it was just about creating jobs, getting people to work and that would get them out of poverty, but now we have people in work poverty."

Trend S5: Wealth inequality is growing between generations and within generations

Inter-generational inequality has been growing over time, with younger generations being less well off than their parents

- In the UK, the typical person in their late 30s in 2018-20 had almost £30,000 less wealth than those of the same age in 2006-08, while the typical person in their early 60s had nearly £170,000 more wealth than their counterparts of the same age in 2006-08.[1]
- However, there is significant inequality within cohorts. Some evidence suggests that the combination of ageing, growing ill-health, lower home ownership and lower pension savings, may increase the risk of older people experiencing poverty and ill-health relative to previous generations.[2]

Financial transfers between generations are becoming more important

- The value of inheritances in the UK is expected to double in the next 20 years, driven by asset prices and an ageing population.[3]
- A survey by Age Scotland found that 42% of respondents over 55 were assisting younger family members financially.[4]

Inequalities between generations do not necessarily result in increased tensions between generations

- Qualitative research by Cambridge University found widespread pessimism around young people's prospects, and evidence of a fracturing social contract. However, intergenerational inequity was seen to be the fault of the government rather than older generations.[5]

Share of total household wealth per adult by age, UK

NOTES: Those under the age of 20 have been excluded.
SOURCE: RF analysis of ONS, Wealth and Assets Survey.

Source: Resolution Foundation (2022)[6]

Interview insights

Interviewees told us that there are significant inequalities developing between generations, with wealth and opportunities more constrained for those in younger generations.

- “We are now at a point where most younger people are going to be worse off than their parents, and unable to afford houses.”
- “Scotland has a sizable older generation that historically has had access to more resources than the younger generation. As living standards are impacted, or as environmental responses cause difficult decisions to be made, there is the potential for increases in young people’s anger and distrust.”

Trend S6: A growing number of older people risk not having enough pension savings for retirement

The growing cost of pensions

- According to the OBR, spending on pensions is expected to grow by 9.8% from £152 billion in 2024-25 to £167 billion by 2027-28.[1]
- While the pension age is increasing from 66 to 67 between 2026 and 2028, which will moderate some pressure on pensions, stagnating life expectancy will reduce scope to increase the pension age further.[2]

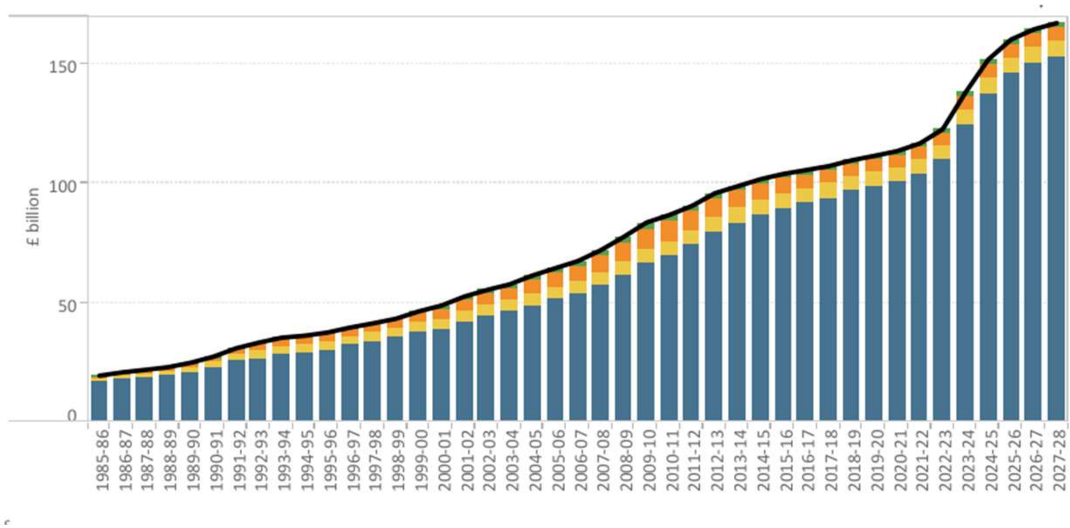
The number of people reaching retirement age with inadequate pension savings is likely to increase

- One estimate suggests only about a fifth (19%) of employees overall, and only 1% of low earners are saving enough to give them a good chance of achieving a minimum decent income in retirement.[4]

Housing is a driver of wealth in older age

- Growth in the number of older people who don't own a home and rely on renting privately could mean more pensions are spent on rent than before.[5]
- Royal London research found that someone who owned their home outright could keep up their living standards with a pension pot of £260,000. If they had to keep paying private rent, they'd need a pot of £445,000 to do the same,[6]

UK pensioner benefit spending, historic trend and OBR forecast, £ billion current prices



Source: Office for Budget Responsibility (2024)[7]

Interview insights

Interviewees talked about the risks of increased pensioner poverty in older cohorts, particularly driven by inadequate pensions in older age.

- "An additional concern is older people's poverty as the next older generation come through, and how health and social care supports older people."
- "We are also approaching a cohort over the next 10-20 years with folks currently in their 40s for whom that more settled pension period or retirement period is probably also not going to be an option."

Trend S7: Crime has fallen in recent decades, particularly youth crime, but crime is increasingly online and internationalised

Total recorded crime in Scotland has been decreasing over time

- Over the past ten years, total recorded crime in Scotland has decreased by 15% to around 300,000. This continues a generally decreasing trend in recorded crime over the longer term, from a peak in 1991 when crime reached a record high of 613,943.[1]

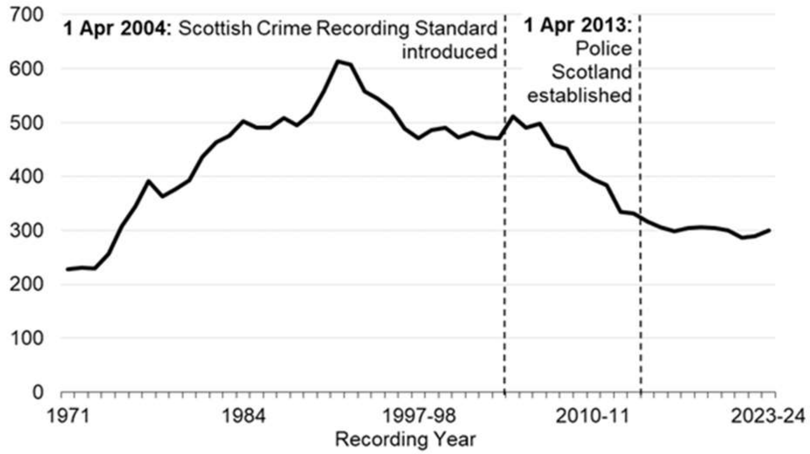
The number of young people in the justice system has fallen significantly

- On an average day in 2009-10 there were 1,012 people under 21 in Scottish prisons, and young people made up 13% of the prison population.[2] In 2023-24 there were 168 young people in custody on an average day, comprising just 2% of the prison population overall.[3]

Crime is increasingly online and internationalised

- The estimated number of incidents of cyber-fraud recorded by the police in Scotland had risen from 3,450 in 2019-20 to 9,890 in 2023-24.[4] The estimated number of cyber-crimes of threats and extortion increased from 290 in 2019-20 to 2,080 in 2023-24.[5]
- Where known, the majority of perpetrators of cyber-crimes are from outside Scotland.[6]
- Police estimate that 6% of recorded crime was cyber-enabled/dependent in 2023-24, up from 3% in 2019-20.[7]
- The NCA estimates that over £100 billion may be laundered through UK corporate structures or financial institutions annually.[8]
- Human smuggling and trafficking referrals are increasing in Scotland.[9]

Total crimes recorded by police, 1971 to 1994, 1995-96 to 2023-24 (000s)



Source: Scottish Government (2024)[10]

Interview insights

Interviewees felt that the decline in youth crime is a positive trend, but expressed concern about violence against women and girls, and the challenges to tackle the root causes of crime. Organised crime is a growing concern.

- “Over the last 15 years we have seen a change to the “conveyor belt” of people being excluded from school then coming into the justice system.”
- “The people who go through the system with addiction problems, issues with housing ... they continue to repeat the same cycle."
- “Probably most people have no idea how big organised crime is in Scotland, or the reach that it has into what will appear like entirely legitimate businesses on your high street.“

Trend S8: School populations are expected to decline in future, but pupils will have more complex needs

School rolls are projected to decrease

- The number of under-16s in the Scottish population is expected to decline by around 9% between 2022-2047.[1]
- Scotland's school age population peaked in 2022. The number of primary school pupils peaked in 2017, with the number of secondary school pupils expected to increase until 2025.[2]
- Primary school enrolments are expected to fall by 1.7% per year between 2022-2035, more prominent than the expected decline in secondary school enrolments, which are projected to fall by 1.2% per year in the same time period.[3]

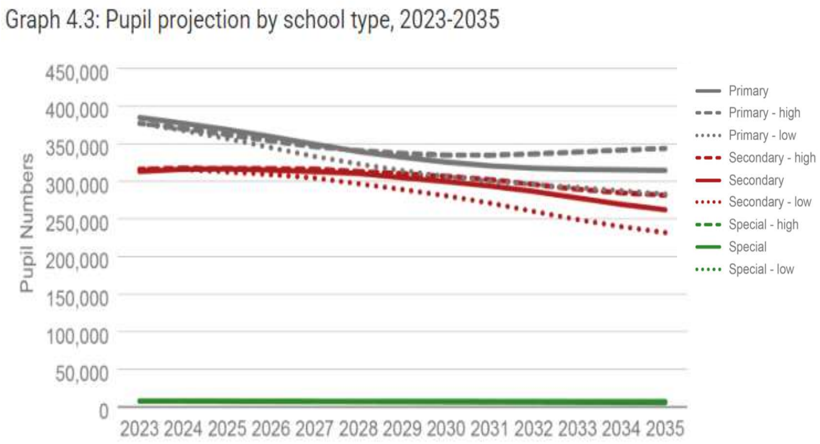
Attainment is stable but with persistent inequalities

- Pupil attainment has been broadly unchanged over the long term.
- Significant inequalities persist: socio-economic inequalities and some protected characteristics such as ethnicity and disability are correlated with lower attainment. Each year from 2019-2024, National 5 entries from candidates in the least deprived areas achieved an A attainment rate of 25 percentage points above those the most deprived areas.[4]

There has been a significant increase in the number of children with an additional support need, though this varies across local authorities

- In 2024 the number of pupils in Scottish schools with an additional support need (ASN) was 284,448 (40.5%) and has been increasing every year since 2007, when 36,544 (5.3%) had an ASN. Some of this increase may be due to improvements in recording additional support needs over time.
- In seven local authorities, a majority of secondary pupils now have an ASN. There are large variations between local authorities.[5]

Pupil projections by school type, 2023-2055, Scotland



Source: WPI Economics estimates published by the Scottish Government (2023)[7]

Interview insights

Interviewees told us that the education system is facing many challenges and will need to adapt.

- "Can't ignore that we have fallen down the PISA rankings in maths and literacy... we need to think of the implications of the curriculum."
- "Teachers are reporting a change in behaviour [from COVID-19], but it's still the case that a high majority of young people are attending school and behaving well."
- "Technological development reopens question of what education is for... what skills and knowledge will be useful both for work and in social terms, e.g. being a good citizen. Opportunity to rethink the education system right through from preschool to post grad."

Trend S9: Scottish further and higher education sectors compare well globally, but are under increasing financial pressure

Scotland has strengths in higher and further education sectors

- A Fraser of Allander report notes: “Scotland has more than a population share of the UK's researchers and is often cited as ‘punching above its weight’ in terms of research impact and quality”.[1]
- In 2025, the Times Higher Education World University Rankings places three Scottish universities in the top 200: University of Edinburgh (29), University of Glasgow (87) and the University of St Andrews (185).[2]

Financial pressures on colleges and universities are increasing

- Real-terms resource funding for the college sector has reduced by 19.6% since 2021-22.[3] Of the 14 colleges where there are figures for 2022-23, 11 reported a deficit.[4]
- The Scottish Funding Council’s own analysis found that five universities reported underlying operating deficits in 2021-22, and that six universities were forecasting an underlying deficit in 2022-23, increasing to nine in 2024-25.[5]

The higher education sector is increasingly reliant on international income

- International fee income to universities in Scotland was forecast to increase from £1,144 million in 2021-22 to £1,289 million in 2022-23 and £1,617 million in 2024-25, a 41% increase on 2021-22. However, international student recruitment is increasingly competitive and early data suggested that numbers for 2023-24 might be lower than forecast.[6]
- In 2021-22, most international students at Scottish colleges were from China (27% of the overseas students) followed by India (12%).[7] The number of students from the top five source countries has increased significantly between 2020-21 and 2021-22.[8]

Top 10 source countries of overseas students in Scottish universities

Top ten source countries for overseas students in Scottish universities

Top 10 overseas countries	Number of students 2020-21	Number of students 2021-22	As % of total overseas students 2020-21	As % of total overseas students 2021-22
China*	18,555	22,455	27%	27%
India	5,745	10,165	8%	12%
United States	5,285	6,320	8%	8%
Nigeria	2,655	5,620	4%	7%
Pakistan	1,305	3,325	2%	4%
Ireland	2,375	2,275	3%	3%
Germany	2,360	1,925	3%	2%
France	1,935	1,560	3%	2%
Spain	1,685	1,560	2%	2%
Italy	1,920	1,510	3%	2%
Total	43,820	56,705	64%	69%

Data source: HESA

*Hong Kong, Macau and Taiwan are all included under China

Source: Scottish Funding Council (2024)[9]

Interview insights

Interviewees saw the increased numbers of students choosing further and higher education as positive. However, they also noted the financial pressures on university and college business models.

- “An increasing number of people have gained the benefit of higher education. This is one of the triumphs of the last 20 years.”
- “The business model [of universities] can be susceptible to the impacts of geopolitics.”
- “Colleges are too often trying to become like universities (and vice versa in some cases).”
- "Concern over the ability of colleges to run courses due to funding cuts – this likely leads to cuts in courses available, fewer students going to colleges, closure of campuses."

Trend S10: The number of people living alone or experiencing loneliness is increasing

More people than ever are living alone and this continues to grow

- The census shows the number of people living alone increased by over 100,000 between 2011-2022.[1]
- Over a third of all households in Scotland were single person households in 2022 (37.1%).[2]
- The 2022 Scottish Household Survey found that nearly a quarter (23%) of respondents said they felt lonely in the past week.[3]

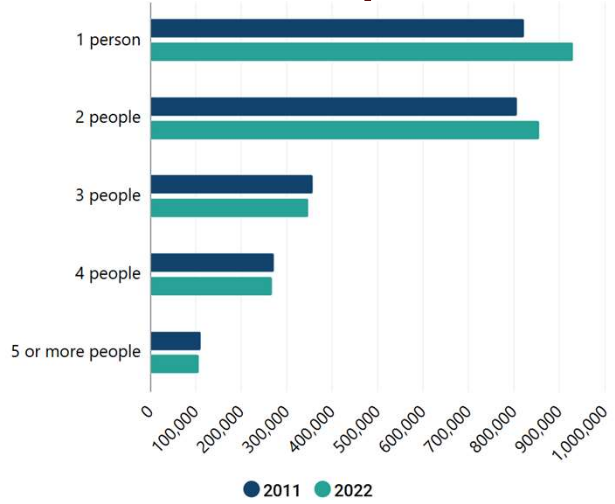
Older people are more likely to live alone and experience loneliness, however many younger people are also isolated

- Over half a million people aged 55 and over were living alone in 2022 (30.1%). This is similar to 2011 when 29.6% of over 55s lived alone.[4]
- In 2022, 95,000 of those aged 16-29 lived alone (11.1%).[5]
- Findings from Age Scotland's Big Survey shows that 58% of over-50s experience loneliness most or all of the time, while 47% are spending less money on socialising because of the cost-of-living crisis.[6]

Loneliness is also increasing for people on lower incomes and with mental health conditions

- The biggest increase in loneliness during the pandemic was seen in older adults (aged over 60) whilst groups identified as experiencing the highest rates of loneliness were those aged 16-24, disabled people, those on lower incomes and those with a pre-existing mental health condition.[7]

Number of households by size, 2011-2022, Scotland



Source: Scotland's Census (2022)[8]

Interview insights

Interviewees talked about the growth of single person households and the impact this might be having on social cohesion and isolation.

