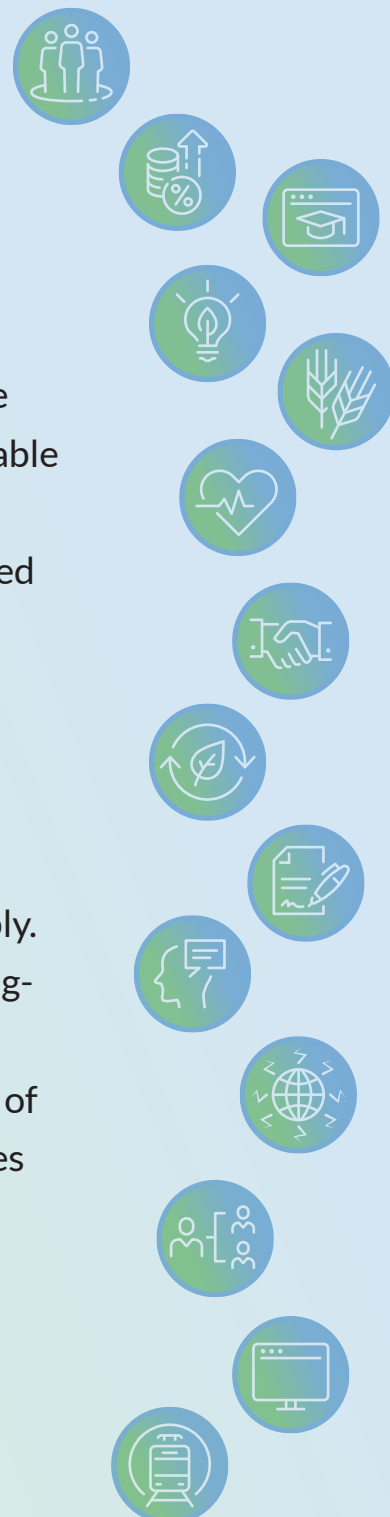




Abstract

To boost economic growth, public support increases for a UK-wide decentralisation plan that aims to foster environmentally sustainable business and economic opportunities across the different regions of the UK. The National Strategy Development Plan is implemented through large-scale public investments that promote economic prosperity through greening the energy sector and stimulating technological development. This leads to numerous businesses growing in importance and power as they profit from increased financial support and access to land resources. The new Plan also boosts investment in STEM and novel ways to work and live flexibly. However, this growth comes at the expense of social and wellbeing-oriented policies, which results in an increasing divide between wealthy and poorer segments of the population as well as regions of the UK. Eventually the welfare state collapses and large businesses dominate economic and political systems. A small proportion of rich individuals working in large businesses and government control economic and natural resources, while the majority of the UK population lives with low incomes and poor living and environmental conditions.



Full narrative

Present to 2040

To boost economic growth in the face of political and economic uncertainty, the political debate in the UK gravitates around the decentralisation of key sectors. This debate leads to a new strategy (the National Strategy Development Plan) that aims to strengthen the prosperity of different UK regions based on their distinct economic activities and natural resources. To ensure the long-term resilience of regional investments, the strategy focuses on facilitating the transition to a greener economy within each region through decentralising control of key sectors. The strategy focuses on the energy and agricultural sectors where there is considerable investment potential. Other sectors, such as the water sector, remain relatively more centralised, with water companies maintaining control.

The decentralisation of the energy and agricultural sectors is instigated by UK government and the Devolved Administrations through the implementation of business incentives and regulations that ease access to land resources. This leads to certain businesses growing in importance as they profit from increased financial support, public-private partnerships and easier acquisition of land and natural resources. Public support for the new Plan is garnered through awareness raising campaigns promoting the urgency of transitioning to an environmentally sustainable future and rebranding the UK as a leader in this green transition. Initially the Plan is widely accepted as a pioneering way forward for the UK, but as large businesses gain power, local participation in the implementation of the Plan dramatically decreases. Existing social inequalities, both across and within UK nations, progressively worsen and large portions of society become disengaged and disempowered from decision-making.

The strategy for the energy sector aims to move increasingly off the centralised grid towards smart local networks to improve efficiency and reduce production costs. However, this fails due to a lack of local participation. The multinational power generation companies instead focus on transitioning towards green energy through large-scale investments, such as hydroelectric power plants, tidal barrages, large

wind farms and substantial expansions in bioenergy production. This leads to large energy outputs at times of peak generation being partly lost as they have to be curtailed to protect the centralised grid. This has the knock-on effect of more land being devoted to different types of large-scale renewable energy that produce power at different times of the year. This is further supplemented by investments in a few new nuclear power plants.

