Oxford-Cambridge Arc Spatial Framework

Sustainability Appraisal Scoping Report

Annex

July 2021

Contents

A. Strategic context by theme

Introduction

1.1   This annex supports the Spatial Framework's Sustainability Appraisal Scoping Report, providing information on the existing environmental, social and economic baseline of the Oxford-Cambridge Arc ('the Arc').

1.2   The context covered in this section is focused on the Arc, however the Spatial Framework could result in effects outside of this area. Any transboundary effects will be considered during the assessment of the Spatial Framework and recorded as part of this process.

Land use and landscape

1.3   Landscape and townscape are the visual characteristics and aesthetics of a natural or built-up place which help to connect people to their surroundings, creating a sense of place. The Arc has a diverse landscape, and is predominately characterised by its low-lying land, particularly through the centre of the Arc across to the Fens in the eastern extent. Some areas of raised land can be found in the Chilterns and Cotswolds around the north western and southern extents.

1.4   National Character Areas (NCAs) divide England's landscape into 159 distinct areas and are defined by a unique combination of aspects such as landscape, biodiversity, geodiversity and economic activity. The Arc intersects 20 NCAs which make up the landscape, comprising the topographic differences of river valleys, ridges and rising land and raised plateaus (see Figure A.1). The expansive Bedfordshire and Cambridgeshire Claylands NCA, covering most of north and mid-Bedfordshire and western Cambridgeshire, highlight this difference. The topography gradually lowers from the west as it approaches the Fens NCA in the east.
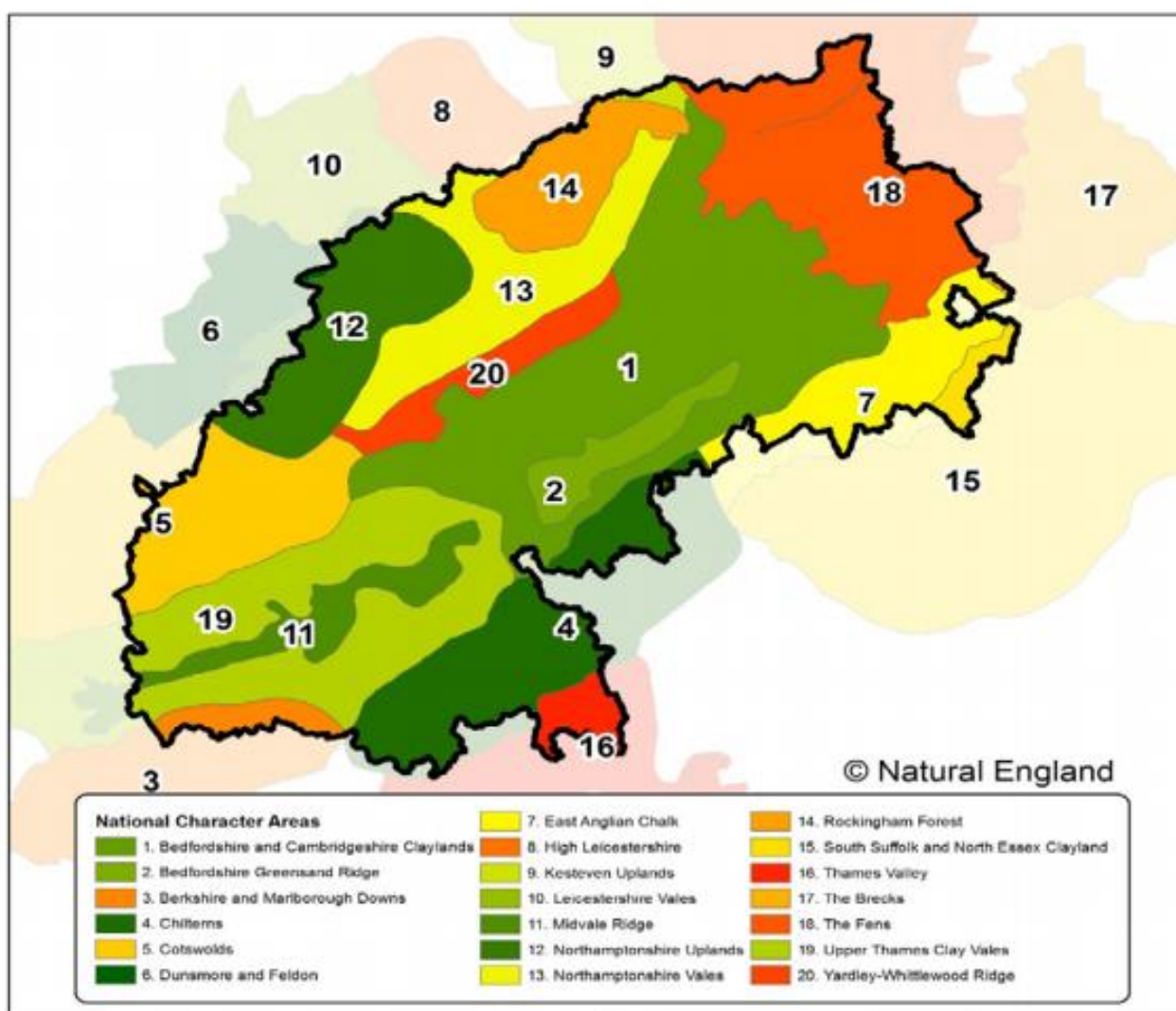
National Character Areas

1. Bedfordshire and Cambridgeshire Claylands	7. East Anglian Chalk	14. Rockingham Forest
2. Bedfordshire Greensand Ridge	8. High Leicestershire	15. South Suffolk and North Essex Clayland
3. Berkshire and Marlborough Downs	9. Kesteven Uplands	16. Thames Valley
4. Chilterns	10. Leicestershire Vales	17. The Brecks
5. Cotswolds	11. Midvale Ridge	18. The Fens
6. Dunsmore and Feldon	12. Northamptonshire Uplands	19. Upper Thames Clay Vales
	13. Northamptonshire Vales	20. Yardley-Whittlewood Ridge

Figure A.1 – National Character Areas in the Arc

1.5 The Arc contains three nationally important landscapes designated as [Areas of Outstanding Natural Beauty (AONB),](#) covering 10% of the land in the Arc, as shown in Figure A.2. The Chilterns AONB in the south west is characterised by rounded hills, large areas of farmland, woodland, and picturesque villages. The North Wessex and Downs AONB meets the Chilterns AONB along the wooded reaches of the Goring Gap in the south west extent. The habitats, ancient woodland and archaeology are some of the elements which make this landscape special. The key features of the Cotswolds AONB in the north west of the Arc include its limestone geology, which is translated into the area's architecture, alongside rare limestone grassland habitats and ancient woodlands. It should also be noted that Government recently announced that it is considering a proposed boundary extension to the Chilterns AONB, the outcome of which will need to be taken into account where relevant.

1.6 Soil is an important feature within the landscape, supporting the land's ecosystem services including food provision, carbon storage and sequestration, and flood control. The [UK Government's 25 Year Environment Plan](#) recognises the importance of soil as a valuable resource and makes key commitments for improving soil health through sustainable management. The soil types across the Arc vary but can be predominantly classed as [loamy and clayey soils](#) with some areas supporting high soil fertility. The clay

texture of the soil means that there is a high resistance to erosion across the Arc. However, given the low infiltration properties, clay soils have the potential to increase flood risk due to higher surface run-off rates. Areas that are vulnerable to soil erosion are where intensive arable land coincides with silt, sand or peat soils. There are a few of these areas in the north east of the Arc. Increased development poses a risk to soils across the Arc through direct losses from infrastructure and impacts on soil quality through more intensive land uses.

1.7   Agriculture plays a dominant role in the land use across the Arc with around 54% of land being classed as cultivated / disturbed land and 20% classed as improved grassland (land used for grazing). The Arc contains large areas of the highest quality agricultural land where approximately 20% of England's Grade 1 agricultural land is located there. Grade 1 and Grade 2 agricultural land is predominately located in the eastern and western extents of the study area and between Bedford, Cambridge and Huntingdon. Lower quality agricultural land is concentrated between Oxford, Aylesbury and Milton Keynes.
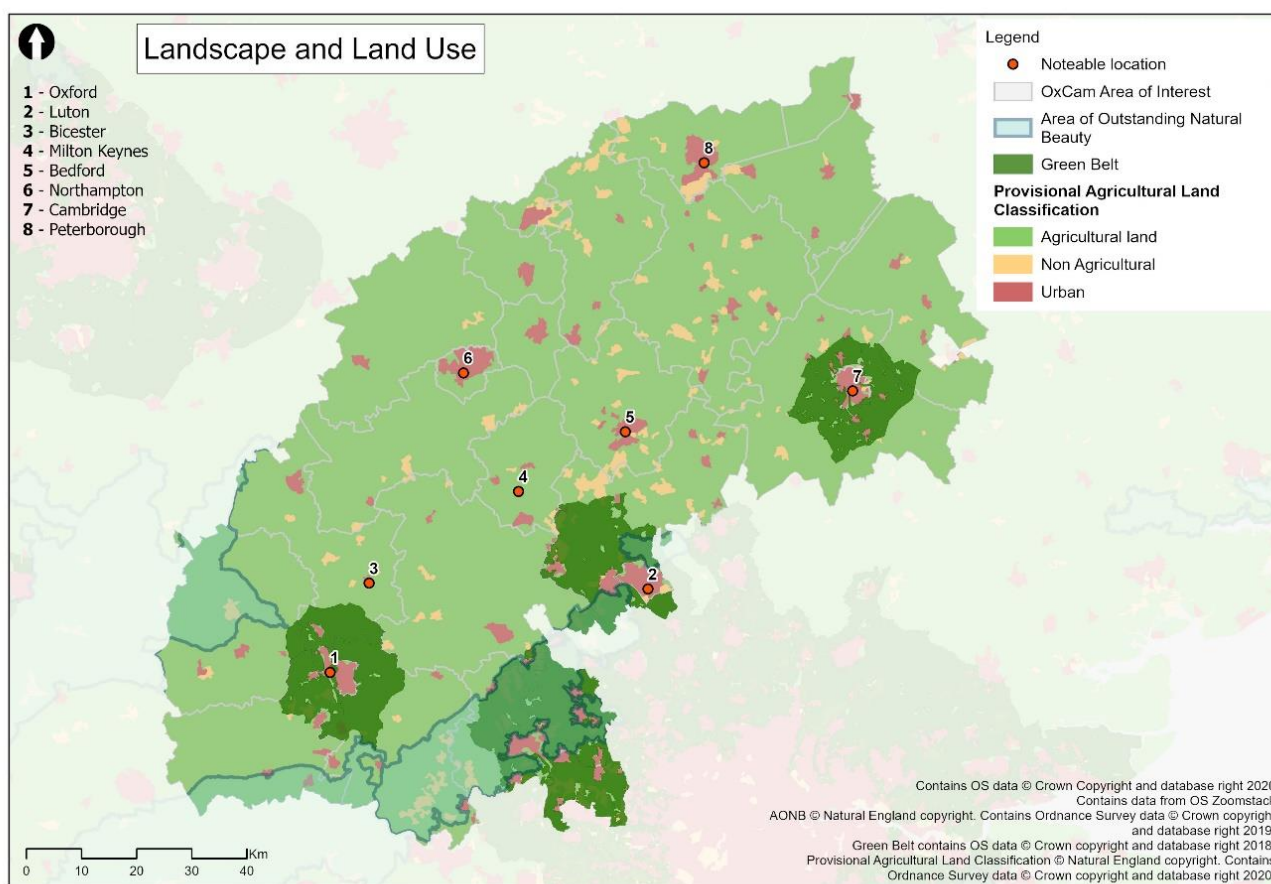
Figure A.2 – Main urban centres, areas of Green Belt, AONB and distribution of agricultural land across the Arc