- "The number of single person households is increasing. Average household size is falling in most places but is increasing in some urban areas (linked to affordability of housing)."
- "Need to be looking at three-to-five-minute communities where people are... interacting with their neighbours. You need to deal with this loneliness."
- "As a society we have encouraged geographical mobility for work reasons, but this weakens social networks. Also, social mobility can take you out of your friendship networks...and can make it more difficult to maintain a support network."

Trend S11: The growth of social media is increasing connection, but is also linked to polarisation and online harms

Social media use is growing, including in the youngest age groups

- The number of social media users worldwide has grown rapidly and is expected to reach to approximately 5.85 billion users by 2027.[1]
- The 2022 Health Behaviour in School Age Children (HBSC) Scotland study found that girls were more likely to spend time on social media than boys (3.2 hours per day compared with 2.5 hours).[2]
- In the UK, Ofcom finds that social media use is growing amongst the youngest age groups (5-7-year-olds).[3]

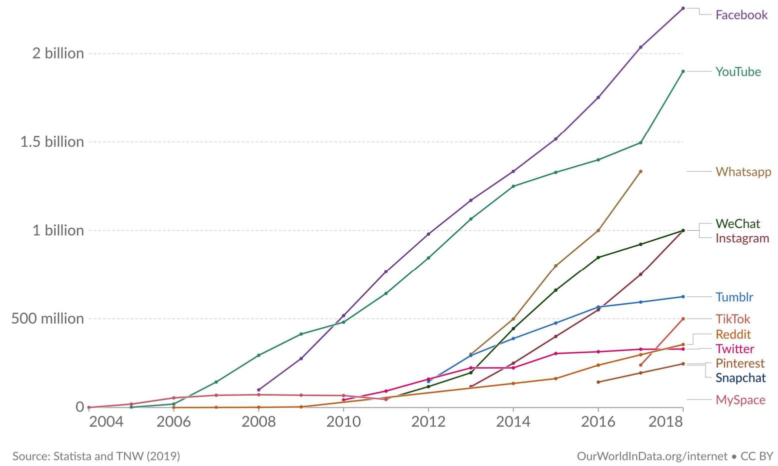
Social media use has been linked to poor mental health and wellbeing, but can also support wellbeing through connection

- Research with teenagers in England found social media use is strongly linked to anxiety and depression, particularly among younger girls.[4] However, other studies have found that non-excessive social media use is positively associated with mental health and wellbeing.[5]
- The HBSC study found that one-third (35%) of adolescents had online contact with close friends almost all the time through the day.[6]

Social media use has been linked with online harms and polarisation

- The 2023 UK Digital Youth Index found three-quarters (76%) of young people said they had had upsetting online experiences, with increases across several categories of harm.[7]
- There has been an increase in problematic social media use among girls of all ages but not among boys: 22% of girls aged 13 reported problematic social media use in 2022 compared with 11% in 2018.[8]
- A systematic evidence review highlighted a growth in studies finding a link between social media and increased polarisation.[9]

Global number of people using social media platforms, 2004-2018



Source: Our World in Data (2019)[10]

Interview insights

Interviewees were concerned that social media is creating negative outcomes for society, particularly for younger people.

- “We haven't learned the lessons of an unregulated social media and the massive harm this has done to children and young people.”
- “In terms of social media and children and young people, our response was not to regulate or to try and control it. Instead, we said we'll just make them more resilient in the face of a system that does not protect them from those who seek to harm them.”
- "It's well documented the poor mental health impacts that excessive amounts of social media use can have on people's mental health. But people can take comfort from …being members of online communities."

Trend S12: The use of AI and online platforms are changing how people create and experience culture

The shift to online platforms is changing how people consume media

- Media consumption habits are shifting away from broadcast TV towards streaming services and video-sharing platforms.[1]
- The shift away from broadcast TV affects all age groups, and younger people in particular: in the UK, 48% of young people aged 16-24 tuned in to broadcast TV in an average week in 2023, down from 76% in 2018.[2]
- Trends suggest decreasing connection with traditional news 'brands' and increasing consumption of news-style content from 'influencers' and partisan commentators.[3]

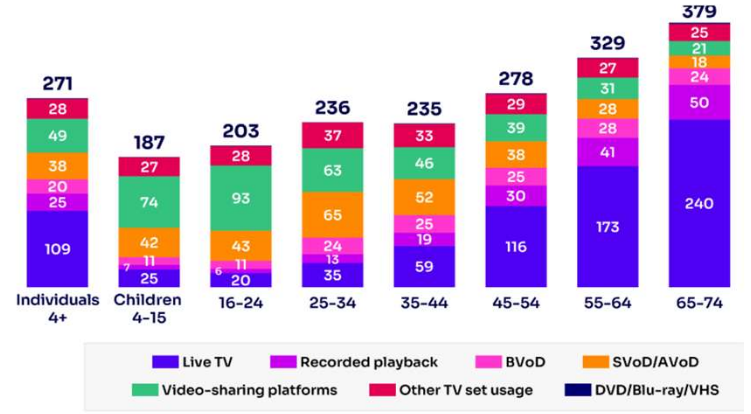
The creators of cultural content are increasingly using digital platforms

- The increasing popularity of video-sharing platforms is driving investment in short-form video-content among publishers and news providers.[4]
- More people are uploading their own video content to platforms like YouTube and TikTok, as 'micro-influencers'.[5, 6]

The use of AI in creative industries is increasing

- The use of AI in creative sectors has increased, creating concern about the potential for AI to use or duplicate the work of human creators without their consent, or to replace their jobs altogether.[7] For example, art has been used to train AI image generators without artists' consent.[8] There have been a series of high-profile creative industry protests and legal actions in response.[9]
- Some creators are adopting AI, using it to create new virtual and digital art. Warner music has recently signed its first virtual popstar, Noonoouri.[10] In 2023 the Beatles' released 'Now and Then', using AI to extract John Lennon's voice from the original demo tape.[11]

Average daily minutes of video viewing at home in 2023, by age



Source: Ofcom (2024)[12]

Interview insights

Interviewees told us that technology such as AI is changing art and culture, and the impacts of this are uncertain. Others talked about the value of the culture sector for Scotland's economy and communities.

- "There will always be space for oils and a paintbrush, however, not certain there will be a space to go and view artefacts."
- "A TikTok video that has 50 million views… these people didn't come together to share that experience. It isn't bringing them together to make them coherent."
- "Recognition of the value of culture has increased, but there's often cuts to cultural budgets when finances are tight. Access to culture helps build communities' resilience. What would the longer-term implications be if no child gets the chance to play a musical instrument, or if we can't keep theatres open, etc?"

Trend S13: Housing affordability is a significant challenge, especially for low-income households renting privately

Purchasing a house became less affordable in the years leading up to the financial crisis, and affordability remains a challenge

- The ratio of the median house price to median disposable household income rose from 4.1 in 2003-04 to 5.9 in 2007-08 in Scotland. Although the ratio moderated in the years after the 2008 financial crisis, at 5.6 in 2022-23 it remains elevated relative to the early 2000s.[1]

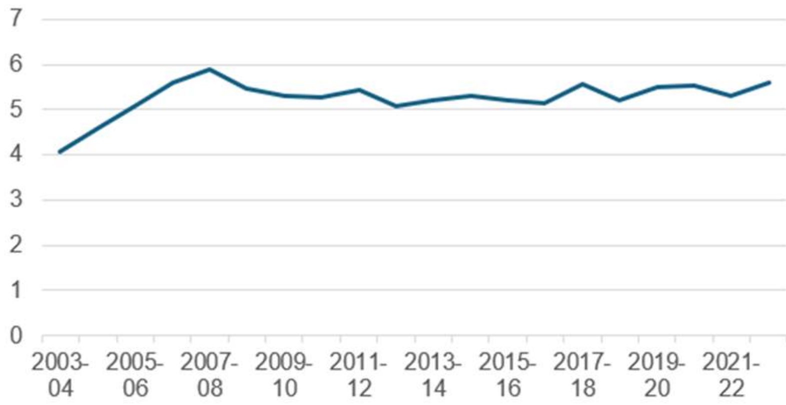
Households in the rented sector spend a higher proportion of their income on housing costs than other tenures

- In 2022-23, the median ratio of housing costs to net unequivalised household income was 23% for households in the social rented sector and 22% for those in the private rented sector, compared with 6% for those owning with a mortgage.
- Households in the lowest quintile of the Scottish income distribution who rent privately spent on average 51% of their income on housing costs in 2021-23, compared with 37% for social renting households. It should though be noted that a significant share of low-income renters receive benefit support for housing costs.[2]

Housebuilding has recovered from post-financial crash lows, but has not returned to early 2000 peaks

- All-sector housebuilding completions fell from 25,747 in 2007 to 15,131 in 2012, before recovering to 22,859 in 2019.
- After a period of significant volatility following COVID-19, there were 19,797 completions in 2024, but only 15,050 starts.[3]

House purchase affordability ratio in Scotland



Source: Office for National Statistics (2023)[4]

Interview insights

Interviewees told us about some of the pressures on the housing market including those impacted by population changes.

- “With a stable population, demand shouldn’t increase for new houses... household composition drives increasing demand because fewer people occupy a building... we want our own space.”
- “Where you have limited land supply, we simply can’t indulge in that level of second homes. We have to use the land more effectively.”
- "Availability of housing is clearly a key issue across the UK... We know that people who suffer poor mental health are often people who are homeless so unless we solve the issue around housing... we have the same structural issues. If the population is shifting west to east, how do you accommodate that shift?"

Trend S14: Infrastructure costs are growing, making it harder to meet future challenges such as decarbonisation

Future demands for infrastructure investment are significant

- A recent EY Parthenon report identifies five major areas that will demand significant infrastructure investment in the coming decades: the energy transition, the demographic transition, upgrades to economic infrastructure, defence and strategic capabilities including supply chains, and technology. With inflation pushing project costs higher, the report identifies £1.6 trillion of UK infrastructure and capital projects to 2040 that are currently unfunded.[1]
- The Scottish Fiscal Commission estimates that an average of £1,136 million a year (in 2024 prices) will be required in additional capital investment from the Scottish Government to reach net zero over the period 2020-2050.[2]

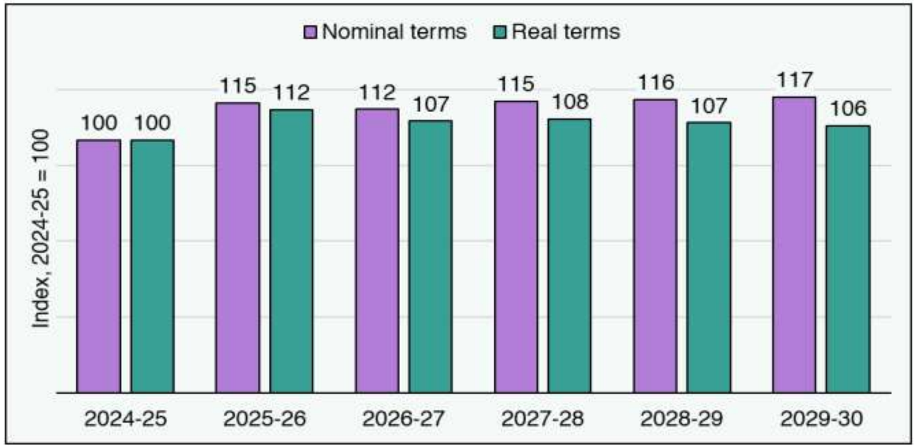
Infrastructure investment funding is projected to increase in the medium term

- Scottish Government capital funding is set to increase over the next period. The capital budget in 2029-30 is expected to be 6% bigger in real terms than in 2024-25.[3]

Spending challenges make delivery more difficult

- Audit Scotland reports that factors including labour market shortages, inflation and supply chain issues have increased construction costs in recent years and put pressure on the Scottish Government's ability to deliver public infrastructure investment.[4]
- However, EY suggests that alternative investment models, design efficiencies and AI could help reduce infrastructure costs over the longer term.[5]

Forecast of the Scottish Government Capital Budget



Source: Scottish Fiscal Commission (2024)[6]

Interview insights

Interviewees told us about the significant infrastructure demands of the future and the importance of investment in economic and social infrastructure.

- "In terms of the big trends – infrastructure. The amount of infrastructure that needs to be built across utilities, water, telecoms and energy is pretty significant."
- "In built environment (BE) – challenges on housing, climate crisis and inequality in a broad sense. BE and housing are underpinning ecosystems which we all rely on. In addressing these trends, we need to recognise the role of BE is not just to build houses and transport/infrastructure, it is a social infrastructure which is needed to enable people to thrive."

Horizon Trends

Technology

Scottish Government Horizon Scanning

Technology

Horizon trends

AI and emerging technologies

Trend 1
The adoption of AI is increasing across society

Trend 2
Increasing development and adoption of more use-cases of quantum technology

Trend 3
The Scottish space sector is growing, with an increased dependence on space assets, data and activities

Green technologies and life sciences

Trend 4
Growing focus of technological efforts towards supporting energy transition and net zero ambitions

Trend 5
Scotland's life sciences sector is growing, with cross-cutting opportunities increasing

Global technology companies and data

Trend 6
Multinational technology companies are dominating markets with greater focus on how to regulate them

Trend 7
Society is becoming increasingly digitalised with more services being provided online

Cyber

Trend 8
Cyber-attacks and threats have grown in sophistication and frequency

Insights

"For AI there is one group saying that 'AI is going to kill us all' and another extreme that 'AI is going to solve all of our problems and there will be no need to work'. The truth will be in the middle."

The market for AI and genomics technologies could increase to £19.5 billion by 2030, up from half a billion in 2021.[1]

"Growth in large multinational technology companies could reduce competition… competition policy has not kept up with the changes in global tech companies."

43% of UK businesses and 30% of charities reported experiencing any kind of cyber security breach or attack in 2025.[2]

Trend T1: The adoption of AI is increasing across society

Business and personal use of AI and automation is increasing

- In the UK, a 2022 report estimated that 68% of large, 33% of medium and 15% of small companies had incorporated at least one AI technology within their operations, with a further 10% planning to in the future.[1]
- In the UK, 46% of children aged 8-17 have used AI compared with 23% of adults aged 18+.[2]
- A forecasting study on the use of AI in domestic settings estimated that within 10 years, on average 39% of the time currently spent on domestic tasks could potentially be automated.[3]

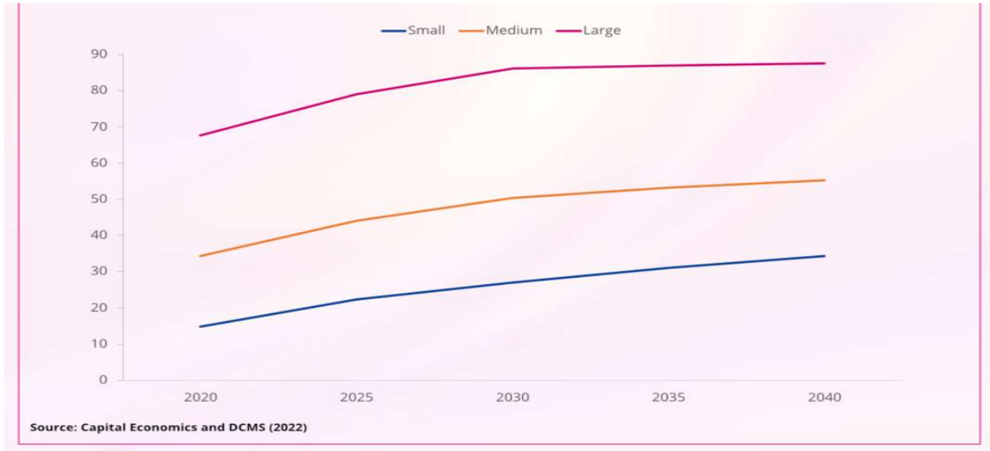
AI will influence service delivery in the public sector

- AI is likely to have an important role in healthcare and education reforms.[4]
- Most OECD countries are at the 'emerging' stage of AI adoption in healthcare, with the US and the UK at the highest level of maturity.[5]
- Barriers to uptake include difficulties around procurement processes, data management, regulatory clarity and bias in AI-decision making.[6]

The impacts of AI are highly uncertain

- There is debate about the extent to which AI will meet business expectations. A 2024 Deloitte survey found 79% of business leaders expected generative AI to drive substantial transformation over the next three years.[7] Other analysis suggests adoption will depend on many factors including cost, accessibility, ease of integration and scaleability.[8]
- Governments and others are concerned about how to manage the potential harms of generative AI, identifying risks of malicious use (fake content, manipulation, cybercrime); risks of malfunction (bias, loss of control); and systemic risks (labour market disruption, risk of deepening inequality, market concentration, privacy, copyright and environmental risks).[9]

Share of businesses adopting AI by size, 2020-2024



Source: UK Government (2021)[10]

Interview insights

Many Interviewees noted the rise of AI and noted areas where it could be used positively, such as combating climate change and in healthcare. There were experts who were cautious about AI, both in terms of the hype over potential benefits, and risks.