In the agricultural sector, the green transition focuses on land-based green energy and high-tech solutions that deliver regional prosperity, rather than the conservation of natural resources and biodiversity. All four UK nations remove agricultural subsidies to encourage large-scale, high-profit and efficient farming. This has strong consequences for land use. Some high value land that was previously subsidised agricultural land is allocated for housing, especially around densely populated urban areas. Other arable land is re-allocated for the development of bioenergy crops, while some less productive agricultural land is lost to large tree plantations for biomass production. To compensate for this loss in land area, agricultural production intensifies to meet food demand leading to increasing use of artificial fertilizers and agrochemicals. To facilitate this intensification, environmental protection is weakened as governments prioritise business interests to boost economic growth. This leads to increasing water demand for irrigation, especially in southeast England, and deteriorating water quality due to leaching from the increased use of agrochemicals. The easing of environmental protection standards also results in a general decline in environmental health and increasing biodiversity loss, particularly in agricultural landscapes and urban areas.

Additional foci of the National Strategy Development Plan are to update the national education curricula with a focus on STEM and green energy. Universities and other higher education institutes form partnerships with corporations to deliver business-oriented STEM courses, and adult education and life-long learning in technological development. The Plan also puts in place flexible working conditions to increase the mobility of the workforce. This leads to home or mobile working becoming mainstream throughout the UK, contributing to enhanced employment opportunities in remote areas.

The transportation system rapidly revolutionises towards becoming greener and more efficient to support the economic development of the country. Because of the increasing numbers of working nomads, small distance infrastructure does not receive investment. Instead long distance transport routes connecting cities through improved road networks with driverless cars are prioritised. However, the newer high-tech modes of transport remain out of reach of poorer segments of society and driving cars becomes synonymous with poverty.

Computer peer-to-peer networks for storing and distributing digital information, especially blockchain technology, become popular data systems for businesses to bypass centralised financial regulations. This allows businesses to accumulate wealth, but also destabilises financial markets through frequent shocks. This, along with significant reductions in employment rights, causes workers to change jobs frequently, as companies either win or lose, thereby further increasing job market instability. Market volatility is also amplified by companies becoming predatory, with small- and medium-sized enterprises (SMEs) being taken over by large companies, due to the easy access to investments and limited environmental regulations. For example, one of the effects of the abolishment of agricultural subsidies is a widespread land-grab, which leads to land ownership being slowly concentrated into the hands of larger businesses. The power of successful businesses is further strengthened by close partnerships with an increasingly centralised UK government who provide tax advantages, which further reallocate income into the hands of already rich and high-performing elites.

The population level remains stable up until 2040, but people's health in general gradually becomes poorer due to limited investments in the health sector, which vary greatly by region. This leads to a gradual decline in the National Health Service from the 2020s, with illnesses associated with mental health and individual wellbeing being given low priority.

2040 to 2070

By the 2040s, the UK government, Devolved Administrations and businesses have been working together synergistically for a couple of decades: public-private partnerships and large multinational corporations dominate across all sectors of the economy. The UK has transitioned predominantly into a gig economy, in which temporary jobs are common and large businesses hire independent workers for short-term commitments, often on poor employment contracts. Inequalities become ingrained across the economy, with highly skilled workers able to negotiate much better employment conditions than unskilled workers.

UK government continues to invest in high-tech transport infrastructure through public-private partnerships. These lead to hyperloop transportation technologies being introduced with both above- and below-ground tubes connecting major cities, designed to offer fast and energy-efficient mobility in floating pods.

Societal values transition as Generation Alpha, i.e. those born in the 2010s, focuses on individualistic lifestyles, leisure-based mindsets and opportunities for individuals to advance in business and technological competition. Addiction becomes increasingly common, extending from dependencies on entertainment, technology and alcohol to legalised drugs, whose production increases. Society is highly multicultural with businesses encouraging an international workforce, particularly from the US and China. The overall population in the UK slightly declines after 2040 as skilled workers move abroad in search of better job opportunities, but large businesses in the UK also attract migrants from both within and outside Europe.

The concentration of power in the hands of large businesses supported by free market governance mechanisms leads to an increase in land-grabbing for infrastructure and real-estate investments, particularly in, and adjacent to, post-industrial areas of the UK (e.g. the Midlands, northern England, Northern Ireland and the Scottish Central Belt).

2070 to 2100

Because of widespread land-grabs, public land and free access to the countryside cease to exist. By the 2050s, nearly all farmland is owned by corporations. These corporations instigate efficient recycling of organic waste and further moves to bioenergy production that result in lower needs for artificial fertilizer inputs. This helps to counter in part the continuing deterioration in water quality due to the lack of effective environmental management. The trend in increased forest plantations for biomass production begins to reverse as agri-businesses find technological solutions to utilise land that was previously less productive for higher value crops.