1.8   There are also large urban, economic centres across the Arc including Oxford, Milton Keynes, Bedford, and Cambridge which form the east to west spine of the Arc. Luton, Northampton and Peterborough are also important with north-south corridors connecting them to the core of the Arc. The Cambridge, Oxford and London Area Greenbelts are

located within the study area. Greenbelt policy aims to prevent urban sprawl by keeping land permanently open.

1.9   Land use change and urban expansions could present key challenges and pressures for the landscape in the Arc, particularly as a result of new settlements and development along new and existing transport corridors.

1.10   National policy objectives applicable to future development across the Arc include protecting designated AONBs and greenbelts, considering the impact on views, protecting and recovering soils, and sensitivity to local features and characteristics. There is an opportunity to create an enhanced 'sense of place' and improve the quality of life across the Arc. For example, by providing landscapes and townscapes which support people through increased access to blue and green infrastructure, allowing them to make healthier choices, whilst also protecting the natural environment and economic growth. Natural capital approaches to development planning can help to capture these multiple factors when planning land use change.

Historic environment

1.11   Across the Arc, there are areas of significant cultural heritage and part of its character and attractiveness is derived from the quality of the historic environment. There are numerous historic settings, where the landscapes, land use characteristics and distinctive built environment assets come together to create a strong sense of heritage and 'place'. Nationally important and protected historic features are widespread across the Arc.

1.12   The cities of Oxford and Cambridge form iconic parts of our national built heritage and sit within a landscape context that contributes greatly to their international renown and their attractiveness as major tourist destinations.

1.13   Oxford features an architectural history that spans nearly 1,000 years, with set pieces designed by some of the best architects. The location on a raised gravel bed allows Oxford's skyline of domes, spires and towers to be enjoyed in views from the surrounding villages and hills of the Thames valley, since the suburbs are mostly concealed within the lower lying topography and green landscape of valleys. The one UNESCO World Heritage Site in the Arc, Blenheim Palace, is located near Oxford.

1.14   Cambridge's historic and natural environment defines the character and setting of the city. It has a varied architectural heritage, with the exceptional concentration of collegiate buildings around the River Cam. Green open spaces such as the commons, greens and The Backs are also key features of the city's life and layout. The heritage value of both these locations is recognised by their conservation area status and the numerous listed building designations afforded to both cities.

1.15   Other notable towns within the Arc include Milton Keynes, a leading example of post-war architecture and place-making with over 6,000 acres of green public space provided in the city. Peterborough is an ancient settlement stretching back to prehistoric times, with the structures and street patterns, boundary walls, buried archaeological remains and other features of the city evident. The Norman Cathedral with its precincts and associated ecclesiastical buildings in the heart of the city provide a key heritage focus. The nearby scheduled monument of the fort and walled settlement of Durobrivae is a rare example of a Roman town.

1.16 Historic Environment datasets indicate that there are over 200 scheduled monuments and other areas of archaeological significance or potential; many of these are associated with the river corridors in the Arc where access to watercourses and good agricultural conditions favoured early settlement. There are over 7,000 listed buildings across the Arc, recognising the character and setting of the main larger historic towns and cities as well as local villages across the area. There are approximately 1,700 Grade I buildings which are mainly stately homes or churches and are strongly associated with the wider landscape setting.

1.17 There are approximately 50 Registered Parks and Gardens located within the Arc, mainly associated with stately homes or landscaped parks and gardens. These tend to be located on ridges of higher land overlooking valleys or vale landscapes. There is also a notable cluster of concentration of Civil War battlefields at the north-western extent of the Arc. There are approximately 150 Conservation Areas throughout the area, recognising and protecting these historic characteristics. The concentration of the listed buildings, scheduled monuments, conservation areas, and registered parks and gardens are shown in Figure A.3.
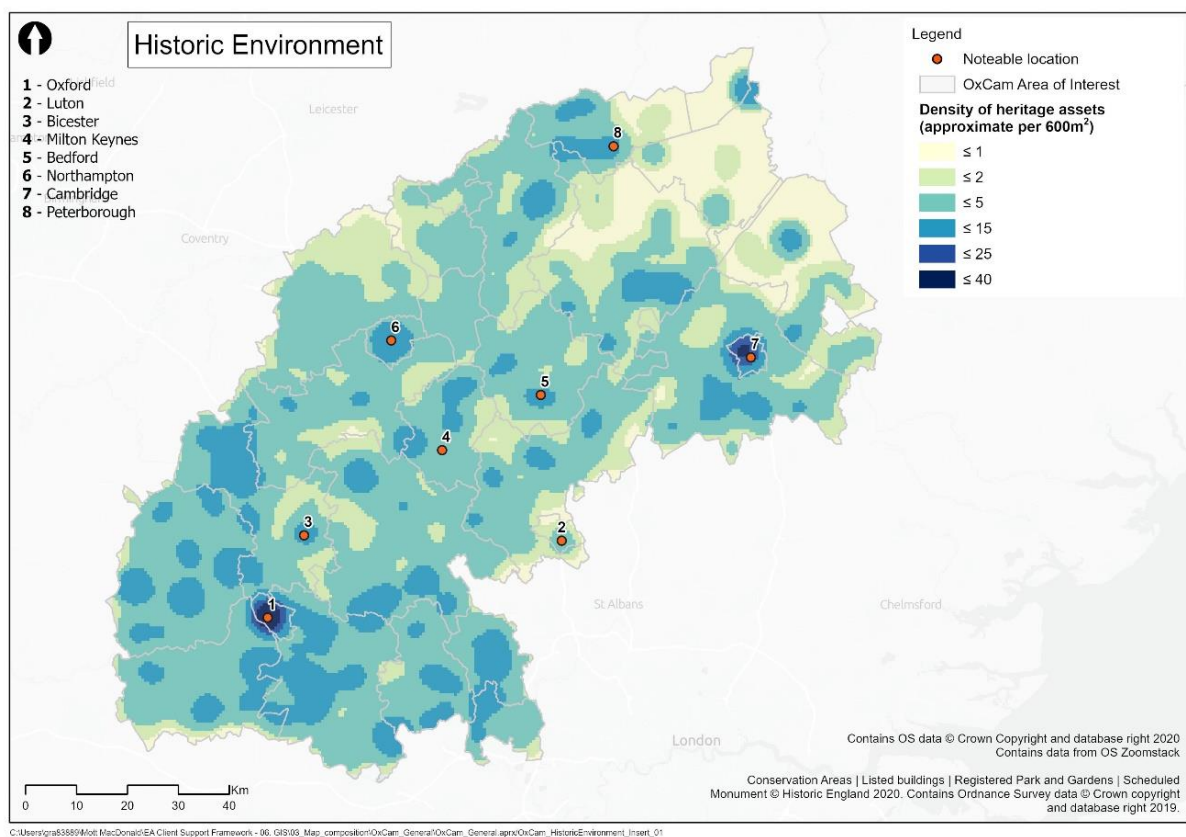

Figure A.3 – Concentration of heritage assets across the Arc

1.18 National planning policy seeks to conserve and enhance heritage assets of local, national and international significance. However, buildings and structures are often subject to ongoing decay and their survival often depends on finding sensitive and viable alternative uses to protect the historic environment.

1.19   The Arc has a wide range of heritage features that are already recognised and protected. Development should avoid these features, landscapes, and clusters of high value designations in rural areas and river corridors in Oxfordshire (River Thames) and Cambridgeshire (Fens and River Cam). The sense of place associated with the historic cities of Oxford and Cambridge provide economic benefits, attracting tourists and the businesses that support the tourism economy. Improving the sense of place for existing communities coupled with enhancing economic benefits presents an opportunity for the Spatial Framework.