- "Not saying the AI bubble will burst, but it will shrink."
- "We have, in effect, used all the data we have to train AI, we shouldn't expect Artificial General Intelligence. AI has no awareness of what it's doing."
- "For AI there is one group saying that 'AI is going to kill us all' and another extreme that 'AI is going to solve all of our problems and there will be no need to work'. The truth will be in the middle."

Trend T2: Increasing development and adoption of more use-cases for quantum technology

The development of quantum technology is gathering pace

- Quantum technology harnesses principles of quantum mechanics to build tools with the potential to drive huge increases in computing power, ultra-secure encryption, and high-precision sensors.
- Scotland has a strong and well-established photonics sector (with £1.2 billion industrial turnover annually).[1]
- Scotland is seen as important for the development of quantum technology in the UK, with Scotland leading two of the five Quantum Hubs announced by the UK Government in 2024.[2 3]
- Central Scotland has received around 30% of the UK Government's Innovate UK funding for quantum.[4]

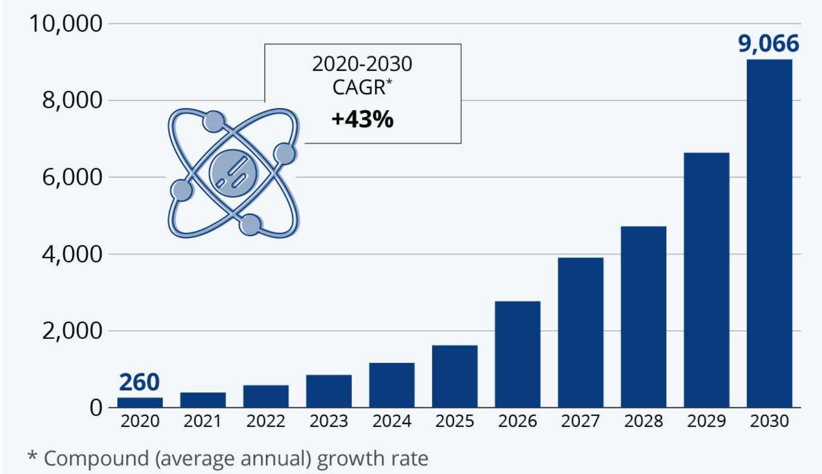
Global investment in quantum technology is rapidly increasing, but longer-term investment and patience is required

- In 2022, public investments increased by more than 50%. This represents a third of all investments in quantum technology, with multiple countries, including the UK, announcing significant new funding initiatives.[5]

Whilst the development of quantum technology could increase resilience, it may also create significant new threats to national security[6]

- Currently, the security for most internet-based communications is based on public-key cryptography. Almost all will be vulnerable to a 'cryptographically relevant' quantum computer which could allow attackers to forge digital signatures or tamper with authentication.[7]
- Commentators have discussed a possible 'quantum arms race', between ever stronger encryption/cybersecurity and more sophisticated cyber threats. Others have suggested this may be exaggerated.[8]

Projected worldwide market size of quantum computing ($ US million)



Source: Statista Digital Economy Compass (2021)[9]

Interview insights

Interviewees discussed the rise of quantum technology and outlined sectors where it could be useful, such as medicine and the built environment. Many expected it to continue to grow but expressed concerns over security, competition and inequalities.

- "Government and organisations are focused on issues like AI and quantum, but many rural people don't even have internet."
- "Quantum will be the underpinning piece that will enable the AI activity. We have strengths in adjacent tech capabilities (photonics industry which is the underpinning tech for quantum) which puts us in a really strong place, and we produce high skilled graduates."
- "General quantum computing will improve. Expect more security focus overall given attacks continue to evolve."

Trend T3: The Scottish space sector is growing, with an increasing dependence on space assets, data and activities

Scotland is a significant player in the global space industry

- As space becomes more accessible, private and commercial interests will increasingly drive space expansion and innovation.[1]
- The number of space businesses in Scotland has increased by more than 65% since 2016.[2] The sector has recorded a consistent 12% growth since 2016, contributing 14% to the UK space economy in 2020.[3]
- In 2021/2022, 228 space organisations were located in Scotland, employing 6,404 people. 12% of all UK space sector jobs are based in Scotland.[4]
- Scotland currently has two spaceports in development, with one development currently paused. The first vertical launch from Scotland is scheduled to take place in 2025.[5 6]
- Scotland has a strong focus and expertise in small satellite manufacturing, data analytics, and has emerging strengths in the launch sector, potentially providing ‘end-to-end’ capability.[7]

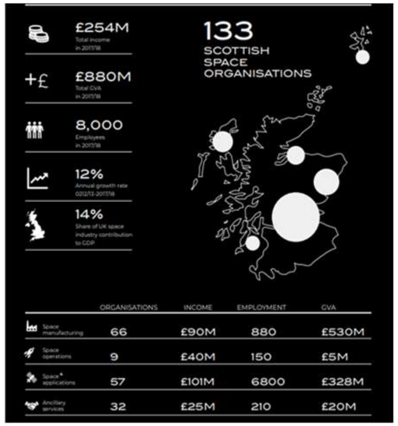
Significant growth in the space sector is expected to continue

- By 2030, Space Scotland expects the Scottish space workforce to increase to five times its current number.[8]
- The Scottish Space Strategy is aiming to have a £4 billion share of the global space market and 20,000 jobs in the sector by 2030.[9]

Space capabilities and assets are subject to risks and threat

- Space assets and capabilities support critical civilian and military infrastructure, which makes them a potential target for hostile actions.[10]
- As space activity and space debris increase, space is becoming increasingly congested. There will be increasing competition for orbits, and increased risk of collisions, leading to potential tension or conflict.[11]

The Scottish space cluster in 2020



Source: Space Scotland (2021)[12]

Interview insights

Interviewees noted that the space sector was likely to be important in the next 10-20 years for Scotland, seeing the sector as a big opportunity.

- “Scotland did not have a Space sector until 2005, now it is one of the fastest growing sectors.”
- “In Space, we’ve been ahead of the curve, but with a globally competitive environment… with other countries understanding the criticality of the space-based assets and embedding that in the central national programmes, we are not doing that at the same level. Scotland lacks the financial levers to make it happen.”
- “The space sector is very important because we have the manufacturing, launching, data gathering and observations taking place in main cities, but the clustering takes place in remote rural communities."

Trend T4: Growing focus of technological efforts towards supporting energy transition and net zero ambitions

Emerging green technologies supporting our net zero ambitions

- Responding to climate change is driving innovation and technological development across sectors, including renewable energy, electrification and batteries, fuels such as hydrogen and biofuels, and transformations in manufacturing, industrial processes, agriculture and construction.[1]
- Scotland has a strong and growing industrial biotechnology community. Due to the fast growth of the industry, original growth targets for 2025 were revised and increased.[2]
- Scotland is already leading in development and use of environmentally-conscious and sustainable space technologies e.g. Orbex's Prime launch vehicle uses a renewable fuel that emits 90% less CO_2 than traditional rocket fuels and has been designed to generate zero debris post-completing its function in orbit.[3]
- AI could be used to help us achieve our net zero ambitions e.g. Space Intelligence has developed AI-driven solutions for satellite imagery data analysis to tackle climate change and biodiversity loss, mapping more than one million hectares of land from space to remotely measure carbon storage and deforestation.[4]

However, emerging technologies also contribute to, and exacerbate, the problem of climate change

- AI contributes to climate change through its reliance on energy-intensive data centres and rare critical minerals/resources like cobalt, lithium and tantalum.[5]
- Unknown impacts of the creation and release of new, engineered species into the environment – soil quality and biodiversity could be improved, or impacted negatively.[6]

Updated National Plan for Biotechnology Targets for 2022

Source: Industrial Biotechnology Innovation Centre (2022)[7]

Interview insights

Some interviewees noted the opportunities for Scotland to develop and market green technologies across different sectors in support of net zero. Others flagged concerns about the potential negative impact of new technologies such as generative AI.

- "Really good position to benefit from wider ambition for clean energy to benefit from green semi-conductor manufacturing …given the increasing interest in making the manufacturing processes sustainable."
- "There are ideas that AI can help mitigate climate change, although at the moment AI is contributing to the crisis through the way it is being used and the infrastructure required to support it."

Trend T5: Scotland's life sciences sector is growing, with cross-cutting opportunities increasing

Scotland has one of the biggest life sciences sectors in Europe[1]

- In Scotland, employment in the life sciences cluster was estimated at 46,900 in 2022, up 4.2% on 2021.[2]
- Output in the sector increased by 11.6% in quarter four 2024 compared with quarter four 2023, with output across the economy as a whole increasing by 1.7%.[3]
- Scotland has strong capability in engineering biology, which combines biological science techniques with technologies such as AI and robotics and has wide applications including in health, agritech and industry. Organisations such as the Edinburgh Genome Foundry contribute to the UK's global leadership position.[4]

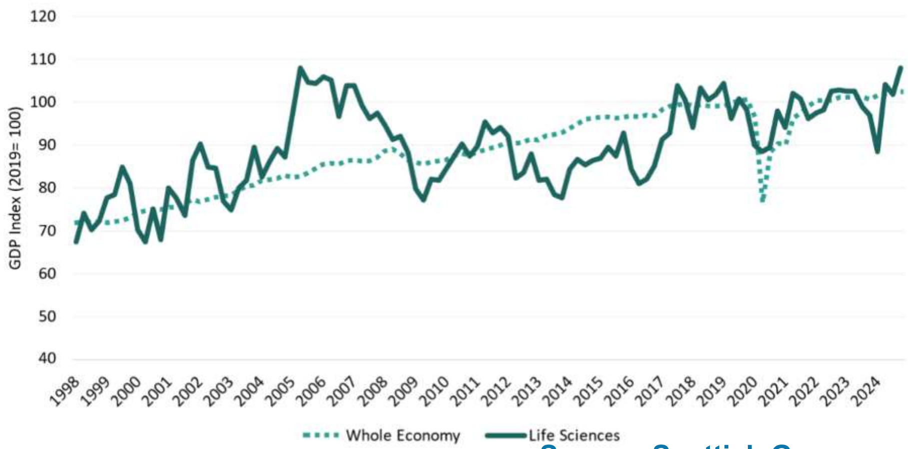
Sectors and technology are converging with greater power and capability of applications

- Many recent advances in the field of genomics have been made possible by AI, with significant growth seen in the past decade. The market for AI and genomics technologies could increase to £19.5 billion by 2030, up from £0.5 billion in 2021.[5] Developments in generative AI could lead to further breakthroughs in drug discovery and manufacturing.[6]

Ethical and privacy concerns to consider as technology develops at pace, particularly with cross-cutting innovations in healthcare

- Currently, genomic data is regulated by a mixture of regulations and laws resulting in a lack of clarity on data protection issues for organisations and the public. There are also ethical considerations around the use of genomic data to inform policy or services.[7]

Scottish quarterly GDP index with life sciences sector, by year



Source: Scottish Government (2025)[8]

Interview insights

Interviewees told us that the life sciences sector in Scotland was well-placed to continue growing but requires funding and investment.

- "The advantages and the edge Scotland/the UK once had are at risk of being lost, especially in sciences/life sciences, as other countries build their university/research and innovation sectors. We need to do something before we fall further behind the curve."
- "In life sciences we do provide good support and funding to be able to make the initial step in start-ups, but we are lacking in then linking these new companies into long-term investors, although some universities do this better than others."
- "Scotland's existing university base can deliver progress in relation to life sciences."

Trend T6: Multinational technology companies are dominating markets with greater focus on how to regulate them

The power of multinational ‘big tech’ companies continues to be consolidated

- Google, Amazon, Meta, Apple, and Microsoft have a user-base in the billions – together they have a market value of almost $7 trillion.[1]
- Across their different specialisations, these companies drive innovation and shape consumer and business behaviour across the global tech ‘ecosystem’.[2]

The dominance of big tech companies has led to concerns over competition, data protection, online safety and social and political impacts

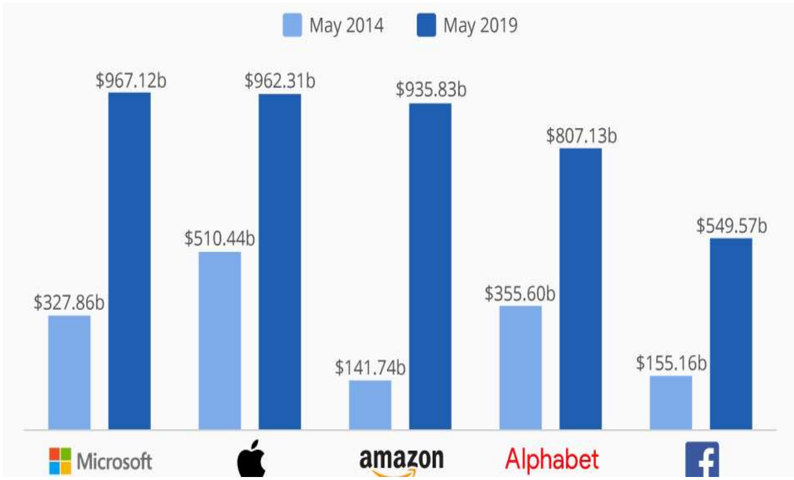
- They hold huge market power in crucial technologies with high barriers to entry, creating challenges for smaller companies to enter and compete in markets. [3]
- Cloud systems in the UK are dominated by Amazon Web Services and Microsoft, which collectively comprised 70-80% of the market share in 2022.[4]
- The dominance of a few tech firms in key areas creates systemic vulnerabilities.[5]
- Large tech companies have access to vast quantities of user data – providing them with enormous resources, including the basis for training AI models.[6]
- Their access to user data has led to privacy concerns and breaches.[7]
- The reach of the largest social media and search engine platforms gives them the power to influence public discourse and political processes.[8]

There is a growing focus on effective regulation to support competition, online safety, data protection and consumer rights [9]

- The UK Digital Markets, Competition and Consumers Act aims to promote digital competition and consumer rights. It includes the provision to confer ‘strategic market status’ imposing additional responsibilities on the largest companies.[10]
- The EU Digital Markets Act 2022 seeks to prevent anti-competitive practices through fines of 10% of global revenue.[11] Google were found to be in breach of anti-trust laws for using Android to reduce competition over search engines and fined €4.2 billion in 2022.[12]

[14]

Market cap of select tech companies in 2014 and 2019



Source: Statista (2019)[13]

Interview insights

Interviewees raised concerns about the growth in multinational tech companies and the impacts this would have on issues such as data security and equalities. However, many saw opportunities for Scotland through increased investment.

- “Growth in large multinational technology companies could reduce competition… competition policy has not kept up with the changes in global tech companies.”
- “People are peddling the myth that regulation is a barrier to innovation, but it is good thing when done well.”
- “People need to be empowered with knowledge to challenge the ideas that have been put forward by big tech.”