Innovations in agricultural technology also lead to companies developing landless agricultural systems in urban areas (e.g. hydroponics, vertical farming). Although patches of green areas exist in cities, limited environmental regulation has led to an overall deterioration of environmental conditions and increased urbanisation. Slums start to develop in the inner cities as house prices become unaffordable for the poorly paid unskilled workforce with little job security.

Inequality increases between regions of the UK, with southeast England and particularly London, becoming a hub for the rich with its strong links to Westminster and many corporate head-offices. Inequalities also increase between urban and rural areas of the UK, with rural-urban divisions within the four nations becoming greater than in the 20th century. This divide is accentuated by the lack of government intervention: the welfare state has been slowly eroded until it eventually ends in the 2060s.

In the 2050s, diseases associated with poor nutrition or addiction are common. By 2070, the health service has been fully privatised and becomes exclusively for the rich elite. Environmental health continues to decline, with businesses pushing for technological solutions to ensure the provision of key ecosystem services that ensure their continued success. High quality education is also privatised, causing the skilled workforce to decrease in numbers. To compensate, businesses rely more and more on automated systems and robots.

By the 2070s, all land is owned and used for profitable enterprises by large businesses or through public-private partnerships. Profits go to a limited number of business owners, shareholders and government officials. Most jobs are low-paid and the general population is highly mobile, migrating to find job opportunities that are dictated by companies to keep employment costs low and competition for jobs high.

Inequalities in cities are very high because of rigid social structures that promote segregation between the masses and the elite. This is enhanced by new infrastructure development that isolates the rich elite in exclusive gated communities. All cities are adversely affected by shocks, particularly those associated with disease vectors, which spread quickly through the poor living conditions of large portions of the population.

In rural areas, large-scale agricultural intensification coupled with vertical farming in cities starts to free up land for other uses. Bioenergy cropland also slightly reduces as other renewable energy sources dominate (wind, wave, tidal) due to improved efficiency and technological solutions to energy storage. Landowners shift this land use to high-value tourism and recreational sporting activities, such as hunting and fishing, for the elite and higher paid skilled workforce from the UK and overseas.

By the 2080s, society is more divided than ever, with the majority of the population having low incomes and poor health, contrasting with a rich ruling elite. Pressures on the police rise as social unrest increases and the prison population skyrockets. To keep the general population in line, governments introduce military conscription by the end of the century. This enables businesses to address the problem of criminality by financing resource wars and “exporting” criminality outside the UK.

Country specificities in relation to the full narrative

The following paragraphs build on the main narrative, emphasising differences of each UK country from the full narrative or providing specific regional examples. They should be read in conjunction with the main narrative.

England

England's governance and power increasingly centralises in Westminster. Multinationals and business speculators benefit from large government contracts, especially in the technology and green energy sectors. Large businesses in robotics, computing, biotech, aerospace and financial services increasingly benefit from government funding and decreased formal regulation. This boosts the development of an international service and high-tech economy in southeast England. It also exacerbates the North-South divide, with industry in parts of northern England focusing on low-skill jobs, such as call centres, distribution networks, the self-service sector and retail. In addition, vast areas of land are taken over by elite landowners in northern and southwest England, with public land disappearing by the 2050s. This leads to a brain drain of higher skilled workers migrating to the southeast of England.

As business interests dominate the technology market, this allows corporations to mass influence behaviours and trends in the general population. This is achieved through control of information that is streamed across large proportions of the population. A less recognisable English value set slowly establishes that motivates societal fragmentation and individualism. This ensures there are no effective counter movements to the increasing power of large corporations and the UK government.

The thriving economy benefits an increasingly smaller percentage of the population, with power concentrated in the hands of elites who increasingly locate themselves in London to ensure easy access to Westminster for lobbying and networking to acquire government contracts and investments with minimal oversight. By contrast, most of the population in England make just enough money to buy and access the few private services provided by influential businesses, but lack resources for health, education, employment security and well-being.

Wales

With increasing centralisation of power in Westminster and lobbying from large businesses in southeast England, the powers devolved to Welsh Government decrease, resulting in political turmoil, discontent and competition in Wales. SMEs, start-ups and spin-outs are acquired by large businesses and their ownership moves out of Wales. Multinational businesses focus on taking over existing Welsh infrastructure businesses and data centres in south Wales and parts of north Wales. In addition, northeast Wales, southeast Wales and the Valleys initially benefit by becoming the manufacturing base for the rest of the UK, with multinationals taking advantage of the relatively large low-skilled workforce.