Communities

1.20   The Arc has a total population of approximately 3.7 million people. This has grown from approximately 2.8 million in 1991. Population growth is expected to increase to close to 4 million by 2043, an increase of over 10%. The main population centres are across the core of the Arc, including Oxford, Bicester, Milton Keynes, Bedford and Cambridge as well as Luton and Peterborough in the north and south.

1.21   The population in the Arc is supported by a steady flow of national (internal) and international migration. Internal movements account for around 80% of the inflows to the Arc where approximately 150,000 people moved from other places in the UK to the area between 2018 and 2019. Areas experiencing the largest increases in population from international migration are Northampton, Luton and Oxford. Central Bedfordshire and South Northamptonshire have seen the greatest increases in population as a result of internal migration. Although experiencing increases in international migration, Luton has seen the overall greatest decrease in population. The number of people leaving Luton to other places within the UK is more than double the number of people arriving from other countries. This contributes to the projected decline in Luton's population to 2043.

1.22   The age profile of the population in the Arc, as shown in Figures A.4 and A.5, is reflective of the national picture, with approximately 20% of people aged under 16, just over 60% of people aged 16-64 and approximately 20% of people aged 65 and over. The age profile projections indicate that in 2043 the number of people aged under 16 will decline slightly (to around 700,000), the number of people aged 16-64 will stay about the same (at around 2.3 million) and the number of people aged 65 and over will increase (by 150%) to just under 1 million. Areas expected to see the greatest growth (in terms of numbers of people) are Central Bedfordshire, Buckinghamshire and Vale of the White Horse.
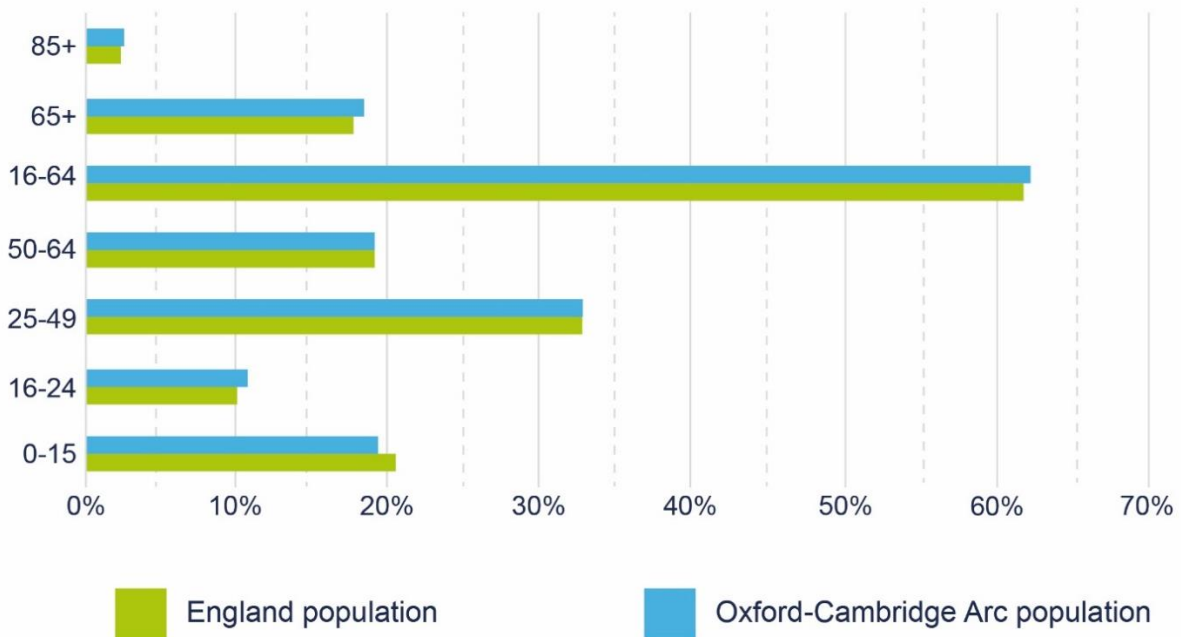
Figure A.4 – Current age profile of the Arc population[1]

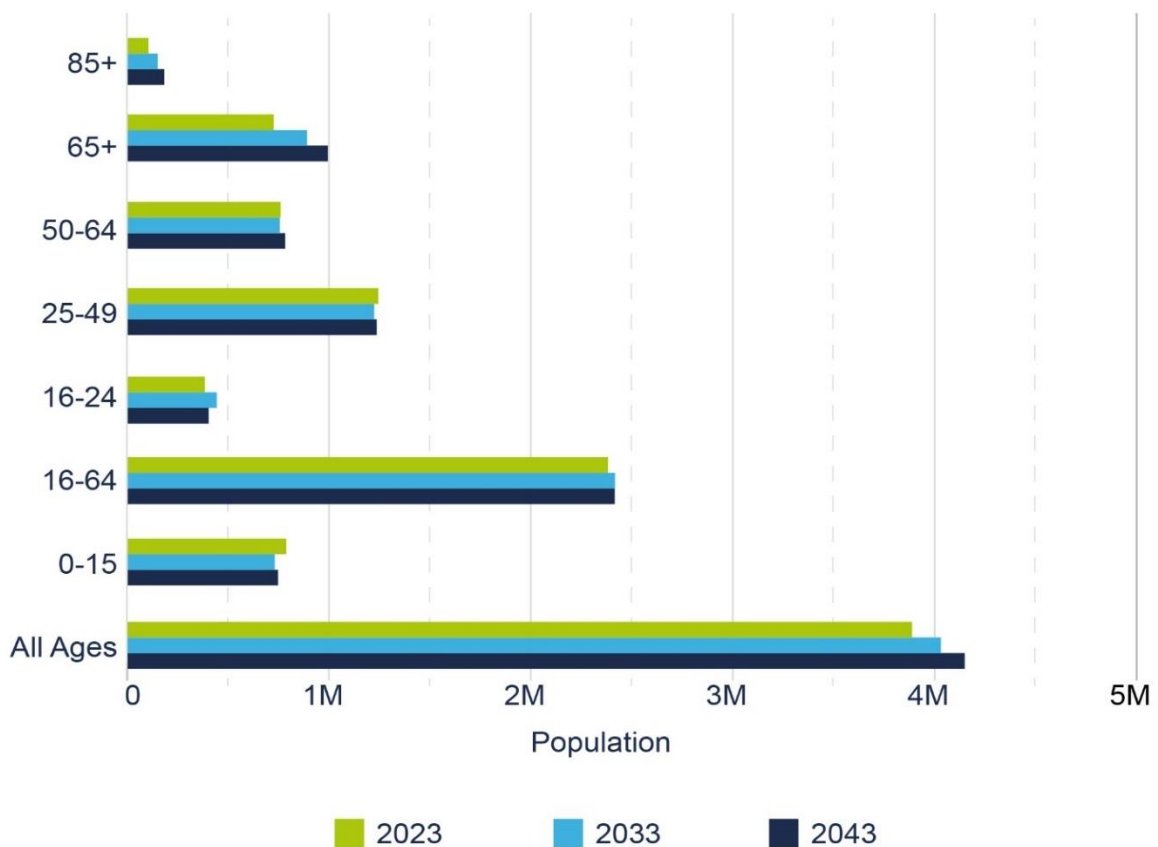**Figure A.5 – Projected age profile of the Arc population[2]**

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[1] 2019 mid-year estimates from ONS data were used for population profiles.
[2] 2018 based population estimates from ONS data were used as the base year for the population projections.

1.23 As shown in Figure A.6, the proportion of people identifying their ethnicity as white is slightly above the England average, with people identifying as Asian / Asian British and Black / African / Caribbean / Black British slightly below the England average. Milton Keynes and Luton are the only areas in the Arc where proportions of people identifying as Asian / Asian British and Black / African / Caribbean / Black British are greater than the England average.
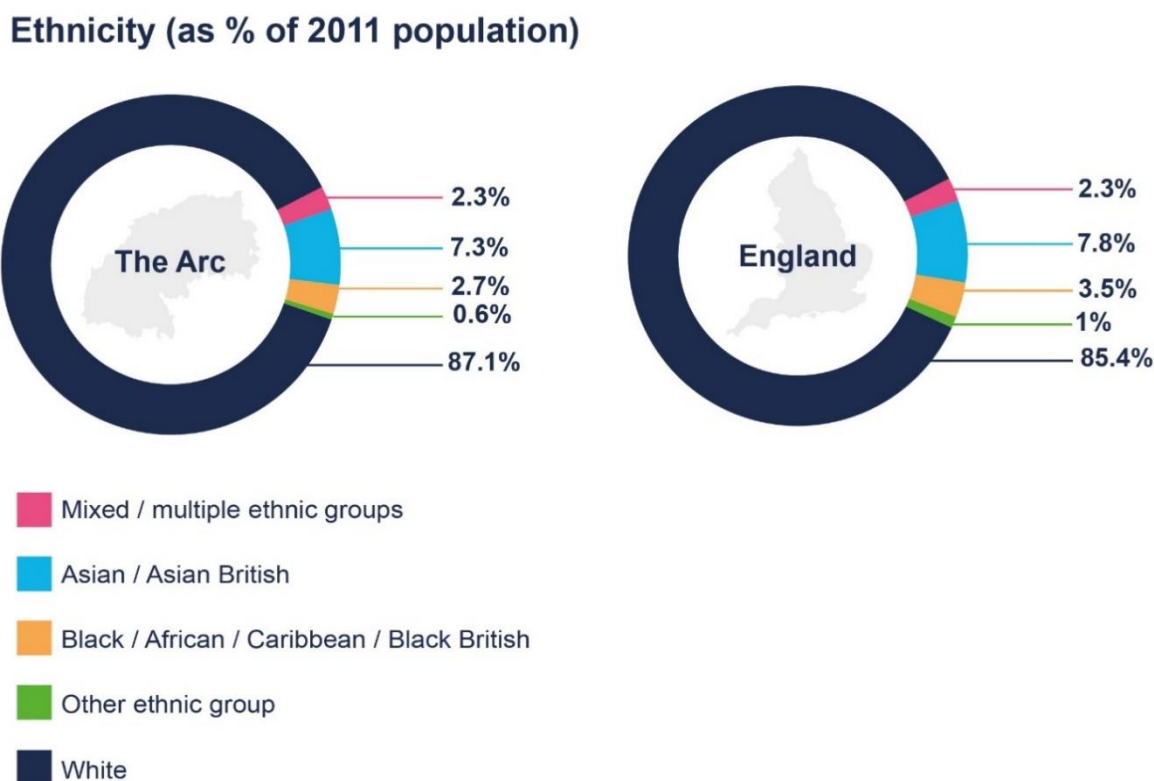
Ethnicity (as % of 2011 population)