Trend T7: Society is becoming increasingly digitalised with more services being provided online

Digital infrastructure has been improving over time in Scotland

- Investment in 5G connectivity is underway, with 6G and other advanced wireless technologies on the horizon.[1]
- 62% of Scottish homes had access to full-fibre broadband as of July 2024, an increase of 9 percentage points from September 2023 – and up from 41% in 2022 and 10% in 2019. The availability of 5G coverage continues to grow steadily.[2]
- Computing power, storage and connectivity have all grown exponentially over the last 15 years and will continue to accelerate.[3]

Personal and business digital use is increasing and evolving

- The share of Scottish businesses using cloud computing almost doubled between 2017 and 2021 to 74%.[4] Digital tools and platforms are driving innovation in the way we work, enabling collaboration, integration of services, data analytics, and increasing use of AI and automation.[5]
- In 2023, the internet was used for either for work or personal use by 91% of adults in Scotland, a steady increase over time from 65% in 2007.[6]
- Digital exclusion remains a concern in Scotland, with 15% of the adult population lacking foundation level digital skills.[7] Older people, disabled people, people with low-incomes and households in rural areas or areas of higher deprivation are more at risk of digital exclusion.[8]

Digitalisation demands more data centres, leading to greater energy use. The energy needs of generative AI are particularly high

- Global data centre electricity usage is set to double between 2017 and 2026.[9] In the Republic of Ireland, where several large technology firms have European headquarters, data centres were responsible for 21% of total electricity use in 2023.[10]

Summary of broadband coverage at a fixed location, by UK nation

	Gigabit-capable (residential)	Full fibre (residential)	Superfast (residential)	Unable to get decent (all properties)
UK	83%	69%	98%	0.2%
Scotland	77%	62%	96%	0.5%
Northern Ireland	94%	93%	98%	0.2%
Wales	74%	68%	96%	0.5%
England	84%	69%	98%	0.1%

Source: Ofcom (2024)[10]

Interview insights

Interviewees saw many opportunities for digital services, for example in health and care, though were conscious of digital exclusion. Green data processing was a potential opportunity.

- "Digital is a huge opportunity. …In the context of our health service …so many ways in which you can use it to expand or adapt service provision in order to meet increased need or meet needs better."
- "Digital poverty is really key…For example if people access benefits via a digital portal …We need to make it as accessible as possible."
- "Limited locations in Europe that can credibly attract hyperscale low carbon data centres. It requires a huge amount of clean power, a relatively cold location, …and access to talented people with relevant skills."

Trend T8: Cyber-attacks and threats have grown in sophistication and frequency

Cyber-attacks and cyber-crime pose a significant threat to individuals and organisations

- As people, businesses and public services increasingly rely on online platforms and services, cyber-attacks and cyber-crime have become a major threat to individuals and organisations.[1]
- According to UK 2025 data, 43% of businesses and 30% of charities reported any kind of cyber-security breach or attack in the previous 12 months. While rates had decreased for smaller organisations, they remained high for large and medium-sized organisations. The report estimated that 20% of businesses and 14% of charities had been the victim of at least one cyber-crime in that period.[2]
- The NCA considers ransomware to be the most serious cybercrime threat. In 2025, identified incidents of ransomware impacting UK victims had doubled compared with 2022.[3]

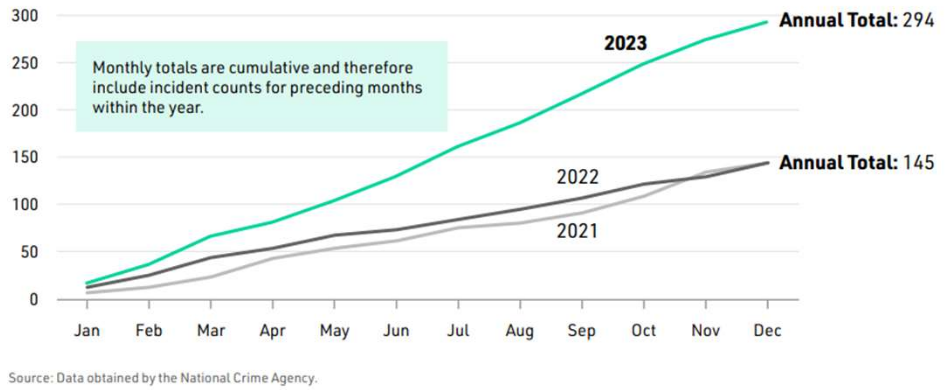
Cyber-security threats have grown in intensity, complexity and severity

- Cyber-threats are constantly evolving, with criminals adopting advances in technology such as AI to automate and accelerate attacks, and to integrate more convincing fraud elements such as deepfakes and impersonation.[4]
- Scotland has seen a rise in sophisticated and high-profile attacks, including advanced persistent threats, ransomware attacks and sophisticated social engineering tactics.[5]

Cyber-attacks pose a national security risk

- Cyber-attacks on Scotland's critical infrastructure pose a significant national security risk.[6] The health sector is a target due to the amount of personal information held.[7] For example, NHS Dumfries and Galloway was the target of a cyber attack with sensitive information accessed and subsequently published in 2024.[8]

Ransomware incidents, UK



Source: National Crime Agency 2025[3]

Interview insights

Many interviewees noted the risk of cyberattacks was increasing in complexity and likelihood, with potential for attacks on public services.

- “The risk of threats to cybersecurity are increasing every day… ensuring that Scotland is up to date with the biggest risks is absolutely critical, particularly as we digitalise the energy system.”
- “Few people understand enough about the threats that are out there… needs greater education to understand impact on the world or could be used as a ‘power-stick’ for the few that do understand.”
- "Security aspect [of quantum] is critical with continued attacks likely as we move towards more sophisticated, targeted mechanisms that can break through security... could cause chaos to critical infrastructure such as financial markets or energy or reduced trust in governments."

Horizon Trends

Natural Resources, Energy and Climate Change

Scottish Government Horizon Scanning

Natural Resources, Energy and Climate Change

Horizon trends

Climate change and just transition

Trend 1
Global climate change will lead to further increases in extreme weather events in Scotland

Trend 2
The shift away from fossil fuels will transform Scotland’s infrastructure and economy, increasing the focus on just transition

Biodiversity and soils

Trend 3
Biodiversity loss and risk of ecosystem collapse are accelerating globally and in Scotland

Trend 4
Soil degradation and coastal erosion are increasingly impacting the quality and availability of land

Water and marine ecosystems

Trend 5
Scotland’s future water quality and availability are increasingly at risk due to climate change and human activity

Trend 6
Marine ecosystems are increasingly vulnerable to climate change, pollution and contaminants

Food, agriculture, forestry, land and waste

Trend 7
Concern about food security and production is increasing due to geopolitical pressures and the impacts of climate change

Trend 8
Changes in land uses are increasingly contributing to the climate and biodiversity crisis

Trend 9
Increased levels of waste and pollutants are hazardous for health and biodiversity

Insights

“We already observe that the west is wetter in the winter and projections indicate that this will continue. The seasonal distribution of rainfall is more unpredictable, and this variability will increase with extremes becoming more frequent”

In the UK invasive non-native species cost the economy almost £4 billion a year, with agriculture being the industry affected the most, followed by construction, development and infrastructure, tourism and recreation and forestry.[1]

“We haven’t been very efficient at using our water because we have been a water-rich nation. Historical lack of water management as a result but now exposing resilience issues”

Globally plastic waste is projected to almost triple by 2060, with OECD countries projected to double their plastics use. Half of all plastic waste is still projected to be landfilled and less than a fifth recycled.[2]

Trend N1: Global climate change will lead to further increases in extreme weather events in Scotland

Human-caused climate change is already affecting many weather and climate extremes in every region across the globe

- Extreme weather events are the top-ranked risk over a ten-year period in the World Economic Forum Global Risks Report 2025. The impacts of extreme weather may deplete available economic resources to mitigate and adapt to climate change.[1]

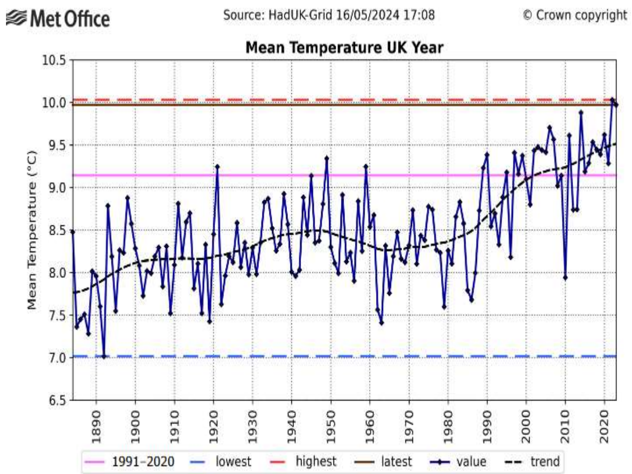
Recent decades have been warmer, wetter and sunnier

- Six of Scotland's 10 wettest two-day periods on record have occurred in the 21st century, including three in the most recent decade.[2]
- Scotland's 10 warmest years on record have all occurred since 1997. The average temperature for 2014-2023 was 1.02°C warmer than the 1961-1990 average, and the warmest year on record was 2022.[3]
- Projected increases in intense heavy rainfall events will increase the risk of river and surface water flooding. Even the recent modest increases in mean sea level have resulted in more frequent floods.[4]

Extreme weather events are happening more frequently

- Scotland's climate is changing faster than predicted, with increasing likelihood of more frequent extreme weather.[5]
- Extreme rainfall events could be four times as frequent in the UK by 2080 compared to 1980, reaching almost 10 times more frequent in Northwest Scotland.[6]

Annual mean temperature for the UK 1984-2023



Source: Kendon, M. et al. (2024)[7]

Interview insights

Interviewees talked about increases in unpredictable and extreme weather events resulting from climate change and impacts on Scotland.

- "We already observe that the west is wetter in the winter and projections indicate that this will continue. The seasonal distribution of rainfall is more unpredictable, and this variability will increase with extremes becoming more frequent."
- "Climate is becoming more chaotic, and increasingly problematic for current land and sea uses, which are focused on maximising productivity and yield based on a stable climate assumption, which is not the world we currently live in, and these trends and patterns will magnify in coming decades."

Trend N2: The shift away from fossil fuels will transform Scotland's infrastructure and economy, increasing the focus on just transition

The renewable energy share in the total energy mix is increasing, with electricity the main carrier and a growing role for hydrogen

- The share of renewable energy in the global energy mix is predicted to increase from 16% in 2020 to 77% by 2050. Electricity will account for over 50% of the total.[1] Renewable technologies generated the equivalent of 113% of Scotland's overall electricity consumption in 2022.[2]
- UK transport's consumption of petroleum products will fall by over 90% by 2050 and be replaced by sustainable fuels (e.g. hydrogen, electric).[3]
- The Scottish Government aims to have capacity to produce five gigawatts of hydrogen by 2030 and 25 gigawatts by 2045, creating up to 300,000 jobs and potentially contributing £5-£25 billion GVA a year by 2045.[4]

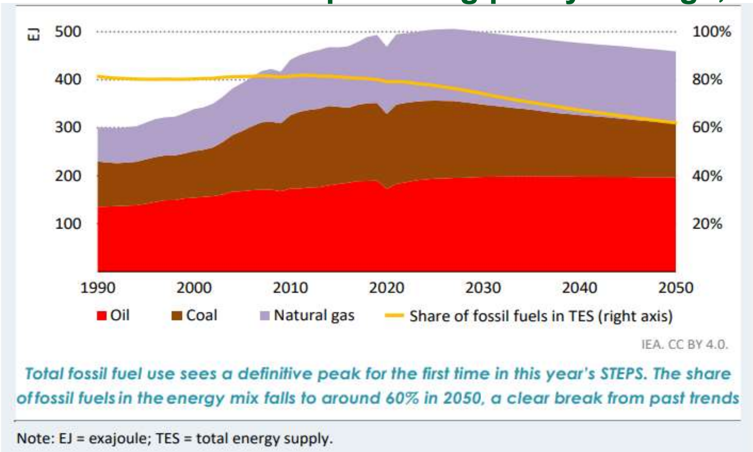
Shifting away from fossil fuels will require infrastructure changes

- Scotland's electricity infrastructure urgently needs more capacity.[5]
- SSEN Transmission has plans to invest £10 billion in the electricity grid in the north of Scotland, supporting more than 9,000 jobs. This is expected to contribute around £2.5 billion of direct additional benefit (gross value added) in Scotland.[6, 7]
- Of the 283 active oil and gas fields in the North Sea, 180 will have ceased production by 2030. Decommissioning and removal of infrastructure is a major focus, with over £20 billion in expenditure forecast from 2023-2032.[8]

The global economic shift required to achieve society's climate goals will intensify the focus on a just transition

- The shift towards low-carbon and sustainable economies required to meet climate goals demands redirection of financial resources toward green technologies, innovation and adaptation solutions.[9]

Fossil fuel demand based on prevailing policy settings, 1990-2050



Source: International Energy Agency (2022)[10]

Interview insights

Interviewees told us about the potential opportunities presented by Scotland's natural resources and electricity generation.

- "Our own natural resources could be harnessed more … in a way that can reduce the insecurity and build a bit more resilience into our own economy"
- "There are significant amounts of energy infrastructure for the whole of GB that are completely dependent on Scotland, like transmission lines, cables, getting all of the offshore wind energy to the demand centres in the South."
- "We are in process of transformation in energy – electricity generation in Scotland. We will likely see this continue, and Scotland will be a powerhouse for the UK."

Trend N3: Biodiversity loss and risk of ecosystem collapse are accelerating globally and in Scotland

The potential for multiple global ecosystems to collapse is increasing

- Since 1990, 420 million hectares (larger than the size of India) of forest have been lost through conversion to other land uses, and another 100 million hectares are at risk.[1] The Amazon rainforest ecosystem may collapse by the 2060s.[2]
- Amplifying feedback from melting Arctic tundra may lead to increasing rates of greenhouse gas emissions.[3]
- According to IPCC scenarios, with increasing CO_2 emissions, the land and ocean carbon sinks are projected to be less effective at slowing the accumulation of CO_2 in the atmosphere.[4]

Biodiversity loss is accelerating

- Drivers include changing use of land and sea, exploitation of organisms, climate change, pollution and invasive species.[5]
- In Scotland 11% of species are threatened with extinction, with this figure highest among vertebrates (37%).[6]
- Since 1994, the abundance of species in Scotland has fallen by 15%, including seabirds which have declined by 49% between 1986-2023.[7]
- Biodiversity loss reduces species that are critical in providing ecosystem services including pollination, purifying water, and maintaining soils.

Invasive non-native species are having negative impacts

- Invasive non-native species can reduce or replace native species, and 10-12 new non-native species establish each year in the UK.[8]
- Invasive non-native species cost the UK economy almost £4 billion a year, with estimated costs in agriculture at £1.1 billion. The cost to the Scottish economy is £599 million.[9]

Change in average species abundance over time

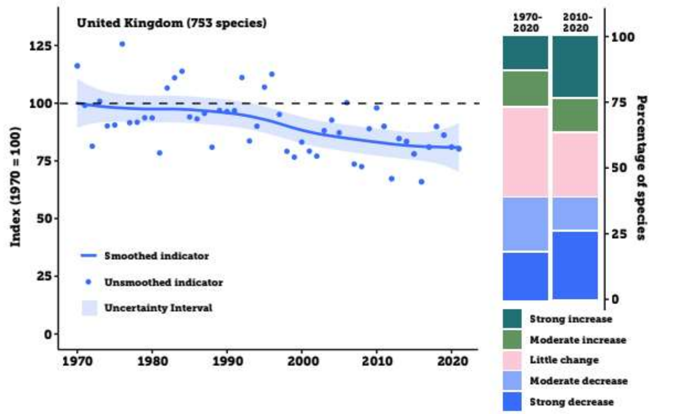


Figure 1: Change in average species' abundance across terrestrial and freshwater species (mammals, butterflies, moths, landbirds and wetland birds). The bar chart shows the percentage of species within the indicator that have increased, decreased (moderately or strongly) or shown little change in abundance (1970- 2020: 753 species, 2010-2020: 743 species).

Source: State of Nature Partnership (2023)[10]

Interview insights

Interviewees discussed acceleration in biodiversity loss and the impacts of this, as well as drivers for this such as invasive species.

- "Risks about increased pests for agriculture, increase in invasive species, increase in extreme events and climatic conditions."
- "We need to support nature to adapt itself, with the biggest threats to species being invasive species. Asian hornet invasion – this is the first time they have survived through winter as a new species, which has a potentially huge impact on pollinators who are key in the cycle of restoration."
- "Warming seas are likely to bring about changes in the fish stock distribution. Also, non-native invasive species are likely to be more frequent in Scottish waters, impacting on aquaculture and biodiversity, and creating biosecurity risks."