These manufacturing and business hubs benefit from strengthened economic activity, whilst the rest of Wales loses investment. This results in a strong increase in the urban/rural divide. The development of the gig economy is much more vibrant in city settings (such as Cardiff, Swansea, Wrexham and Newport), with little job opportunities in rural areas of Wales. With only limited areas of land suitable for high-tech agriculture, only a few land-owners benefit in rural areas. These land areas are quickly grabbed by major food producers and big agri-businesses. Agriculture in the Welsh uplands is marginalised and the National Trust is privatised with corporations taking over such areas, in addition to Welsh beaches, as private playgrounds for the paying elite. This generates many low-paid service jobs.

By 2040, there is a generational split driven by the expectations of Generation Alpha that they will never retire, which fuels and exacerbates individualistic and experiential behaviour to compete to get good jobs in southeast England. This leads to underlying resentment from the older generation, erosion of Welsh family values and the breakdown of community cohesion. The majority of the population is subject to longer-term health issues and limited opportunities to travel to new areas for work. While people initially manage, general health declines over generations as the lower working classes have insufficient funds to keep their children well nourished.

Scotland

With increasing privatisation and centralisation of power in Westminster, the influence of Scottish Government slowly erodes. Oil-dependent hubs, such as Aberdeen, gradually transition away from oil and gas due to fluctuating and then lower oil prices, reflecting increasing competition from green energy companies supported by large government investments. Aberdeen remains an important financial hub supporting the growing high-tech hubs of Dundee, Edinburgh and Glasgow. Multinationals thrive in these hubs, which drive and centralise economic influence in Scotland.

Technological innovation focuses on improving the efficient use of the plentiful natural resources of Scotland, including the exploration of new stocks, and the chance to turn previously low value resources into valuable ones. Multinationals invest strongly in Scotland to gain access to its natural resources, resulting in the Scottish Government losing control of the nation's resources along with any related profits. Many resources are exported, such as water to southeast England and minerals (e.g. uranium) from the Shetlands to China.

Initially the private sector and government invest in STEM education and science centres to further technological development, but these become increasingly targeted to only the skilled and elite. The disparity between the poor and the wealthy in Scotland becomes more and more pronounced and is maintained by the economic interests of the Scottish elites and businesses, supported by political lobbying in Westminster. Because increasingly more people depend on the private sector and the services of major international companies, the social fabric erodes and the influence of the local, community level decreases. This is reinforced by wealthy elderly people from England migrating to Scotland for their retirement to take advantage of good services supplied by a cheap labour force.

In the Scottish uplands, vast areas are allocated to plantations of fast-growing, non-native trees, such as Sitka spruce to generate income. In addition, profit-driven energy projects in richer rural areas, such as Aberdeenshire, lead to the further concentration of wealth in specific regions. The general public from Scotland "rages" against these projects and against Westminster, but it has no capacity or authority to change anything and is excluded from the implementation of the Plan.