The Arc
- 2.3%
- 7.3%
- 2.7%
- 0.6%
- 87.1%

England
- 2.3%
- 7.8%
- 3.5%
- 1%
- 85.4%

- Mixed / multiple ethnic groups
- Asian / Asian British
- Black / African / Caribbean / Black British
- Other ethnic group
- White

Figure A.6 – Ethnic composition of the population of the Arc

1.24 Across the Arc, the areas of deprivation (relative to the rest of England) broadly follow another arc, running from Luton through Bedford, Northampton, Kettering, Corby, Peterborough and the Fenlands. There is an opportunity for the Spatial Framework to address pockets of relative deprivation through delivery of new high-quality housing, including affordable and specialist housing, a range of new employment opportunities and new strategic community infrastructure.

1.25 Health and wellbeing indicators follow a similar pattern with variations across the Arc in terms of life expectancy, healthy lifestyles and mental health. The average life expectancy in England for men is 79.8 years and 83.4 years for women. The life expectancy in Luton and Peterborough is a year less than the national average for men and almost a year less for women. In Buckinghamshire, Cambridge, Central Bedfordshire and Oxfordshire, the life expectancy for men and women is at least a year greater than the national average. Health inequalities across the Arc are a key issue which should be considered in the development and delivery of the Spatial Framework.

1.26   Place-making is a key objective for the Spatial Framework and offers the opportunity to create healthy and sustainable communities. At a local scale, planning policy such as the National Planning Policy Framework focuses on delivering inclusive and safe spaces which are accessible and encourage and support healthy lifestyles. Larger scale development also offers opportunities to deliver the social, recreational and cultural facilities and services a community needs. Improving connectivity within and between communities will also help to improve access to housing, jobs, healthcare and education, which all contribute to improved quality of life.

1.27   Housing affordability is one of the key issues in the Arc, where the supply of new homes in the main settlements has not kept up with demand. Cambridge, Oxford, Chiltern and South Buckinghamshire are examples where affordability ratios are so high that home ownership is not a realistic prospect for many residents. The areas where housing is affordable have seen population growth; for example, in Corby, Milton Keynes and Peterborough. The mismatch between economic centres and residential centres results in a shortage of local skilled labour; one of the main constraints to economic growth. The Spatial Framework provides an opportunity to increase the supply of new homes to help tackle housing affordability and locate workers closer to places of work.

Biodiversity

1.28   The Arc is home to areas of significant natural heritage with internationally important wetlands, ancient woodlands and meadows that support unique biodiversity.

1.29   Priority habitats, recognised as being of principal importance for the conservation of biodiversity, cover a range of semi-natural habitat types that are the most threatened and require recovery action. In England there are 65 UK Biodiversity Action Plan priority habitats listed under Section 41 of the Natural Environment and Rural Communities Act 2006. Many of the priority habitats are found in designated statutory sites, such as Special Areas of Conservation (SAC) and Sites of Special Scientific Interest (SSSI), or in non-statutory sites, for example Local Wildlife Sites.

1.30   The Arc contains a diverse selection of priority habitats as identified in Figure A.7. There is approximately 93,000 ha of priority habitat within the Arc, with deciduous woodland accounting for the largest share of the total at 56,000 ha (60% of the priority habitat cover). Coastal and floodplain grazing marsh is the second most common priority habitat (14,000 ha; 15% cover) followed by good quality semi-improved grassland (4,500 ha; 5% cover).
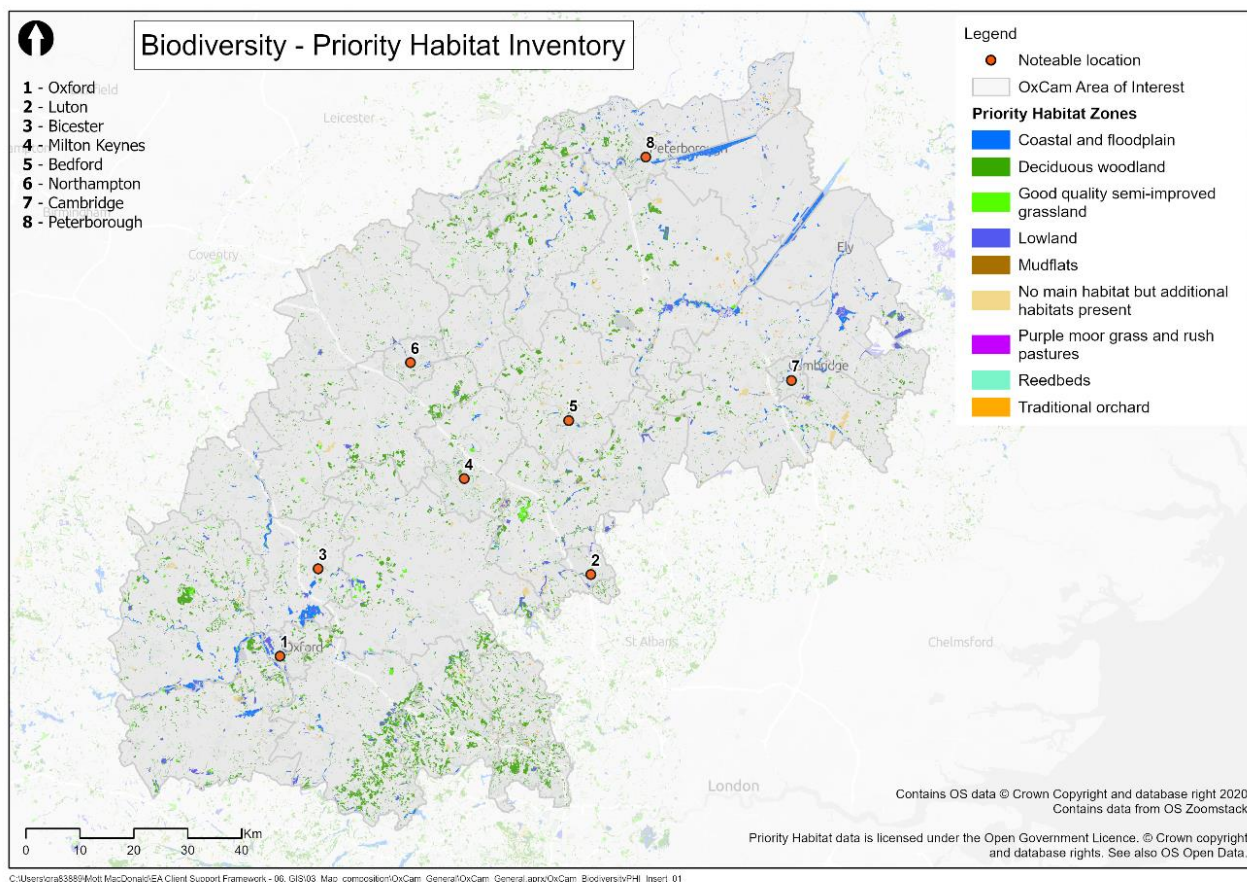
Figure A.7 – Priority Habitats across the Arc