Trend N4: Soil degradation and coastal erosion are increasingly impacting the quality and availability of land

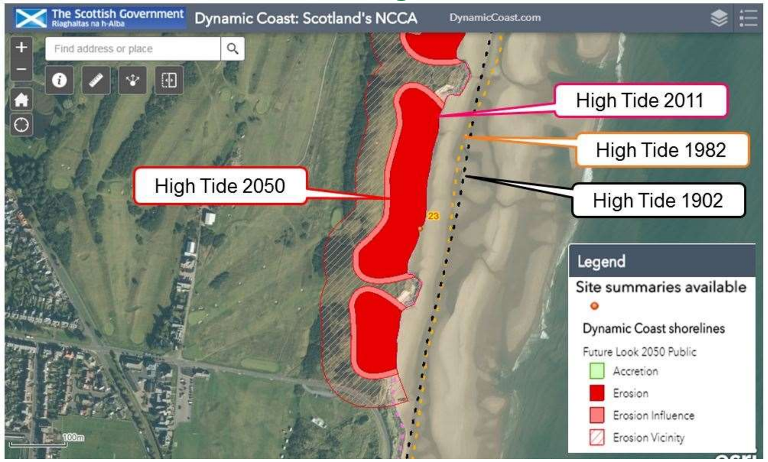
Climate change and land use are causing soil degradation

- The poor management of soils has the potential to lead to biodiversity decline, as well as damage to human health and built infrastructure. Soil degradation describes what happens when the quality of soil declines and diminishes its capacity to support animals and plants.[1]
- 75% of soils globally are already degraded, directly impacting 3.2 billion people. By 2050, 90% of the planet's land surface could be degraded.[2]
- The estimated annual costs of soil degradation in Scotland from soil sealing and compaction range between £25 and £75 million due to reduced crop yield and increased fuel use.[3]
- In Scotland, it is probable that soils will become drier and experience a higher frequency of droughts and wildfire. This is particularly important to Scotland's peatlands, where impacts include a loss of carbon sequestration ability, an increase in emissions and the loss of habitat and biodiversity.[4]

Coastal erosion expected to affect an increasing proportion of Scotland's shoreline

- Erosion of coasts that provide a natural buffer against extreme weather has put 100-300 million people at increased risk of flooding globally.[5]
- In Scotland, coastal erosion affects 46% of the soft shorelines, compared with 38% in 2017. The average rate of erosion is 0.43 miles a year.[6]
- Increases in future sea levels around Scotland are expected to result in increases in coastal erosion in the coming decades [7].
- There are £20 billion of road, rail and residential assets within 50 metres of Scotland's coast. In a high emissions scenario £1.2 billion of assets are at risk of erosion by 2050, including 647 residential properties.[8,9]

Scotland's national coastal change assessment



Source: Dynamic Coast (undated)[10]

Interview insights

Interviewees talked about impacts of climate change on soil and coastal erosion, and the implications for infrastructure and biodiversity.

- "For Scotland in 2045 the projection is for sea level rise of 12-18 centimetres. Seems quite small – but when you add for propensity for more storms and you map across Scotland's infrastructure, i.e. road and rail, the coastal erosion impacts are significant."
- "Intense rainfall events – soil erosion and risk of soils erosion – is a big issue. Soil is a vital natural resource that people take for granted...Trends are increasing – not just loss from fields but also impacts on riverbeds and biodiversity."
- "Recently we have seen huge impacts to coastlines, and this likely to become more prevalent."

Trend N5: Scotland's future water quality and availability are increasingly at risk due to climate change and human activity

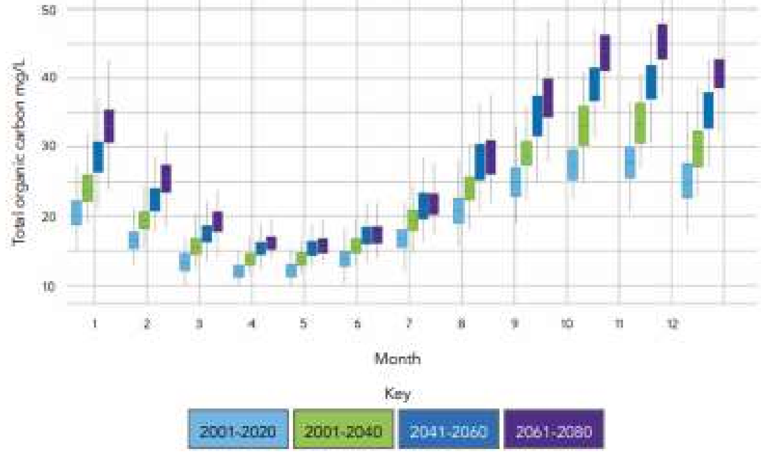
Despite recent improvements, pressures on the water environment are increasing

- 87% of Scotland's entire water environment is assessed by SEPA as having a 'high' or 'good' classification for water quality. Freshwater ecology also indicates improved water quality with increases in river invertebrate species.[1]
- However, there are a range of pressures on water ecosystems from different sources of pollution, such as sewage and agriculture.
- Pressures on the water environment are increasing from population changes, land use (e.g. pumped hydro storage facilities), emerging contaminants (e.g. 'forever chemicals') and climate change, with drought periods previously only occurring once every 40 years, now projected to be happening once every 20 years by 2050.[2]
- Models to 2049 show almost all of Scotland's arable land to be in constant climatic water deficit from May to August, while around 70% to 80% is projected to be in water stress in September.[3]

Drinking water quality is also expected to decline

- Scottish Water assessments indicate that by 2050, over 200 of Scotland's water sources will be at higher risk of deteriorating raw water quality, with upland reservoirs becoming increasingly vulnerable to organic matter.[4]
- Globally, worsening water quality could eliminate one-third of potential economic growth in heavily polluted areas and threaten human and environmental wellbeing. The range of pollutants is expanding with prosperity.[5]

Forecast of increased organic levels of upland sources



Source: Scottish Water (2024)[6]

Interview insights

Interviewees noted water as a valuable resource for Scotland, both a source of opportunity and a risk if we fail to manage our resources.

- "People need to value their water, to move away from using high quality drinking water (that takes a lot of energy and carbon to produce) for watering plants and washing cars. The future is about strategies to promote reuse of grey water."
- "We haven't been very efficient at using our water because we have been a water-rich nation. Historical lack of water management as a result but now exposing resilience issues."
- "Climate change will result in the appearance of harmful algal blooms – harmful to humans and human food production, and changes in the composition of plankton communities."

Trend N6: Marine ecosystems are increasingly vulnerable to the combined impacts of climate change, pollution and contaminants

Pressure on marine ecosystems from multiple sources

- Three high-intensity stressors are putting pressure on marine ecosystems: increased global temperatures, ocean acidification and increased deoxygenation.[1]
- Ocean warming (0.88°C higher in 2011-2020 compared to 1850-1900), oxygen loss (down 3-4% by 2100) and ocean acidification (decreased pH by 30% in 2023 compared with 1700) may be occurring at a speed that outstrips the capacity of species to adapt.[2]
- The European Marine Climate Change Index finds ecosystems in semi-enclosed seas, shallower shelf areas and coastal areas are more vulnerable than those in open sea areas. Vulnerability is high in parts of the Baltic, Adriatic and North Seas.[3]

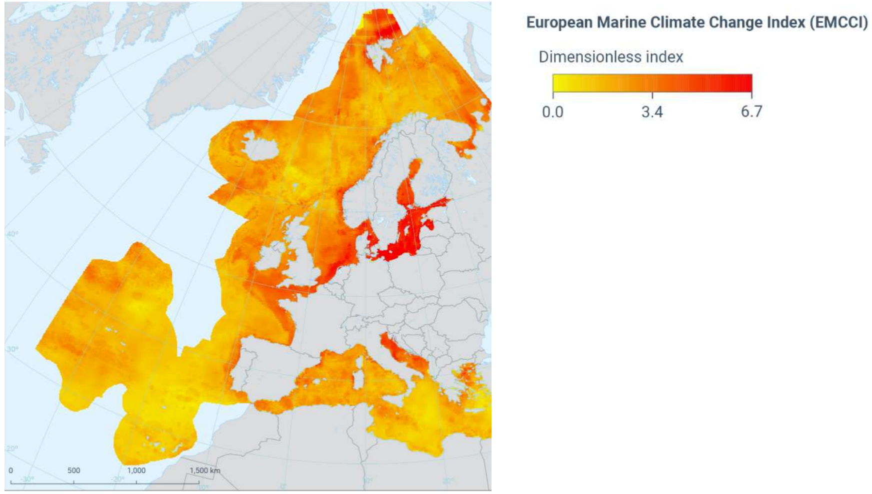
Climate change is the most critical factor affecting Scotland's marine environment

- Sea-levels are rising. While uncertain, projections of sea-level rise suggest a range of between 0.23-0.54 metres (central estimate) for Edinburgh by 2100.[4]
- Impacts of climate change are already being seen across the Scottish marine ecosystem. Rising sea temperatures are causing changes in species distributions.[5] For example, horse mussel beds in the west of Scotland are predicted to lose 100% of their 'most suitable' habitat by 2050).[6]

Pollution and contaminants are affecting marine ecosystems globally

- Marine plastics affect more than 800 marine and coastal species through ingestion and entanglement, killing more than a million seabirds and 100,000 mammals each year .[7]
- 1,000 tonnes of macroplastic and 250 tonnes of microplastic are littered in Scottish seas in a year.[8]

Mapping the European Marine Climate Change Index (EMCCI)



Source: European Environment Agency (2023)[9]

Interview insights

Interviewees told us about vulnerabilities in marine ecosystems resulting from climate change and resource competition.

- "Marine deterioration - we are already seeing in UK new risks associated with marine contaminants affecting our supply chains. Broader risk of climate and marine degradation is wetter conditions which increase risk of pathogens, fungal growth."
- "The competition for marine space...is increasing - with fisheries, Marine Protected Areas, renewables and emerging marine industries (such as for seaweed culture) looking to expand. It is likely that due to usage conflicts, new developments in traditionally onshore sectors may look to offshore placement."

Trend N7: Concern about food security and production is increasing due to geopolitical pressures and the impacts of climate change

Food insecurity and disruptions in the UK food system are likely

- By 2050, the global population will be 10 billion. Population growth combined with growing global incomes demands a 60% increase in food calorie production (on 2010 levels).[1]
- Global supply chains are vulnerable to geopolitical volatility. For example, Russia's invasion of Ukraine in 2022 was particularly disruptive to energy and grain supplies with significant consequences for global and UK food security, including widespread increases in food prices.[2]
- The UK relies on food imports for roughly 40% of its food.[3]

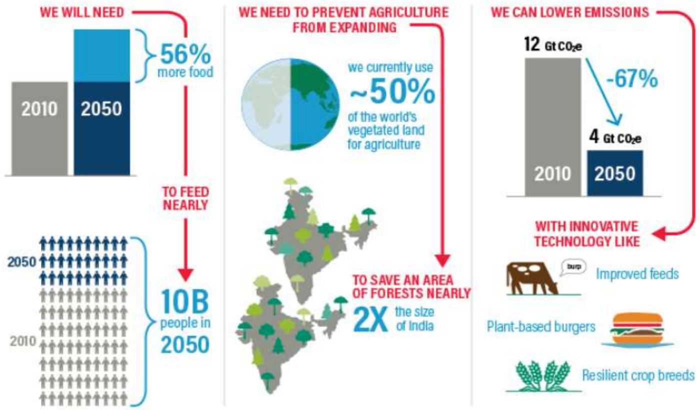
Biodiversity loss is threatening long-term sustainability of food systems

- Globally, local domesticated plants and animals are disappearing.[4] There has been a 75% reduction in crop diversity over the 20th century. By 2055, 22% of wild relatives of peanut, potato and beans will disappear.[5]
- Presently, 30 crop species account for 90% of the calories in our diet, and just three species (rice, wheat and maize) contribute to approximately half of the human calorie supply.[6]

Climate change is creating disruption to agriculture and food production

- Climate change can impact food production directly, through reduced yields in crop and livestock systems,[7] and indirectly through impacts on water availability and quality,[8] pollinators,[9] and pests and diseases.[10]
- Countries critical to the global supply of specific food products are vulnerable to extreme weather events e.g. soybean production is highly concentrated in Argentina, Brazil and the US.[11]
- In 2017-18 extreme weather events cost Scottish farmers £161 million due to livestock losses and lower crop yields.[12]

How to Sustainably Feed 10 Billion People by 2050



Source: Ranganathan, J. et al. (2018)[13]

Interview insights

Interviewees told us that food security and production were likely to be affected by climate change and supply chain issues.

- "Increasing probability of two or even three bad years growing seasons in a row."
- "A heating world will reduce the global footprint available for crop production and place a greater onus on 'colder countries' to meet demand. Coupled with the need for diets to potentially change e.g. lower meat consumption, to reduce the carbon footprint of diets. The introductions of novel foods will come with some risks and there is greater risk of chemical contaminants in what we consume."
- "Scotland has a very high level of child food insecurity (and even food poverty) in spite of it having good ability to produce and import food."

Trend N8: Changes in land uses are increasingly contributing to the climate and biodiversity crisis

Agriculture is driving deforestation globally, yet forests are key to climate mitigation

- Agriculture is important for food security but also the biggest global driver of deforestation, causing almost 90% of global deforestation.[1]
- Forest-based climate change mitigation and adaptation actions could reduce global greenhouse gas emissions by around 15 gigatonnes of CO_2 a year by 2050, which could be enough to limit warming to below 2°C.[2]
- Forestry accounts for 19% of Scotland's land.[3]

Current land use is contributing to the climate and biodiversity crises

- In Scotland, modelling suggests that agriculture will become the sector generating the largest contribution to greenhouse gas emissions by 2045.[4]
- Current land use is a major polluter and a driver of biodiversity loss. Resolving the climate and nature crises in Scotland will require transformation of land use.[5]

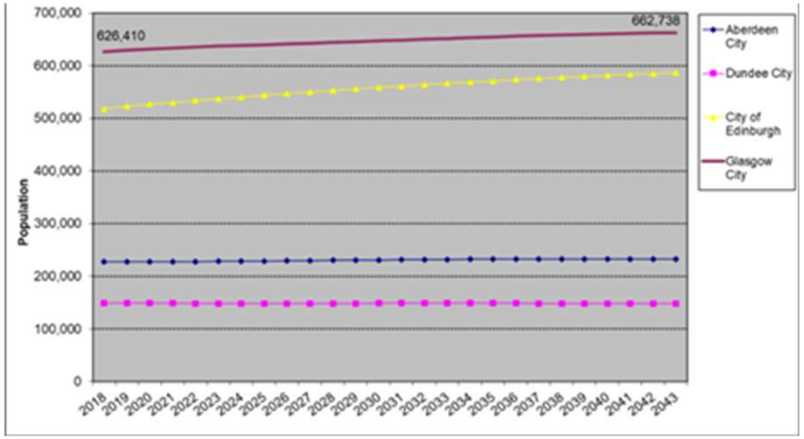
Peatlands and wetlands are likely to face increased stresses from extremes of droughts and floods

- In the two categories of highest concern, 98/100 species on the Scottish Biodiversity List are associated with wetlands.[6]
- Scotland contains 7% of Europe's peatlands and their sustainable management is of global importance. In 2050, more than half of the carbon currently stored in Scottish blanket bogs will be at risk of loss.[7]

Urban populations are increasing in Scotland and globally

- In Europe, urbanisation is the main cause of deforestation.[8]
- In Scotland, population increases to mid-2028 are projected to be concentrated in the Central Belt and urban areas.[9]

Population projections (2018-based) for 4 largest cities, 2018-2024



Source: National Records of Scotland (2020)[10]

Interview insights

Interviewees told us how land use could mitigate climate change and reduce emissions, and highlighted some of the challenges in this.

- "Land use – in particular the repurposing of land suitable for agriculture for forestry – affects food production now and in the future...in turn is linked to biosecurity and infectious diseases."
- "In order to protect downstream communities at risk from flooding, we may need to enter into agreements, asking farmers to allow their lands to flood to protect other communities in the catchment area. This may require payments and agreements."
- "There are currently conflicting views and conflicting evidence around land use and the marine environment (biodiversity vs business), as well as land use and reducing greenhouse gas emissions (food production vs climate change targets)."