Northern Ireland

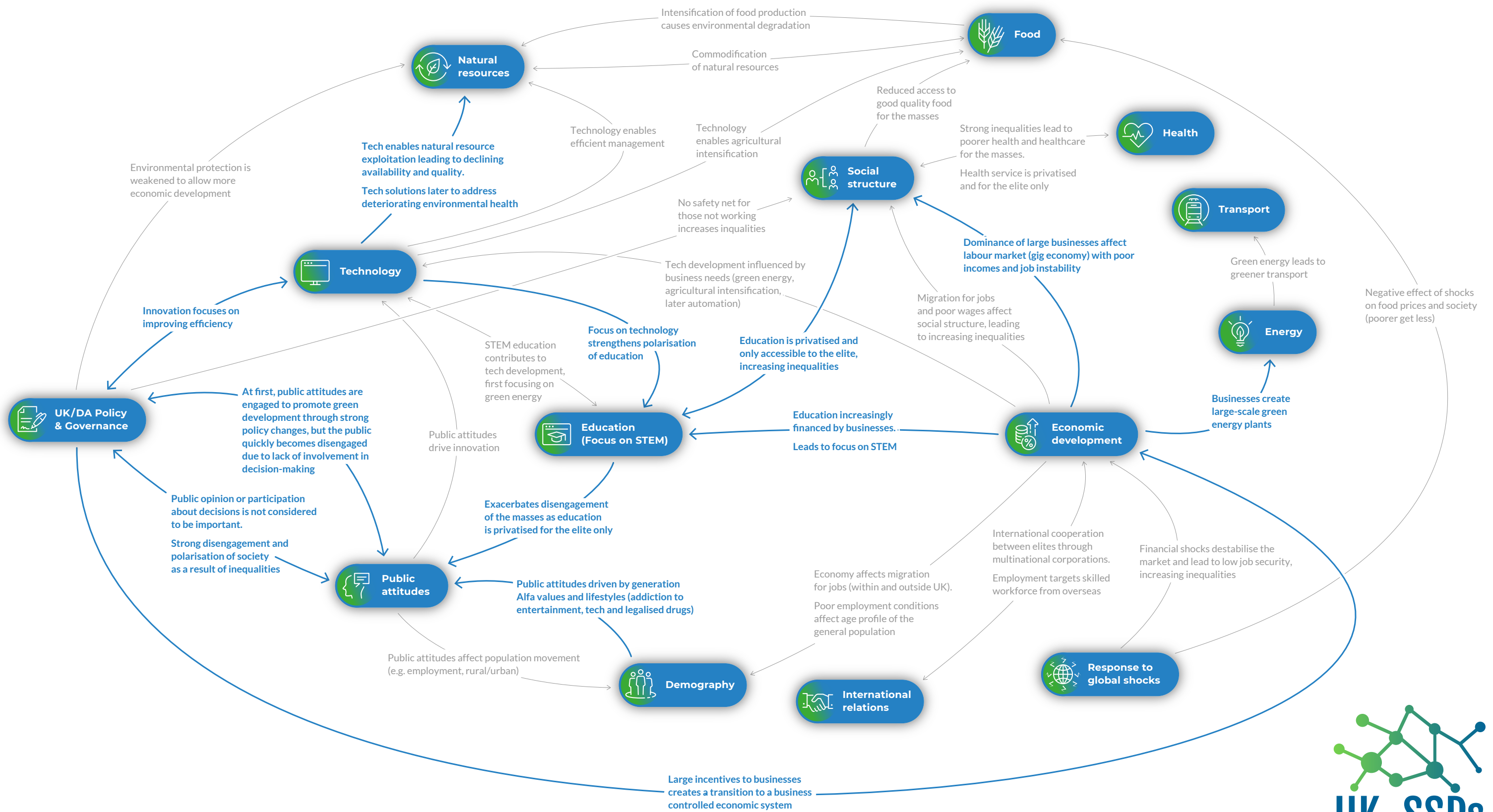
Businesses located in Northern Ireland take advantage of the investments and weaker regulations offered by the National Strategy Development Plan, particularly multinationals in ICT and manufacturing. SMEs and tech start-ups are taken over by larger corporations with head-offices in southeast England, particularly in London. Belfast grows from investment in manufacturing and tech industries, and remains the main hub of political and economic power. Other larger towns that attract multinational interest also grow, such as Derry, which sees investment in textiles, armaments and technology.

Both Belfast and Derry experience increasing fragmentation, with small pockets of wealth isolated from the majority of the urban population. In rural areas, large farmers benefit and increasingly grab land from smaller enterprises. The North coast and the lake area of Fermanagh become tourist areas for the rich elite to holiday and spend money.

Current divisions become stronger within Northern Ireland and with the other UK nations. The increasing centralisation of power in Westminster results in greater support for a united Ireland from those left out, while those benefitting still want to be associated with the UK. Tensions rise because of a sense of being left behind, separated, increasing poverty and inequalities, both in cities and rural areas. Actors left out of the transition, such as those in areas, or with incomes, that rely on fossil fuels and particularly the unskilled workforce “rage” against England and Westminster, but with no effective opposition movement because of the strengthening divisions within Northern Ireland. The strong multinationals maintain the status quo and squash any calls for separation.

System diagram visualising the interrelationships between drivers

System diagram animation available to view at:
<https://youtu.be/a3qPx-Ps5CQ>



UK-SSPs

Acknowledgements

Project team

The UK-SSP Consortium consists of Cambridge Econometrics, UK Centre for Ecology & Hydrology, the University of Edinburgh and the University of Exeter.



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Funding

The development of the UK-SSP scenarios was co-funded by the UK Climate Resilience Programme and the UK-SCAPE Programme.



The UK Climate Resilience programme is supported by the UKRI Strategic Priorities Fund.

The programme is co-delivered by the Met Office and the Natural Environment Research Council (NERC) on behalf of UKRI partners AHRC, EPSRC, ESRC.



This work was supported by the Natural Environment Research Council award number NE/R016429/1 as part of the UK Centre for Ecology & Hydrology's UK-SCAPE programme delivering National Capability.

April 2021

Design, animations and video editing by: countryside