1.31   There are numerous statutory designated nature conservation sites within the Arc totalling almost 13,000 ha (see Figure A.8). Internationally designated sites in the Arc include 14 Special Areas of Conservation (SAC), six Ramsar sites and three Special Protection Areas (SPA). The largest Ramsar site of the Arc, Ouse Washes, is one of the most important areas of lowland wet grassland in Britain. The area contains one of the UK's most extensive networks of wetland habitats and is important for a number of rare species, especially birds and aquatic invertebrates. Other Ramsar sites include Chippenham Fen, Wicken Fen and Woodwalton Fen in Cambridgeshire; Nene Washes in Peterborough; and Upper Nene Valley Gravel Pits in Northamptonshire. For the Ramsar, SAC and SPA sites, development within the Arc has the potential to have impacts on protected sites outside the boundary of the Arc. Therefore, proposals for development within the Arc will need to consider the potential for direct and indirect impacts on protected sites up to 20 km from the boundary of the Arc. There are also just under 500 nationally designated sites, including around 340 SSSI, and around 20 National Nature Reserve sites.
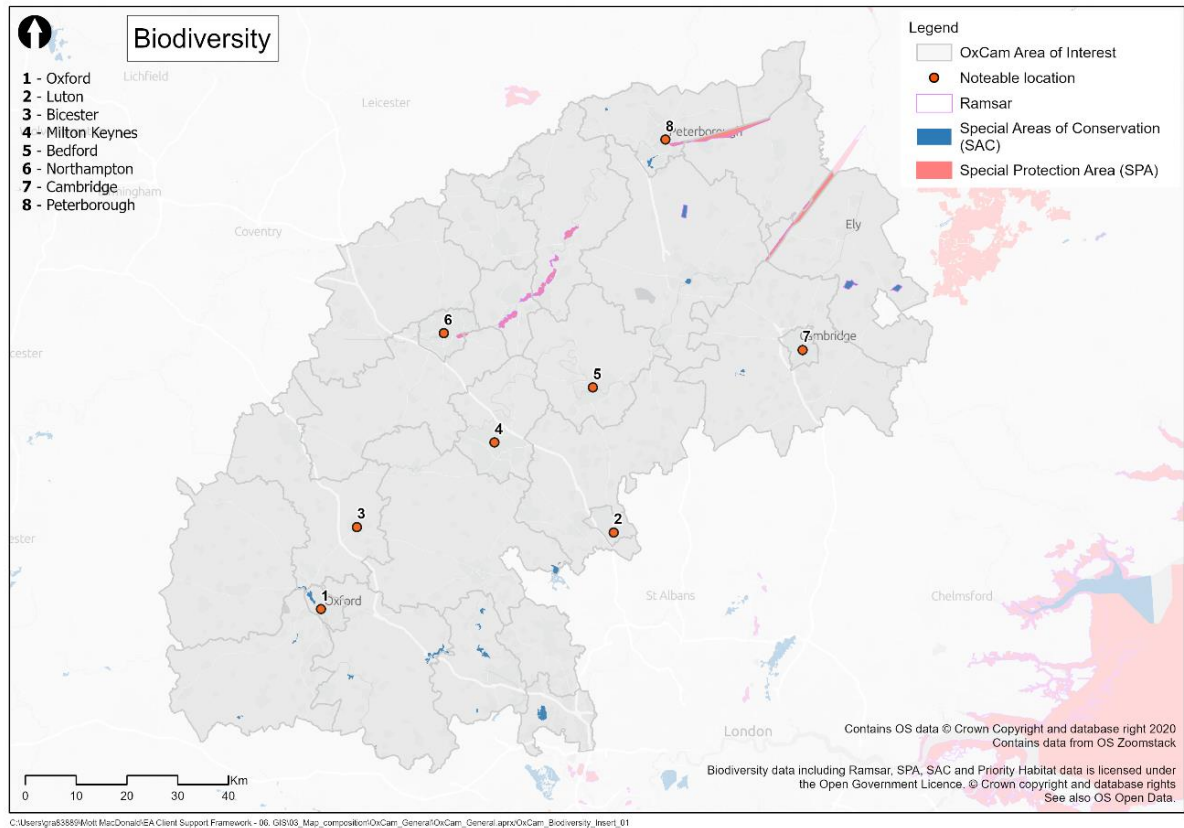
Figure A.8 – Special Protection Areas, Special Areas of Conservation and Ramsar sites in the Arc

1.32   There is approximately 31,000 ha of ancient woodland scattered throughout the Arc. Ancient woodland is defined as woodland that has existed since 1600 (in England and Wales) and has therefore had time to develop complex communities of plants and animals.

1.33   Biodiversity has been declining over the past few hundred years across England. Across the UK, the average species abundance of terrestrial and freshwater species has fallen by 13% since 1970. Steeper rates of decline have been seen in the last 10 years. Agriculture has been the leading cause of net biodiversity loss over recent decades and the resulting intensification of land management is continuing to add pressures now. Agriculture is also the dominant source of nitrate in water with high nitrate concentrations contributing to eutrophication of lowland surface waters (e.g. rivers and lakes) and nutrient enrichment in sensitive terrestrial habitats and ecosystems. Given the Arc is a key agricultural area, this is of particular relevance, although farmers and landowners are being encouraged to adopt more sustainable practices through the new Agricultural Act 2020. This encourages farmers and landowners to recover and restore biodiversity losses and contribute to the UK Government's 25 Year Environment Plan.

1.34   Development, in particular linear infrastructure related to transport links, can also prevent movement of species across the Arc. Increasing population and development has also led to habitat fragmentation and species disturbance, and as sites become smaller, they become more vulnerable to pressures, and are therefore more likely to result in biodiversity loss. For example, only 47% of the area covered by habitats designated as
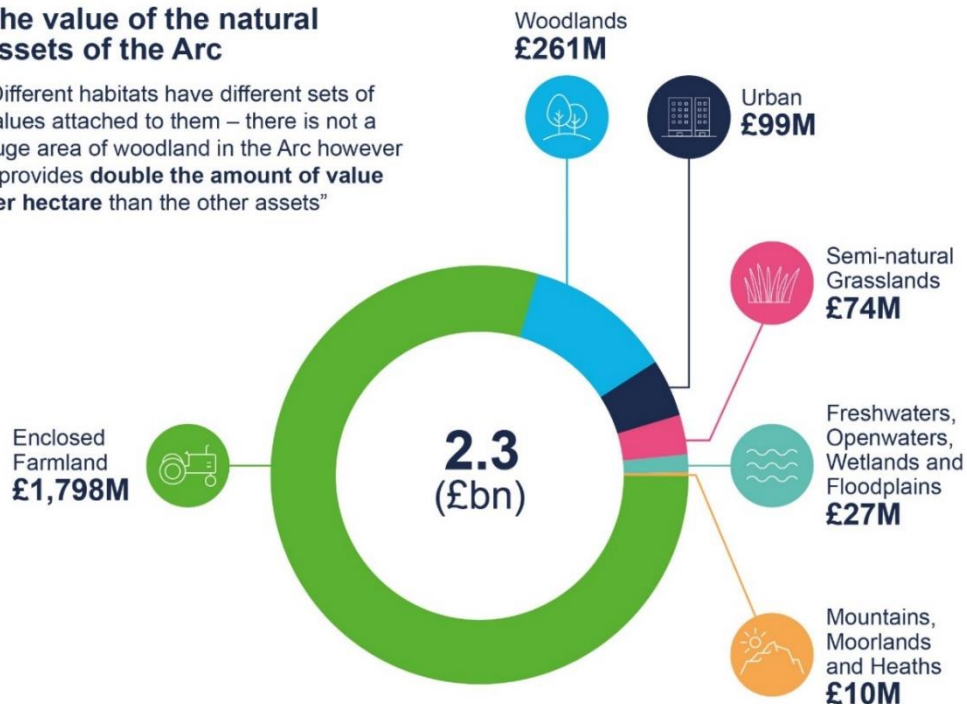
SSSI is considered to be in a favourable condition. Climate change also represents a threat to biodiversity. The loss of biodiversity from increased development will continue if appropriate considerations are not integrated into future development plans.

1.35 To minimise further biodiversity loss and habitat fragmentation, there is a need to restore, recover, reconnect and enhance existing habitats. This approach is in line with existing legal commitments, and creating new areas for biodiversity is in line with the ambitions of the UK Government's 25 Year Environment Plan. The Spatial Framework provides the opportunity to guide the location of new development away from sensitive areas for biodiversity, and thus avoid negative impacts that have the potential to arise. New development can be used as an opportunity to integrate biodiversity into design. Requirements to achieve biodiversity net gain through all new development provides opportunities to increase habitat connectivity and increase the provision of green infrastructure with wider benefits for health and wellbeing, and climate resilience.

The Arc has a range of natural capital assets, from woodlands to wetlands, which provide a significant number of services including climate and flood regulation, recreational provision and water supply. Collectively, these deliver benefits and add value to the area (see Figure A.9). The estimated total natural capital asset value in the Arc over 100 years is £72 billion and the value of services flowing from the natural capital assets in the Arc every year is estimated at £2.3 billion. Understanding the real value that our natural systems provide to society lies at the heart of a natural capital approach to land use management. The Local Natural Capital Plan being developed for the Arc will be an integral tool to guide decision-making within the Spatial Framework.

The value of the natural assets of the Arc

"Different habitats have different sets of values attached to them – there is not a huge area of woodland in the Arc however it provides **double the amount of value per hectare** than the other assets"

Woodlands
£261M

Urban
£99M

Semi-natural Grasslands
£74M

Freshwaters, Openwaters, Wetlands and Floodplains
£27M

Mountains, Moorlands and Heaths
£10M

2.3 (£bn)

Enclosed Farmland
£1,798M

The value and benefits from the ecosystem services of the Arc

"2.68 Billion is the estimated annual value in the Arc flowing from the ecosystem services shown. There are other benefits from nature that we cannot yet value"

Water quality
£334M

Physical health
£108M

Climate regulation
£70M

Air quality
£43M

Flood regulation
£11M

Timber
£11M

Agricultural production
£763M

2.3 (£bn)

Water supply
£413M

Recreation
£507M

Ecosystem Service Categories

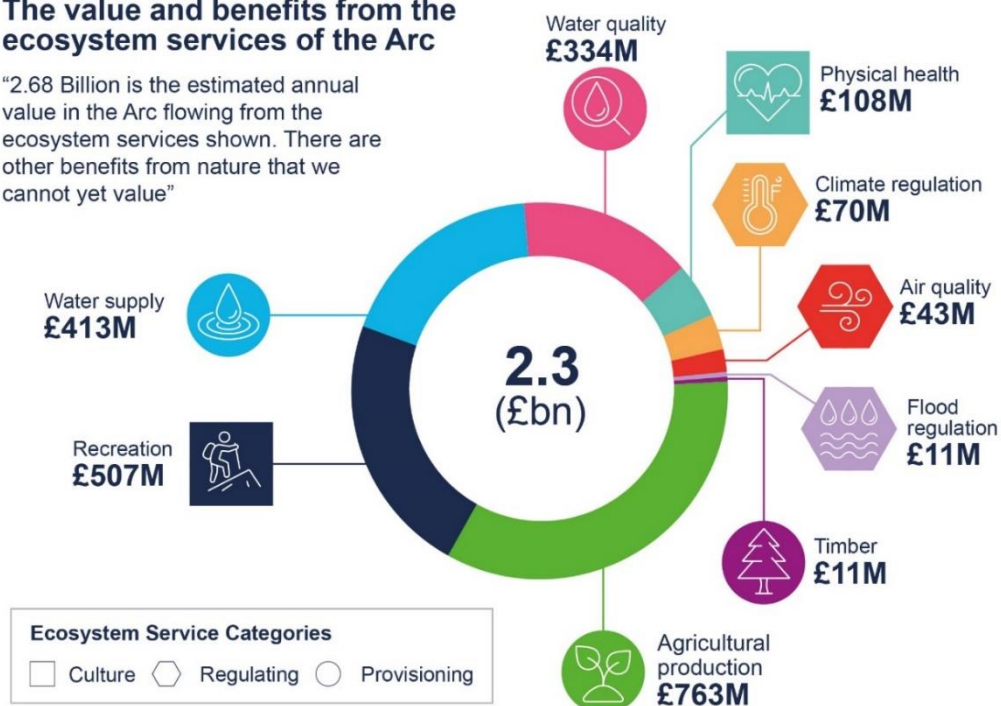☐ Culture ⬡ Regulating ◯ Provisioning

Figure A.9 – Example outputs from Oxford-Cambridge Arc Local Natural Capital Plan

Water

1.36 The water environment, plays an important role in the Arc, influencing the location of settlements and providing an essential resource that sustains human and natural life.