Trend N9: Increased levels of waste and pollutants are hazardous for health and biodiversity

Increasing plastic pollution will cause wide-ranging damage

- Globally, plastic waste is projected to almost triple by 2060, with OECD countries projected to double their plastics use. Half of all plastic waste is still projected to be landfilled and less than a fifth recycled.[1]
- By 2060 if current trajectories continue, plastic leakage to the environment will double to 44 million tonnes a year.[2]
- Per-and-polyfluoroalkyl substances (PFAS) have been found in the blood of people and animals, with exposure linked to harmful health effects.[3]

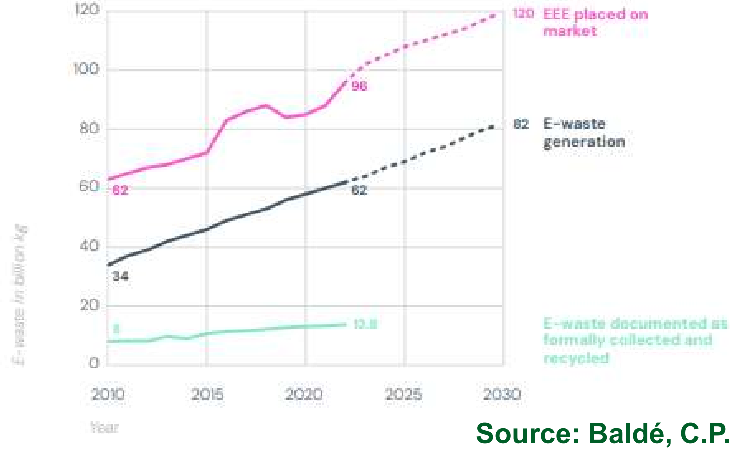
Air pollution remains the largest environmental health risk in Europe

- In the UK long-term exposure to outdoor air pollution can be attributed to 29,000 to 43,000 deaths a year. Up to 2,700 of these are in Scotland.[4]
- "Forever chemicals" released when burning waste can have negative effects on wildlife and human health, including cancer and infertility.[5]

Inappropriate disposing of e-waste is a growing public health concern

- E-waste contains toxic materials and can produce toxic chemicals when recycled inappropriately with known harms to human health. Pregnant women and children are particularly vulnerable to these chemicals.[6]
- E-waste is the fastest growing category of waste. In 2022, an estimated 62 million tonnes of e-waste were produced globally, up 82% from 2010. By 2030 it is expected 82 million tonnes will be produced. The UK is currently the world's second top producer of e-waste per person.[7]
- The growth in popularity of disposable vapes also contributes, with five million per week being thrown away and only 17% being correctly recycled.[8]

Projected e-waste in the UK over time



Source: Baldé, C.P. et al. (2024)[9]

Interview insights

Interviewees noted the likely impact of waste and pollution on Scotland. Some saw opportunities linked to the circular economy.

- "What we aren't talking about is the health impacts of microplastics. There's loads of science out there now, about microplastics being consumed: they're in our bloodstream, they're interfacing into our brains, basically. "
- "Emerging pollutants are a high priority area... historically, regulators and academics have focused on nitrates and phosphorous in rivers and industrial discharge. But now we have a lot of focus on PFAS e.g. from Teflon on non-stick pans/fire retardants, plastics/anti-microbial resistance."
- "We're probably seen as one of the trail blazers in circular economy... there's massive opportunities economically."

Horizon Trends

Health

Scottish Government Horizon Scanning

Health

Horizon trends

Population health

Trend 1
The population is projected to experience an increasing burden of disease

Trend 2
Obesity has been slowly rising for many years

Trend 3
Cigarette use shows a long-term fall, but vaping is increasing. Drug and alcohol-specific deaths remain high.

Infectious diseases

Trend 4
Immunisation uptake is declining and vaccine hesitancy rising

Trend 5
Antimicrobial resistance is stable in Scotland but rising globally

Trend 6
The risk of another global pandemic is increasing

Mental health and neurodiversity

Trend 7
Common mental health conditions are increasing, especially in young people

Trend 8
Neurodivergence diagnoses are increasing, particularly among adults and girls

Health systems

Trend 9
The NHS is under pressure, with increasing demand and workforce pressures a major challenge

Trend 10
Advances in medicine and technology are improving healthcare

Insights

By 2043 the annual disease burden is projected to increase by 21% compared with 2019. Cardiovascular diseases, cancers and neurological diseases account for 68% of the total increase.[1]

"Certain health conditions have come back to the forefront such as whooping cough and measles. Five years ago, these were not on our risk register."

The proportion of young people in the UK reporting symptoms consistent with a probable common mental health disorder has risen rapidly since 2015. in 2021-22, 26% of young men had a probable common mental health disorder compared with 41% of young women.[2]

"There is a risk of under-funding of health services / moving towards a two-tiered health care system… unclear what the future healthcare system will look like but hard to imagine it being the same as it is now."

Trend H1: The population is projected to experience an increasing burden of disease

Healthy life expectancy is decreasing

- Healthy life expectancy in Scotland has been decreasing since 2015-17 for males and since 2014-16 for females. Healthy life expectancy at birth in 2019-21 was 61.1 years for females and 60.4 years for males.[1] It is consistently lower than for the UK as a whole.

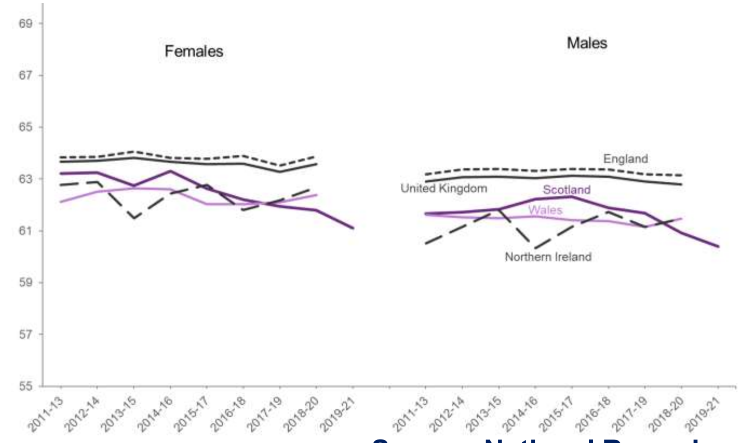
The burden of disease is increasing

- By 2043 the annual disease burden is projected to increase by 21% compared with 2019.[2] Multimorbidity is also increasing, making the management of disease more complex.[3 4]
- The five leading causes of disease are: cancers, cardiovascular diseases, neurological disorders, mental health disorders and musculoskeletal disorders. Cardiovascular diseases, cancers and neurological diseases account for 68% of the total increase.[5]
- The proportion of people who report having a limiting long-term condition is increasing, from 26% in 2008 to 38% in 2023. Women are more likely than men to report a limiting long-term condition.[6]

Health inequalities have widened in the past decade

- In the most deprived areas, people spend more than a third of their life in poor health compared to around 15% of their life in least deprived areas.[7]
- In 2019, avoidable mortality was 4.1 times higher for men and 3.6 times higher for women in the most deprived areas, compared with people living in the least deprived areas.[8]

Healthy life expectancy across the UK 2011-13 to 2019-21



Source: National Records of Scotland (2022)[9]

Interview insights

Interviewees reflected on the drivers for Scotland's population becoming less healthy, including demography, culture and inequalities. They argued for greater focus on prevention with key groups.

- "We have an ageing population but within that we also project significant increase in the burden of disease and that's because we have an unhealthy population. ..If you were going to pick one thing to address the upstream challenges it's poverty. The burden of disease is disproportionately held by poor people."
- "The burden of disease will create a greater demand equivalent to the entire treatment and impact of cancer."
- "We are reversing the progress we made around average age of healthy life expectancy in areas of multiple deprivation."

Trend H2: Obesity has been slowly rising for many years

The proportion of Scottish adults living with obesity is higher than ever before

- Between 2003 and 2023, the proportion of adults living with obesity increased from 22% to 30% for men and from 26% to 34% for women).[1]
- People living in the most deprived areas continue to be more likely to be living with obesity than those in the least deprived areas.[2]

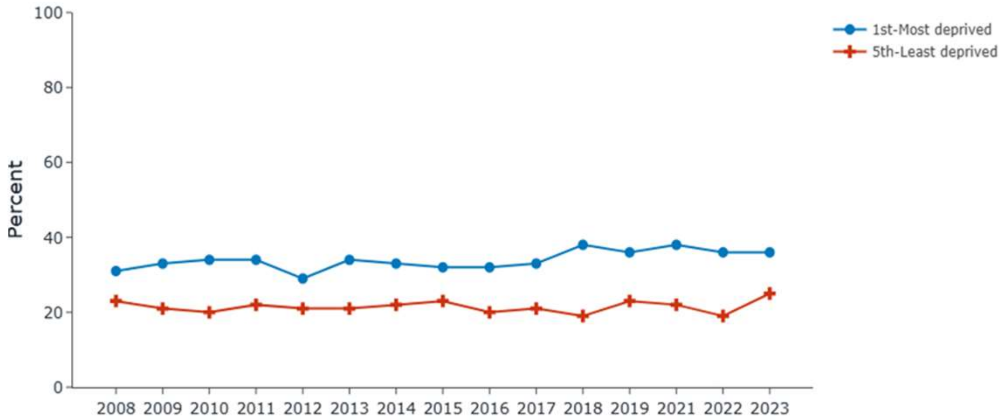
Child obesity remains high, however there are some improvements to children's diets

- Just under a fifth of children (17%) were at risk of obesity in 2023, a proportion that has been in the range 13%-18% since 1998.[3]
- Around three quarters (72%) of children aged 5 to 15 met the physical activity recommendations in 2023. The proportion has been in the range 69%-76% since 2008.[4]
- Just under a fifth (18%) of children aged 2 to 15 consumed five or more portions of fruit and vegetables per day in 2023, similar to 2021 (20%) and 2022 (21%) and higher than in earlier years (13% in 2008).[5]
- Children consuming non-diet soft drinks at least once a day fell dramatically between 2008/9 and 2021/22, from 38% to 5%.[6]

Increasing uptake of obesity medicines

- A new generation of obesity medicines were approved for use in the NHS in 2024, with generic versions in development. Some, such as semaglutide, also reduce the incidence of cardiovascular events in people with obesity.[7]
- There is potential for wider rollout if funding pressures ease.

Scottish adults living with obesity by SIMD, 2008-23



Source: Scottish Health Survey (2023)[8]

Interview insights

Interviewees noted that obesity is a major driver for other diseases. They felt that there are opportunities to respond to obesity, through increased focus on prevention and new treatments.

- "Obesity [is] causal in 13 of the most debilitating diseases."
- "[increasing attention to] pharmaceutical interventions such as recent developments in weight loss injections."
- "The overweight and obesity burden in Scotland and other developed societies has been completely transformed over the last 50 years….linked to food systems. It drives the increase in non-communicable diseases. The crisis is reversible. We need to respond to the obesity crisis as we did with smoking – I am optimistic for our ability to respond to this crisis."

Trend H3: Cigarette use shows a long-term fall, but vaping is increasing. Drug and alcohol-specific deaths remain high

Alcohol consumption has fallen over the long term, but shows recent increases

- The current rate of NRS alcohol-specific mortality (22.7 deaths per 100,000 people in 2023) is at a similar level to the 2010 rate. There were 1,277 alcohol-specific deaths registered in Scotland in 2023 which is the highest number of alcohol-specific deaths registered in a year since 2008.[1]
- The proportion of young teenagers who had ever tried alcohol fell in the 2000s, although shows a gradual increase since 2015.[2]

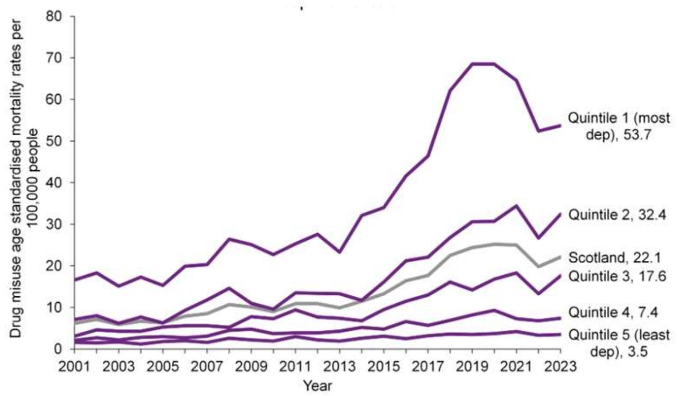
Use of cigarettes has declined in Scotland, but use of vapes is increasing

- Cigarette smoking fell from 26% of adults in 2008 to 14% in 2023.[3]
- Use of vapes is increasing, particularly among young people. Rates of use rose among adults in Scotland between 2021-23, doubling from 3% to 6% in the least deprived areas and rising from 12% to 17% in the most deprived areas.[4] The use of vapes is most prevalent among 16–24-year-olds (22%). The long-term health impacts of vaping are not yet known.

Drug-related deaths have increased over the past two decades, and there are concerns about the spread of synthetic opioids

- Drug misuse deaths rose from 6.2 per 100,000 population in 2001 to 22.4 in 2023.[5] In 2023, rates of drug misuse deaths were 15 times higher for those living in the most deprived areas than in least deprived areas.[6]
- Highly potent synthetic opioids such as nitazines are spreading in the UK. The National Crime Agency reported that nitazenes were linked to 230 fatalities in the UK between June 2023 and June 2024.[7]

Drug misuse deaths are higher in the most deprived areas



Source: National Records of Scotland (2024)[8]

Note: The Scotland-level drug death rate presented here differs slightly from the headline rate for Scotland due to different base populations.

Interview insights

Interviewees talked about their concerns around growth in the use of vaping; synthetic opioids; and the role of industry lobbying.

- "Our awareness of the commercial determination of evidence needs to be ruthless, especially the alcohol and drug industry ..."
- "Vaping has become a massive thing. Vaping is not so harmful as cigarette smoking, but we do not know the long-term impacts…"
- "Rise of synthetic opioids …horrendous patterns of death in the US and Canada, also potentially visible to an extent in Scotland that undermine the good system-wide work to fight it."
- "Significant experience of Scotland in taking bold measures and preventative action that demonstrated real-world impacts in a short span of time e.g. ban of smoking in public places."

Trend H4: Immunisation uptake is declining and vaccine hesitancy rising

Vaccine hesitancy is rising, and immunisation uptake is declining in Scotland

- In Scotland, overall levels of childhood immunisation uptake remain high although we have seen a gradual decline from 2014-2024.[1]
- Uptake of COVID-19 vaccinations among eligible adults was exceptionally high during the pandemic but fell between 2022-23 and again between 2023-24, although current flu uptake is broadly in line with pre-pandemic figures.[2]
- Uptake of vaccines is lower in areas of higher deprivation: 39.6% of adults living in areas of most deprivation received the flu vaccine in winter 2024, compared with 64.4% of adults in areas of least deprivation. There were also significant differences in uptake between ethnic groups.[3]

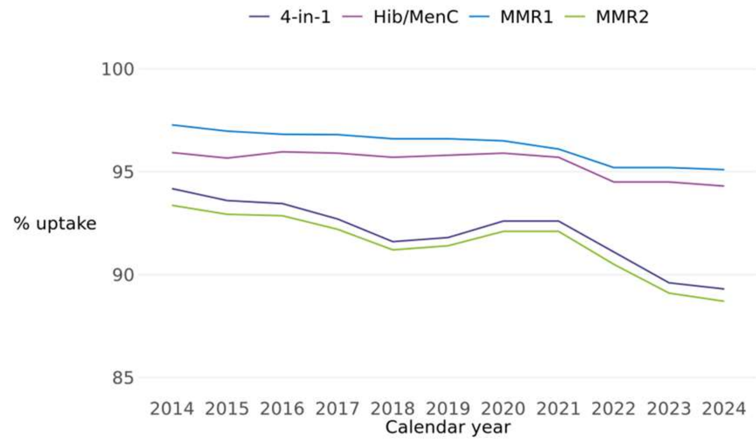
Reducing vaccination uptake in the UK has been linked with misinformation and disinformation, and erosion of trust

- Declining trust in health authorities could impede the effective response to any future pandemic. In a recent multicountry survey, just 63.3% of global and 69.3% of UK respondents answered 'yes' to the question: "If the World Health Organization (WHO) announced a new pandemic threat and advised getting vaccinated, would you?"[4]

HPV vaccination is highly effective in reducing rates of cervical HPV infections and HPV cervical precancers

- The HPV immunisation programme began in 2008 in Scotland. No cases of invasive cervical cancer have been recorded in women in Scotland who were immunised at age 12-13.[5]

Immunisation uptake rates by age 5, by year, Scotland



Note the y-axis (vertical axis) has been restricted

Source: Public Health Scotland (2025)[6]

Interview insights

Interviewees expressed concerns around vaccine hesitancy, the role of misinformation in reducing uptake and the re-emergence of diseases as a result.