1.37   Water resources refer to the supply of water, which are needed for three main activities: public water supply, water abstraction and to maintain habitats supporting biodiversity. As development continues to take place across the Arc, it will become crucial to balance the different needs. Water is supplied to customers in the Arc by four main water companies: Anglian Water, Cambridge Water, Thames Water and Affinity Water.

1.38   Water companies are increasingly working together (usually at a regional scale) to manage water resources through reviewing water supply options to meet the needs of future development. This could include providing new capacity (reservoirs) or by drawing in supply through water transfers. Water companies are expecting that there will be no surplus capacity once existing committed development (to 2040) is built and serviced. The availability and ability to supply water is therefore a key constraint in planning future development within the Arc.

1.39   In addition to building new water storage and transfer pipelines, leakage reduction and demand management measures are important in managing water resources. The average water use of a person in England is approximately 140 litres of water per day. Considering water efficiency measures in the new and existing buildings, neighbourhoods and settlements provides an opportunity to minimise individual water consumption. This also provides a good way of integrating green/blue infrastructure into development, for example green corridors, ponds and outdoor recreation spaces.

1.40   Reservoirs, groundwater and river abstraction are the main sources of water supply. Therefore, it is important to protect these sources of drinking water in addition to the important role they play within the natural environment. Many of the watercourses in the Arc already experience pollution associated with wastewater discharges and agricultural practices.

1.41   Droughts are also an issue across the Arc with water companies reporting multiple droughts occurring over recent years such as the 2011 to 2012 drought. Successive low winter rainfalls in 2010 and 2011 had significant impacts on surface and ground water sources. Some water companies across the Arc have had to implement drought measures, such as temporary use bans. Most recently, a drought event affecting areas of the Arc occurred between 2017 and 2019.

1.42   There are over 5,700 km of rivers and streams across the Arc. The Arc contains nearly 350 waterbodies designated under The Water Environment (Water Framework Directive) Regulations (2017) as amended (see Figure A.10) to protect water sources and their dependent ecosystems. Over 100 of these river waterbody catchments have a status of poor or bad, with the majority being affected by wastewater discharges, alongside other causes such as physical modification and diffuse pollution.
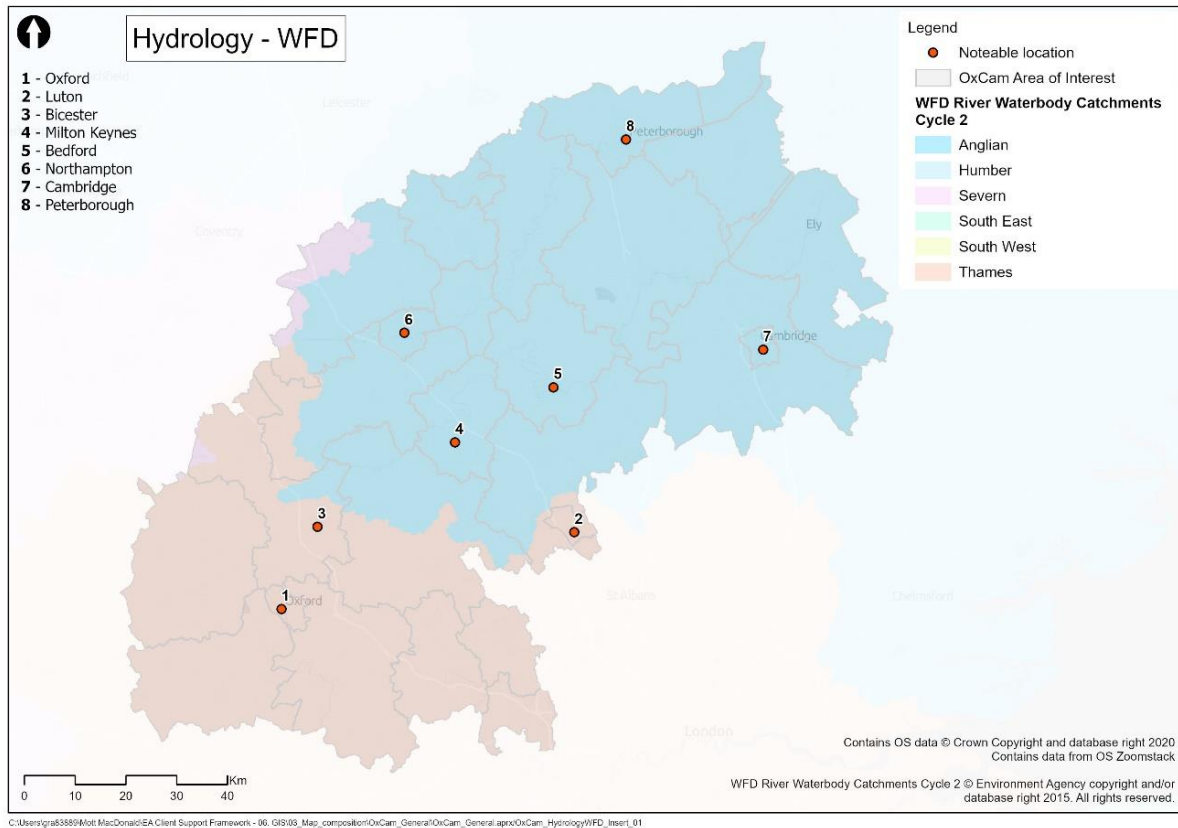
Figure A.10 – Water Environment (Water Framework Directive) Regulations river waterbody catchments (Cycle 2) in the Arc

1.43 Improvement in wastewater treatment capacity is a key enabler to prevent deterioration in water quality. Low flows in rivers are also a key concern, making them more vulnerable to the effects of pollution; the Arc contains the headwaters of several major river systems and a number of chalk streams which are associated with low flows. Chalk streams are rare habitats and about 85% of the world's chalk streams are in the south and southeast of England. Chalk streams are found in the south of the Arc and their high ecological and conservation value, and good water quality, mean that they are an important consideration in planning future development within the Arc.

1.44 Flood risk combines the probability and the potential consequences of flooding from all sources (rivers, rainfall affecting ground surface and rising groundwater, sewers and drainage systems, reservoirs, canals, lakes and other artificial sources). As a result of climate change, the UK is likely to experience more frequent heavy rainfall which will likely lead to an increase in the number and severity of flood events.

1.45 There are several areas within the Arc that fall within Flood Zone 3 (likely to flood) (see Figure A.11). This equates to around 15% of the Arc's land having a 1% or greater annual probability of river flooding. Around 74,000 properties are within Flood Zone 2 across the Arc, having a 0.1% or greater annual risk of flooding. Around 60% of the higher risk areas are within Cambridgeshire, particularly the Fens / Fenlands in the north east of the Arc which is a coastal plain. Other areas at greater risk of flooding within the Arc are along the River Great Ouse, River Nene and the River Thames, especially along

the southern borders of Oxfordshire and Buckinghamshire, the City of Oxford and the western boundary of the Arc.

1.46 As well as avoiding existing areas liable to flooding, future development will need to avoid generating run-off that may increase the risk of flooding. River catchment management, changes in land management practices, and nature-based solutions can help provide flood management, alongside enhancing natural water systems, public realm and ecological value. Major flood alleviation schemes are planned in areas across the Arc, including the Oxford Flood Alleviation Scheme and the Thames Valley Flood Scheme.
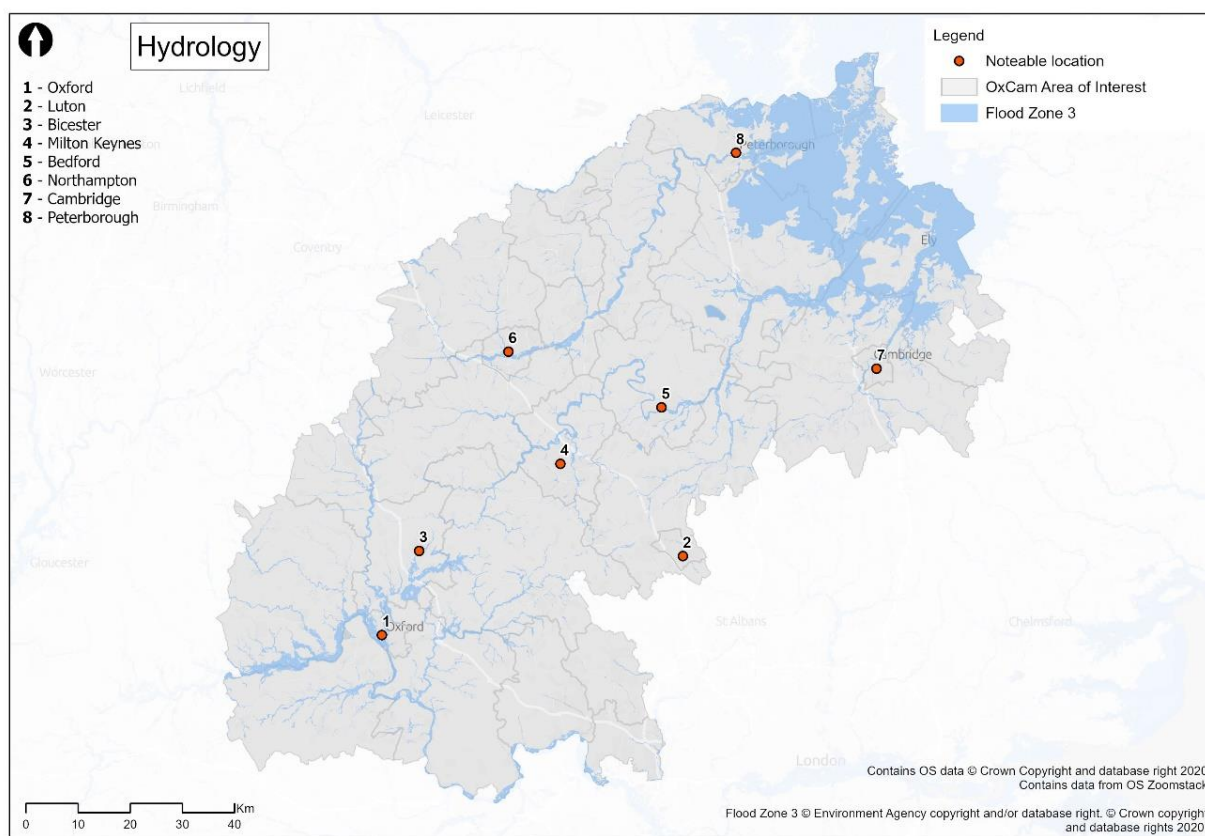

Figure A.11 – Areas in the Arc within Flood Zone 3

Air quality

1.47 Exposure to air pollution represents one of the most significant environmental threats to health in the UK, with thousands of deaths a year being attributed to long-term exposure. Public Health England identify strong evidence that air pollution causes the development of coronary heart disease, stroke, respiratory disease and lung cancer, and exacerbates asthma.

1.48 Progress has been made in improving air quality with reduction in levels of some pollutants over the past 50 years. However, more recent health evidence suggests that smaller particles are associated with a wider range of health effects. Particulate matter (PM_{10} and $PM_{2.5}$) and nitrogen dioxide (NO_2) remain of particular concern for human

health. In addition, ultrafine particles which are less than 100 nanometres across, are subject to increasing focus to understand their role in pollution and health effects.

1.49 Across the Arc there are some areas of poor air quality. Air Quality Management Areas (AQMAs) are declared where local authorities consider that national air quality objectives are not likely to be achieved. There are over 50 AQMAs across the Arc as shown in Figure A.12. The principal locations of the AQMAs in the Arc are:

- Oxfordshire: Central Oxford, plus Marcham and Abingdon on the A415.

- Buckinghamshire: M40 and M25 through Buckinghamshire plus the main roads into High Wycombe.

- Northamptonshire: Several roads into the centre of Northampton plus the M1 to the south of Northampton.

- Bedfordshire: Central Bedford, central Luton plus the M1 through Leagrave.

- Cambridgeshire: Central Cambridge, sections of the A14 and Huntingdon plus Wisbech

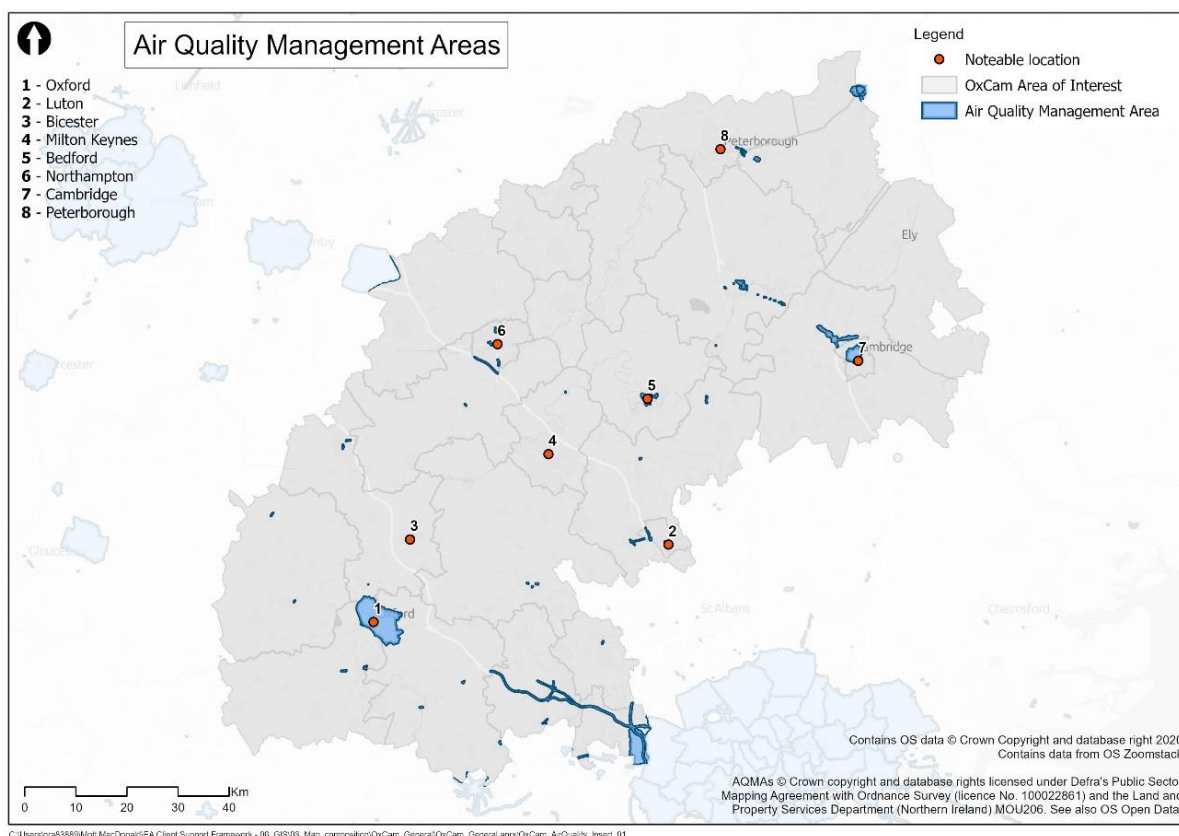**Figure A.12 – Air Quality Management Areas in the Arc**

1.50 Most of the AQMAs have been designated due to elevated concentrations of nitrogen dioxide caused by road traffic. Harmful emissions from road traffic sources in urban centres and on the strategic road network are the primary sources of air quality problems within the Arc. Therefore, people who live in these urban centres and near busy roads are

most likely to be exposed to dangerous levels of air pollution and the associated effects on health.

1.51 Residential development close to major roads already affects the health of those living nearby. The location of future development within the Arc can be informed by these existing sensitive routes and other areas where major roads are close to residential areas (for example, A34, the A14 and the A1(M)). One of the challenges associated with future development is to balance the requirement for good access to transport infrastructure, whilst avoiding, or at the very least not contributing further to, areas of existing pollution.

1.52 Within urban centres, focus remains on efforts to reduce local traffic emissions. This includes initiatives such as Oxford's low emission zone (LEZ). The LEZ was introduced to encourage the uptake of cleaner greener vehicles, leading to reductions in pollution emissions. Urban planning can also seek to improve access to sustainable modes of transport, as well as recognising the role of housing density and wider streets in creating space between pollution sources and people. Planning can enable behaviour change to reduce motor vehicle use and promote active travel modes such as walking and cycling. There is a need to provide infrastructure across the Arc which supports the transition to low or zero emission vehicles, as the sale of new petrol and diesel cars will end by 2030 (Department for Transport, 2020). This may also contribute to a reduction in pollution and cleaner air in the future.

1.53 The UK Government's Clean Air Strategy sets out actions to meet targets for several pollutants, including cutting public exposure to particulate matter pollution. The Strategy also seeks to tackle the environmental impacts of air pollution.

1.54 Nitrogen is a nutrient that is damaging to habitats, originating from ammonia and nitrogen oxides. Deposition of these pollutants on natural ecosystems causes nutrient enrichment and changes in vegetation and soils.

1.55 The relationship between vegetation and air quality is complex. A natural capital approach to managing land use change captures the value of the air purification services provided by nature, as vegetation removes pollutants from the atmosphere, providing an important service and avoiding healthcare costs. It has been estimated that the existing natural capital within the Arc is already providing an estimated £35m of benefit per year from avoided healthcare costs due to the removal of PM_{10} (particulate matter 10 micrometres or less in diameter) and $PM_{2.5}$ (particulate matter 2.5 micrometres or less in diameter) and other air pollutants from the atmosphere. This is predominantly provided by trees, woodland and farmland, and hence protection of these assets is a key consideration for the Spatial Framework.

Climate Change

1.56 Climate change is a global challenge and requires action at all levels to mitigate the effects. Climate mitigation refers to the action taken to reduce the greenhouse gases (GHG) responsible for warming the earth's atmosphere and can be achieved through reducing GHG sources, or by enhancing the sinks which remove and store GHGs. The Paris Agreement (2015), an international treaty signed by the UK and 195 other parties across the world, sets out to limit global warming to well below 2°C, preferably 1.5°C, compared to pre-industrial levels, through enhanced domestic targets and mitigation by signatory countries. In response to this, the UK Government has committed to a legally

binding target of net zero emissions by 2050 under changes to the Climate Change Act 2008.