- "Misinformation… driven by powerful forces (such as authoritarian regimes, corporations, manufacturers, social media platforms)… has the potential to undermine trust in healthcare information and is a serious issue globally in vaccine hesitancy."
- "Now vaccination rates have gone down, certain health conditions have come back to the forefront, such as whooping cough and measles. Five years ago, these were not on our risk register."

Trend H5: Antimicrobial resistance is stable in Scotland but rising globally

What is antimicrobial resistance?

- Antimicrobial resistance (AMR) occurs when micro-organisms, such as bacteria, no longer respond to medicines.
- Global growth in AMR in humans is driven by factors including overuse/misuse of antimicrobial drugs and inadequate sanitation and infection control practices in healthcare and agricultural settings.[1]

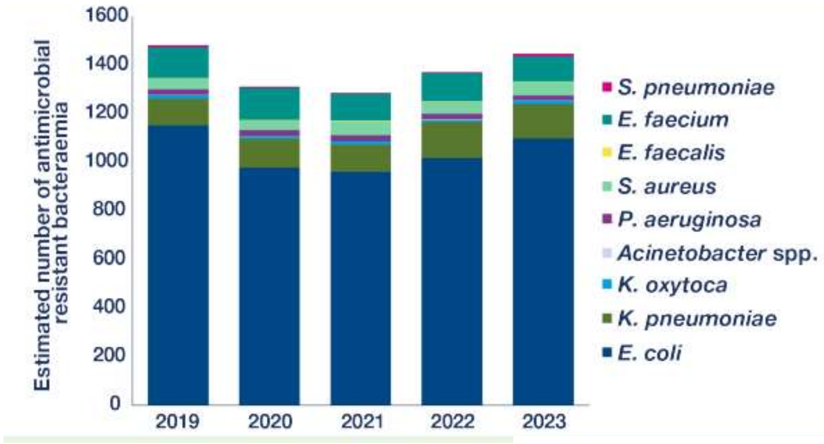
Antimicrobial resistance is increasing globally, but currently stable in the UK/Scotland

- In 2021, an estimated 1.14 million deaths globally were directly attributed to AMR.[2] If current trends continue, AMR could become the second largest cause of death globally by 2050.[3] Older people and those with underlying health conditions are particularly at risk.
- The most recent data from Scotland suggest that resistance to key antibiotics among priority organisms is currently stable.[5]

Antimicrobial consumption is increasing globally and there remain challenges in Scotland

- Between 2016-2023, global antibiotic consumption rose by 20.9%. Projections suggest that, without policy changes, this could rise by 52.3% by 2030.[4]
- Despite overall reductions since 2014, recent years have seen some increases in human antibiotic use in Scotland.[5]
- The UK has seen a 59% reduction in antimicrobial use in livestock since 2014.[6] However global usage in livestock is increasing and is estimated to rise 67% between 2020-2030.[7]

Estimated antimicrobial resistance burden by year, Scotland



Source: SONAAR (2023)[8]

Interview insights

Interviewees spoke about the growing importance of antimicrobial resistance globally. Some felt that Scotland is well-placed to respond.

- "Antimicrobial resistance is a global threat to all nations including Scotland."
- "The trajectory for [trends such as] obesity, anti-microbial resistance etc, is not positive."
- "We need an integrated approach to tackle AMR… it is a critical issue for the Scottish Government going forwards."
- "Antimicrobial resistance is an issue that Scotland is well-placed to address using similar approaches to data access that were enabled during COVID-19."

Trend H6: The risk of another pandemic is increasing

The world is likely to face another pandemic

- The global threat from infectious diseases is concerning, with changing patterns in disease vectors arising from travel, trade and climate change – together with growing antimicrobial resistance and challenges for public health systems in low-resource settings to manage disease outbreaks.[1]
- The impacts of any pandemic are likely to be highly unequal between, and within, countries.[2]

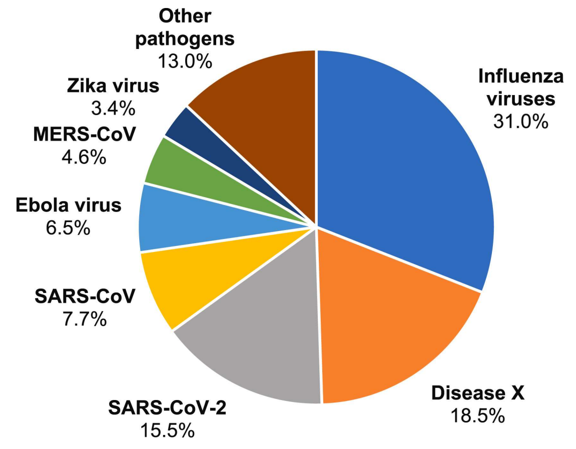
Experts believe seasonal flu is a particular threat, however many think future pandemics may be caused by a novel pathogen

- A 2023 survey asked 187 infectious disease experts from 57 countries to rank various pathogens based on their perceived risk of causing a pandemic. Influenza was ranked most highly, with SARS-CoV-2, SARS-CoV and Ebola also of significant concern. However, ranked second to influenza was 'Disease X', representing some pathogen currently unknown to cause human disease.[3]

Progress towards effective global governance for future pandemics is difficult

- Improving and maintaining preparedness to be able to quickly respond to the next pandemic, including one caused by a novel pathogen, has been highlighted as a major challenge for the future.[4]
- Progress towards the WHO-led global Pandemic Accord to support prevention, preparedness and response has been slow and beset by misinformation and conspiracy theories.[5]

Perceived pandemic risk of various pathogens, 2023



Source: Salamantan Garcia et al. 2024[7]

Interview insights

Interviewees reflected that future pandemics are likely, due to factors such as travel, migration and climate change. A key question is how prepared Scotland is for the next pandemic.

- "The resources available for Scotland's pandemic preparedness are limited and likely insufficient; the budget is tiny."
- "We think the pandemic risk has increased but we don't know exactly what sort of pandemic ... this makes it difficult to plan for, so we need to make sure we are more resilient."
- "Potentially dealing with multiple infectious disease outbreaks via patterns of travel, patterns of inward and outward migration."
- "We need to ensure that] we learn from COVID-19 and build a system that responds to the gaps."

Trend H7: Common mental health conditions are increasing, especially in young people

The proportion of young people in the UK with a probable common mental health disorder has risen rapidly since 2015[1]

- Resolution Foundation analysis of reported symptoms among 18–24-year-olds in the UK finds a rise in young people reporting symptoms indicating a probable common mental disorder (CMD) since the mid-2010s. Young women were more likely than men to report symptoms consistent with a probable CMD. In 2021-22, 26% of young men had a probable CMD compared with 41% of young women.[2]
- Over the long term, more Scottish adults are reporting two or more anxiety symptoms, up from 9% in 2012-13 to 14% in 2021.[3]
- After two years of decline, the Scottish Health Survey reported increased mental wellbeing in adults in 2023, though still below pre-pandemic levels.[4]

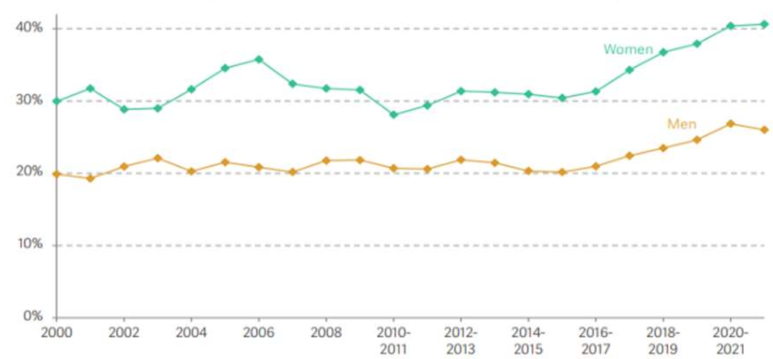
The causes of worsening mental health are unclear, are multifactorial and linked to inequalities

- Evidence about the links between mental health and internet/social media use is inconclusive. Some evidence suggests an association between higher social media use and subsequent lower life satisfaction.[5]
- Research into girls' mental health suggests that poor sleep patterns, body image concerns and school-related pressures are also important.[6]
- Globally, more young people report experiencing cyberbullying.[7] There are concerns about online victimisation and exploitation such as 'sextortion'.[8]
- Greater awareness and reduced stigma may also be driving increases in reporting and seeking treatment for mental illness.

Suicide rates are stable after a period of reduction

- Suicide rates in Scotland decreased in the early 2000s and have stabilised since the pandemic. Since 2000 the average age for suicides has generally increased, from 41.9 years in 2000 to 46.6 years in 2023.[9]

Proportion of UK 18–24-year-olds with a probable common mental disorder, by sex



Source: McCurdy and Murphy (2024)[10]

Interview insights

Interviewees talked about the diverse drivers of increasing rates of mental ill-health in Scotland, reflecting on the role of social media, anxiety about global events such as climate change and increasing openness about mental health.

- "Society's willingness to talk about mental health means we're more aware of it, we're more able to see that demand coming through different touch points of the system."
- "I'm very thoughtful about the acceleration and the use of technology, smartphones and social media. …this is played through public narratives … around sextortion, body image, self harm, disruption to educational patterns, perhaps educational attainment. How that manifests itself as a lack of wellbeing through to mental illness."

Trend H8: Neurodivergence diagnoses are increasing, particularly among adults and girls

Autism diagnoses are increasing

- Between 1990-2021 the worldwide age-standardised prevalence of autism spectrum disorder increased by 2.0% (in relative terms).[1]
- New diagnoses of autism in England increased significantly between 1998-2018, particularly for adults, primary-age children and females.[2]
- While diagnoses remained less common among adults than children, the relative increase among adults was more pronounced, with 1 adult per 100,000 diagnosed in 1998, versus 20 per 100,000 in 2018 (England and Northern Ireland).[3]
- While Scotland does not have the same focus on formal diagnosis as England, it is likely that prevalence would be similar.

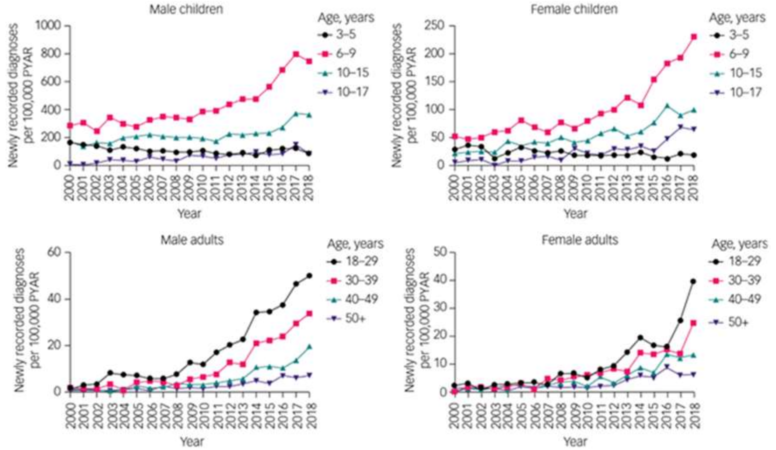
ADHD diagnoses are increasing

- The incidence of ADHD diagnoses and prescriptions in England between 2000-2018 increased in almost all age groups.[4] The relative increase was larger among adults than children. Increases were around two to three times higher in the most deprived quintile versus the least.[5]
- In Scotland 16,000 patients were dispensed at least one medication for ADHD in 2019-20: an increase of 133% since 2010-11.[6] Increased awareness and changes in diagnostic criteria may explain some apparent increases.

Additional support needs among school pupils are increasing

- In 2024, 40.5% of Scottish pupils had an additional support need (ASN).This has been increasing every year since 2007 when 36,544 (5.3%) had an ASN.[7] Part of this increase is likely due to improvements in recording. ASN data include a wide range of reasons for support, including but not limited to neurodivergent conditions.

Relative increases in new ADHD diagnoses 2000-2018 by age and gender (England)



Source: McKechnie, D.G.J. et al (2023)[8]

Interview insights

Interviewees spoke about increased public awareness driving a rise in demand for diagnoses of neurodivergence, for both adults and children, as well as the implications of increasing prevalence.

- "We are seeing an increasing trend in terms of self identification and demand for diagnosis …around neurodivergence."
- "[Health Board]…would tell me that since the pandemic they've had a sevenfold increase in referrals coming into their system seeking diagnosis as both young people and older people."
- "What will prevalence data look like in 10 years time? It's hard to predict, but it feels very likely to me that there's going to be quite a significant upscaling in those kind of estimations."

Trend H9: The NHS is under pressure, with increasing demand and workforce pressures a major challenge

Demands on the health and social care system are growing

- Health and social care costs accounted for around 33% of the devolved Scottish budget in 2023-2024.[1] Based on current trends, health and social care spending is projected to rise from around 40% of devolved public spending in 2029-30, to almost 55% in 2074-75.[2]
- The number of people supported by adult social care is predicted to grow from 221,000 in 2020-21 to over 266,000 by 2044-45 [3]
- Advances in technology, including AI, may help to reduce costs or improve delivery in the long term.[4]

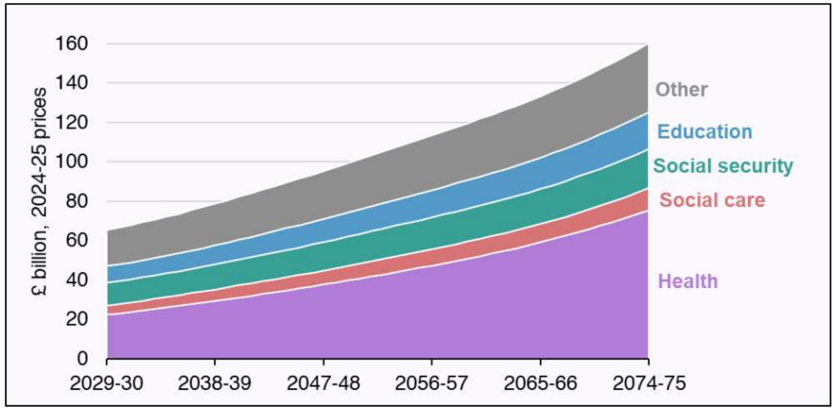
The NHS workforce is ageing, growing and relies on immigration

- Between 2014-2024, the number of NHS Scotland staff has increased by 17.4%. The number of vacancies has been falling since a peak in 2023.[5]
- Sickness absence in 2022-23 reached the highest rate in ten years.[6]
- The percentage of the NHS Scotland workforce aged 55 and over increased from 17.5% in 2012 to 24.2% in 2022.[7]
- Based on calculations from APS data, 10-11% of NHS workers in Scotland in 2020-22 were born outside the UK.[8]

Increasing numbers of people are self-funding private health care

- Privately funded hospital admissions are rising, driven by self-funded payments rather than insurance cover. Self-funded admissions rose by 80% between September 2019 and September 2023 in Scotland.[9]
- This emerging two-tier system may have major implications for health inequalities.

Spending on devolved public services



Source: Scottish Fiscal Commission (2025)[10]

Interview insights

Interviewees felt that pressures on the health service and on social care are unsustainable. They focused on the need for reform and on how to attract and retain workforce.

- "As a result of the increasing demand … there is a risk of under-funding of health services/moving towards a two-tier healthcare system… unclear what the future healthcare system will look like but hard to imagine it being the same as it is now."
- "AI has helped picked up anomalies and issues earlier… thereby helping doctors do their job better. This could help with the current pressures on the NHS, but due to the pressures the NHS is unable to …really take advantage of the opportunity."
- "Lack of investment in social care staff."

Trend H10: Advances in medicine and technology are improving healthcare

Drug developments could transform outcomes for major diseases

- Personalised m-RNA cancer vaccines are being trialled in the UK.[1]
- New drugs to reduce levels of beta-amyloid – thought to underly brain pathology in Alzheimer's disease – appear to slow cognitive decline.[2]
- Advances in treatments for many other diseases show promise.

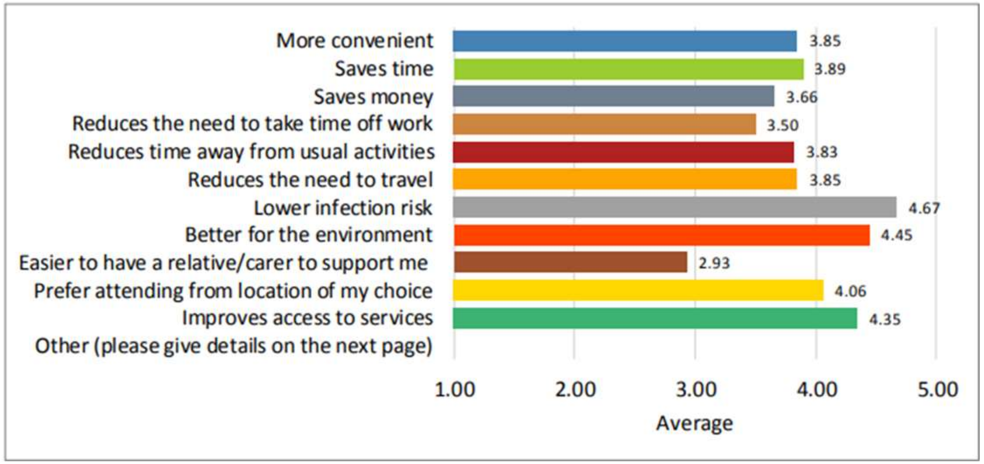
Increasing use of emerging technology such as AI, genomics and wearable technology

- AI is already being used within NHS Scotland for limited applications including radiotherapy delivery and medical imaging. Many more potential applications are in development.[3]
- Current and emerging AI tools involve human input for safety reasons.
- The falling cost of genomic sequencing is enabling large-scale use of genomic data within health care. This is expected to support early diagnosis and tailored treatment of a wide range of diseases.[4]
- Wearable and personalised technology use is growing. Apps such as Zoe or Sleepio use user data to tailor health insights and advice.

Remote and digital service delivery likely to continue to expand

- A global survey of doctors in 2023 found that 40% used telehealth – notably higher than the pre-pandemic rate of 28%.[5]
- Scotland's Digital Health and Care Strategy indicates a continued expansion of telehealth. There is a long-term expectation that some surgery may be delivered remotely using robotic technology.[6]

Relative importance of potential benefits to video consulting, 2020



Source: Scottish Government (2020)[7]

Interview insights

Interviewees were positive about the potential impact of advances in healthcare, whilst acknowledging some challenges to ensure new treatments are cost-effective and safe.

- "Innovation in drugs and treatments [is] having a positive impact on health outcomes, but [is] expensive to administer and increasing demand for interventions."
- "Genomic medicine is moving from a specialist diagnostic service used predominantly for things like rare and inherited conditions to something more mainstream... cancer is a key area in this space and expect this to expand rapidly over coming years."
- "Expecting to see longer term changes around risk stratification and screening."

Horizon Trends

Cross-cutting insights

Scottish Government Horizon Scanning

Cross-cutting insights: Horizon trends and inequalities

The trends that affect Scotland's future will have differential impacts for different equalities groups. Intersecting inequalities and disadvantage may reduce resilience or the ability of both households and communities to adapt to future challenges, or to take advantage of future opportunities. In many cases the trends have the potential to drive and deepen inequalities still further.

A full intersectional analysis of the evidence relating to inequalities and horizon trends was beyond the scope of this project. We hope this work provides a useful basis for future analysis to explore the inequalities dimensions of horizon trends more deeply. In these slides we highlight a brief snapshot of **a few of the ways** that the trends interact with different inequalities, based on the review of evidence underpinning the individual trend slides.

Politics and governance

Global inequality: While some countries will make gains from global decarbonisation, a nexus of conflict, climate change and poverty means others are likely to fall further behind – concentrated in sub-Saharan Africa and parts of Asia. This will drive deeper insecurity, inequalities and poverty. Women are disproportionately affected.[1]

Polarisation, trust and inequality: Inequality and perceived inequality appear to be risk factors that may increase vulnerability to polarising and radicalising forces.[2] People living in more deprived areas are less likely to express trust in some public institutions.[3]

Economy

Automation: The impacts of automation on the workforce are particularly uncertain, however there is some concern that it could 'hollow out' the labour market, pushing workers in the middle either into higher- or lower-paying jobs.[4]

Supply chain: Impacts on supply chains, particularly for food and energy, often have disproportionate impacts on those on low incomes.[5] This is because essentials such as fuel and food make up a larger proportion of their income.

Society and communities

Poverty: Levels of poverty in Scotland have remained high over the past 20 years.[6] Some aspects are worsening, such as in-work poverty.[7] Poverty rates are much higher for some groups – such as ethnic minorities and disabled people.[8] Poverty can reduce resilience to future shocks.

Older people: A combination of lower private pension provision, reducing healthy life expectancy and home ownership may mean that people reaching retirement age over the next 10-20 years are more at risk of poverty and ill-health than previous generations.

Migration: "Big issues with financial disadvantage and how hard it is for migrants to increase their income and move up once they get stuck in jobs they are overqualified for. There is a knock-on effect on increasing financial, racial inequalities. Further effects on child poverty."

Inequality: "Risk is that AI and tech… removes a whole 'middle' part of the labour force, leaving only the very top and very bottom."

Resilience: "Inequalities leave people much less able to cope with other things that might happen to them, e.g. employment shifts, climate impacts, etc."

Cross-cutting insights: Horizon trends and inequalities

Interactions between horizon trends and inequalities: Some examples

Technology

AI: AI applications may have the potential to reduce or exacerbate inequalities depending on how they are designed, controlled and applied.[8] Where the data used to train AIs contains racial or other bias, this can result in built in algorithmic bias that systematically disadvantages certain groups.[9]

Digital inclusion: The digital revolution creates opportunities and risks for equalities. Internet and broadband penetration are high, and information has never been more freely available.[10] However, around 15% of adults lack basic digital skills, and 14% of households do not have internet access.[11] Older people, disabled people, low-income and rural households are most at risk.[12]

Natural resources, energy and climate change

Just Transition: The shift to renewable energy production has huge potential to make energy cheaper as well as cleaner, and to reduce energy poverty.[13] The energy transition may also have negative impacts on individuals and communities dependent on legacy industries, or affected by development that they do not control or directly benefit from.[14]

Climate change: The impacts of climate change are likely to reflect and drive inequalities.[15] Disadvantaged communities and low-income households may be more vulnerable to the impacts of extreme weather and flooding events.[16] They are more likely to live in poorly protected or insulated homes and to lack the resources for improvement.[17]

Health

Health inequalities: Inequalities drive poor health, and poor health drives inequality.[18] Health trends reflect persistent and widening inequalities. The gap between people in the most and least deprived neighbourhoods for healthy life expectancy, avoidable mortality and drug deaths is increasing.[19]

Pandemic risks: Globally, poverty and inequalities exacerbate the risk of a future pandemic. In low-resource settings, weaker health systems, higher burden of infectious diseases, misuse of antimicrobials, high population density and population movement increase the risk of emergence and spread of novel infections.[20]

Rural and urban development: "Space sector is very important because we have the manufacturing, launching, data gathering and observations taking place in main cities like Edinburgh and Glasgow, but the clustering takes place in remote rural communities …people there have not much other opportunities other than hospitality and tourism."

Winners and losers: "And we need ...fairer ways of paying. Part of the recompense for affected communities should be enabling community ownership at some level. Need to ensure that the costs of transition don't hit the poorest people hardest and reinforce inequalities."

Mental health: "Social determinants play a large impact when it comes to mental health and wellbeing and disease…if we don't close the gap in terms of moving towards a more convergent place in terms of incomes and opportunities, that clearly bakes in intergenerational levels of disease and ill-health."

Cross-cutting insights: Children and young people

Horizon trends are likely to affect children and young people differently compared with older generations. The long-term future has particular importance for those who are youngest now. Young people may experience societal transformation differently, because they are often at the leading edge of change or technology adoption. As such, their perspectives may differ from those of older generations and are particularly valuable for foresight work.

This slide provides examples of **a few of the ways** in which trends may have differential impacts for children and young people. This has been explored more deeply in our engagement with young people: Young People and the Future of Scotland: A Participatory Horizon Scanning Engagement.

Politics and governance

Social attitudes: In the UK, Gen Z's views are the most liberal of any generation – for example, young people are more likely to express liberal views on migration.[1]
Trust: World Values Survey UK findings suggest that the youngest generation expresses the least confidence in institutions such as the UK Government, Parliament, and political parties – and that their confidence is starting off at a much lower level than previous generations.[2] In contrast, Scottish data suggest that young people are *more* likely to express trust in the Scottish Government than other age groups.[3]

Economy

Work and skills: The skills that young people will need are changing, with high demand for skills to support the green economy, the digital economy, data skills and so-called 'meta-skills'.[5] Young people will need to work for longer and reskill throughout their lifetime.[6] Technology change and net zero may drive opportunities for future careers in new fields while, at the same time, the potential impacts of technology such as AI on the future job market are unclear. Unemployment rates for those aged 16-24 are higher than other groups and are increasing slightly.[7] However, greater numbers of those aged 16-19 are participating in education, training or employment.[8]

Technology

Social media: Young people are more likely than any other group to cite social media as their main source of news[9], and to spend substantial time on social media platforms.[10] Social media use has been linked with various harms, including increases in problematic social media usage and sleep disturbances.[11] However, there is also evidence of positive impacts of social media in creating online spaces for young people who are socially isolated.[12]

Global youth: "The dynamic populations in the world arguably are the ones that are younger, which is no longer Western Europe – they have a different perspective."

Intergenerational conflict: "Scotland has a sizable older generation that historically has had access to more resources than the younger generation. As living standards are impacted, or as environmental responses cause difficult decisions to be made, there is the potential for increases in young people's anger and distrust."

Tech-enabled medical advancements:
"[Genomics has] not been embraced in Scotland in the same way as other areas, but that is changing... at present also working towards expanded rapid genomic testing for severely ill children to guide clinical management."

Cross-cutting insights: Children and young people

Horizon trends and impacts for children and young people: Some examples

Society and communities

Poverty and inequality: Rates of child poverty have remained high, and broadly unchanged, in recent years[13] with children in poverty more likely to live in households with low food security.[14] Inequality between generations has been growing over time, with younger generations being less well off than their parents.[15] This is partially due to wage stagnation affecting younger generations and their living standards.[16] Housing affordability is a particular concern[17] with younger people living at home and renting for longer.[18]

Education: In Scotland, uptake of early learning and childcare places is decreasing[19] with school rolls projected to decrease.[20] The numbers of children with an additional support need has quadrupled since 2010.[21] A 2022 survey on Scottish young people's experiences of school found that the proportion of children feeling pressure from schoolwork was at the highest level since 1994, and bullying at the highest rate since 2002.[22] Attainment appears to be stable overall but with persistent inequalities.[23] More young people are entering positive destinations after school.[24]

Natural resources, energy and climate change

Just transition and green jobs: Today's children and young people will experience future impacts of economic restructuring, changing labour markets, skills and infrastructure as a result of climate transition. However, awareness of job opportunities linked to net zero seems to be low among young people. Only 25% of Scottish secondary-school aged boys and 14% of girls were aware of job opportunities in achieving net zero. Young people in more deprived areas were less likely to be aware of net zero job opportunities.[25] UK research found that 46% of young people aged 16-25 were familiar with the types of jobs that would exist in a green economy. Among those not in education, employment or training the rate was just 26%.[26]

Health

Mental health: Young people's mental health appears to be worsening. In Scotland, in 2022 the number of young people who said they felt very happy with their life was at its lowest since 1994, with an increasing proportion reporting low mood or risk of depression.[27] Girls are particularly at risk. In England. there has been a rapid increase in the number of young people reporting symptoms indicative of probable common mental health disorders, particularly among girls.[28] A connected issue is the increase in need for diagnosis and support for neurodivergent conditions.[29]

Culture: Interviewees talked about the need for Scotland's cultural institutions to find more ways to attract and engage children and young people over the long term. "Where are the future patrons? Music tuition for younger people and schools is crucial."

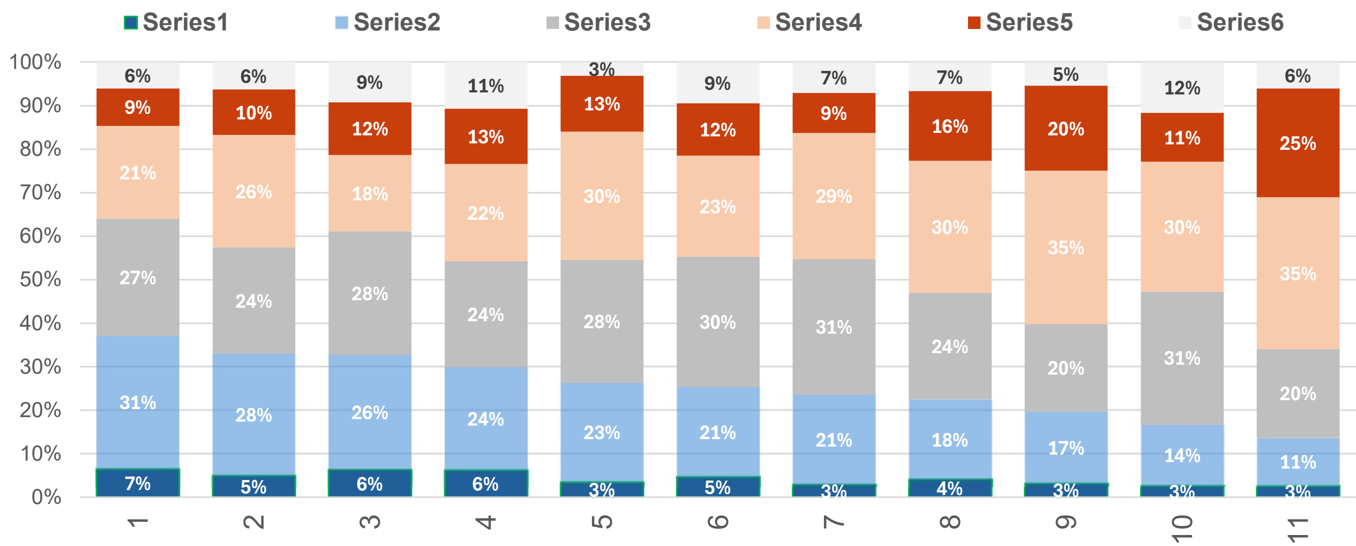
Climate anxiety: "Environmental and biodiversity anxiety is increasing, especially amongst younger people who are aware and see/understand the risks, unlike older generations, many of whom seem to be in denial or believe they are past the point of being able or willing to change."

COVID recovery: "Then there's the impact of the legacy of COVID-19 in the next ten years which is going to become potentially more acute and understood. Whether that's around health, or around children and young people's development and the long-term impacts of that in terms of child and adolescent health, and mental health...also the impacts of long COVID-19."

Cross-cutting insights: Scottish public views on the long-term future

- In July 2024, polling by YouGov for the Scottish Government asked a representative sample of the Scottish public about their views on the long-term future.
- The public were **most optimistic** about **future technology** – 37% agreed that this will have more positive than negative impacts overall.
- They were **least optimistic** about **Scottish businesses** and **public services**, with just 17% and 14% saying that these are well-prepared for future challenges respectively.
- 30% agreed that life in Scotland will be better in 20 years' time, while 33% disagreed.
- **Younger people (18-34) are more positive** about the long-term future – with higher agreement than other ages with all statements.
- **People in lower socio-economic grades** were **less optimistic** about the future. When asked whether they feel personally positive about the long-term future, 21% of respondents in the DE social grades agreed compared with 33% among ABs.[1]
- For all statements, a large proportion of respondents did not express a view, or said they did not know.

Scottish public views on the long-term future: July 2024[2]



Questions are developed by the Scottish Government and run on our behalf by YouGov. The sample is demographically and geographically representative of online adults 18+ across Scotland, with 1047 responses in July 2024 (fieldwork 9 - 12 July). YouGov apply weighting to the data to match the population profile to adjust for any over/under representations and to maximise consistency from wave to wave.

Horizon Trends

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