1.57   The emissions for the area covered by the Arc are shown in Figure A.13. The Spatial Framework has the opportunity to lead the transition to net zero. This can be achieved by reducing embodied and operational carbon emissions through well-designed and appropriately placed development, increasing the provision of carbon sinks, providing sustainable and active transport infrastructure, encouraging behaviour change, and supporting the growth of the green economy.
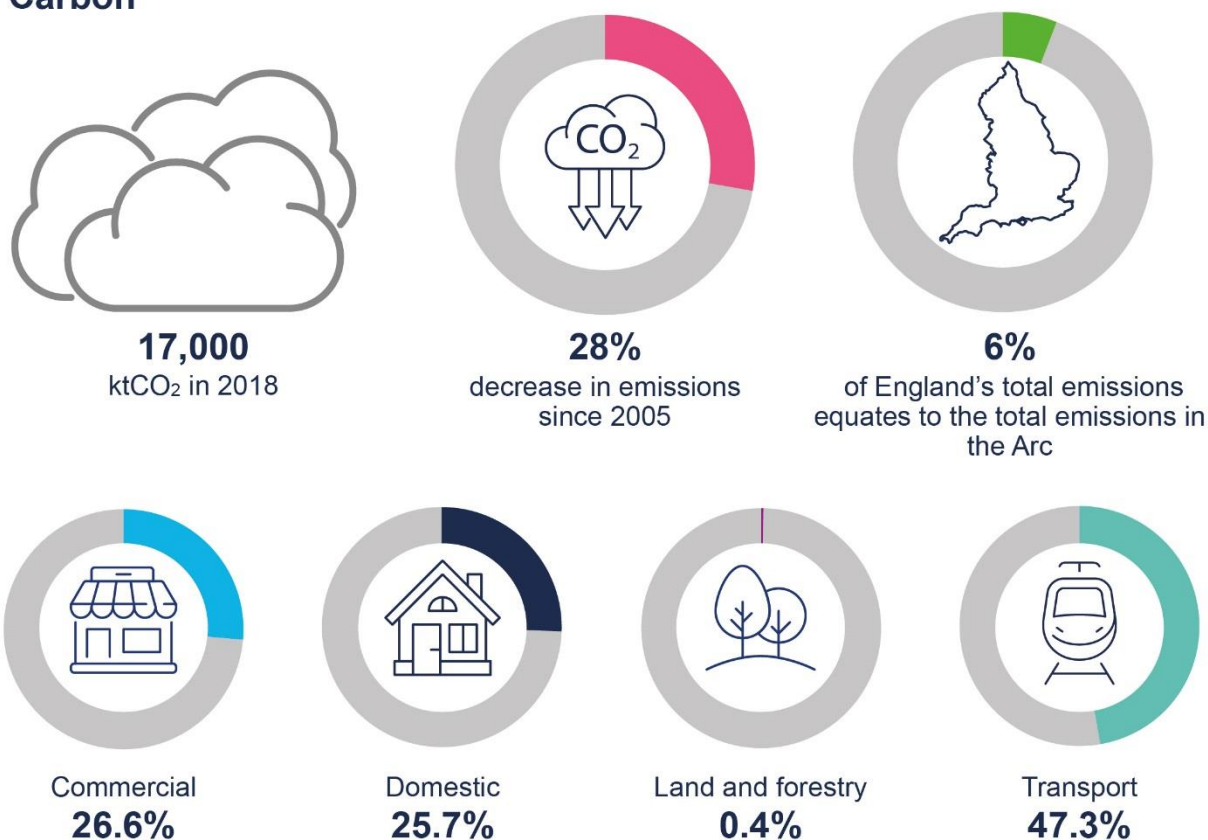

Carbon

17,000
$ktCO_2$ in 2018

28%
decrease in emissions since 2005

6%
of England's total emissions equates to the total emissions in the Arc

Commercial
26.6%

Domestic
**25.7%**

Land and forestry
0.4%

Transport
47.3%

Figure A.13 – Carbon emissions in the Arc

1.58   The climate is changing; the latest UK climate projections (UKCP18) show milder, wetter winters and hotter, drier summers along with an increase in the frequency and intensity of extreme events to be expected. The UKCP18 climate projections for the Arc are presented in Figure A.14.

Future Climate Change

Mean temperature change in the Oxford-Cambridge Arc

Warmer

5.2°C – 5.8°C
Summer mean
temperature change

3.5°C – 3.6°C
Winter mean
temperature change

Current
baseline

Cooler
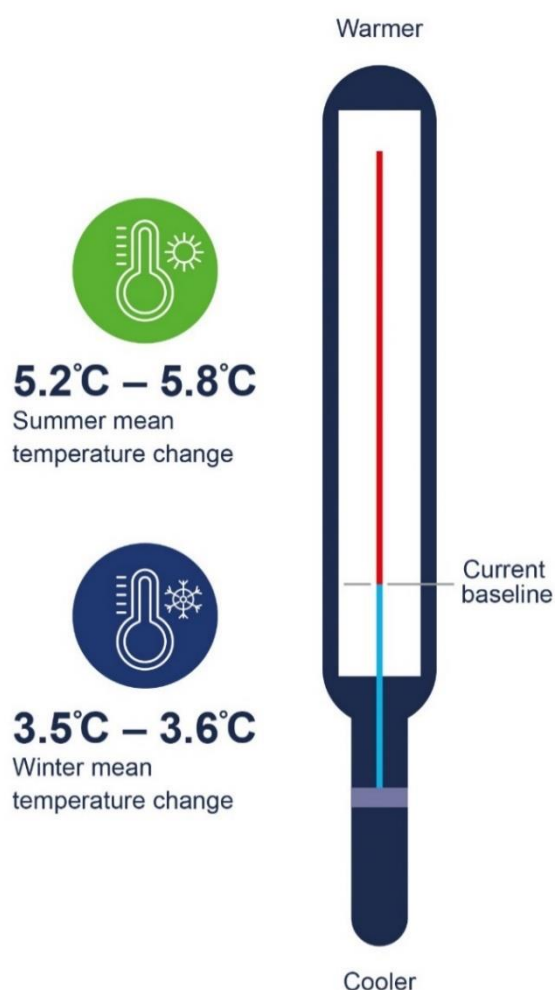
Mean precipitation change in the Oxford-Cambridge Arc

Drier

28% – 27%
Summer mean
precipitation change

35% – 41%
Winter mean
precipitation change

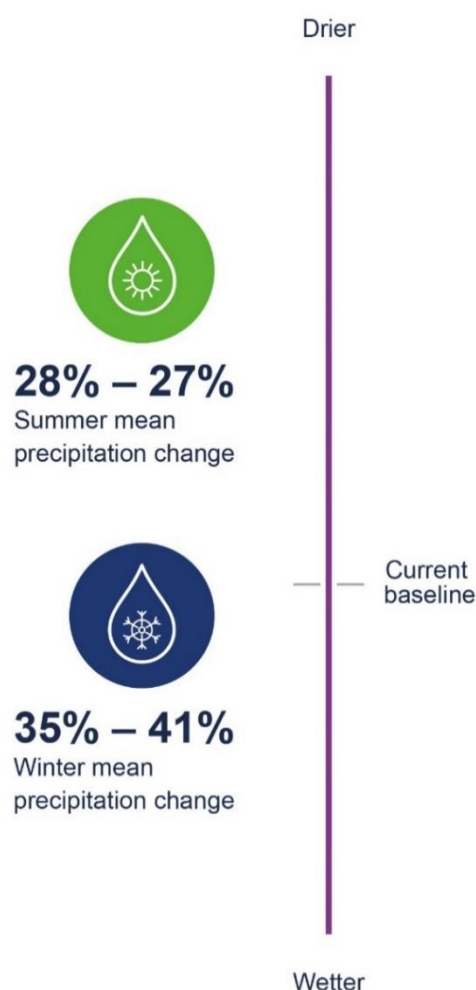Current
baseline

Wetter

Figure A.14 – Projected temperature and rainfall in the regions that comprise the Arc

1.59   The key issues and risks posed by climate change include flooding from: more extreme precipitation events; droughts and heatwaves, during summer months; and an increase in the urban heat island (UHI) effect, where built-up and dense urban areas absorb and retain heat, creating increased air temperatures relative to the surrounding rural areas. All of these risks can significantly affect the health and wellbeing of people, biodiversity and the natural environment, and the economy. Climate risks can be actively managed across the Arc through the integration of resilience into the design of new and existing places, spaces and infrastructure. Climate risks can also be managed by avoiding development in areas of high flood risk, increasing water efficiency and incorporating green infrastructure and supporting nature recovery.

Resources and Waste

1.60   Population increase and future development in the Arc have implications for the demand and supply of minerals and the production and management of waste.

1.61   Mineral safeguarding areas have been designated in each of the counties across the Arc which protect known deposits of minerals from unnecessary sterilisation by non-mineral development. Mineral resources produced within the Arc include sand and gravel, brick clay, crushed rock (limestone), chalk, building and roofing stone, and industrial (silica) sands. The construction industry relies heavily on aggregate sands and gravels. Depending on the scale of future development proposals across the Arc, it will be necessary to calculate if the Arc is self-sustaining or whether additional mineral and construction resources are required to support the wider redevelopment (including where appropriate heritage preservation/restoration) aspirations.

1.62   The UK is committed to moving towards a circular economy to optimise resource use, create new opportunities for growth and reduce environmental pressures of production and consumption. Moving away from a traditional linear economy (where resources are made, used and then disposed of) requires collaboration and innovation across a set of systems including buildings, transport, products and food. The Spatial Framework presents an opportunity to integrate and promote circular economy approaches, working with key stakeholders across the Arc, to contribute to this transition. National policy priorities also focus on reducing waste to landfill, including eliminating food waste from landfill by 2030, eliminating avoidable plastic waste over the next 25 years, eliminating all kinds of avoidable waste by 2050 and doubling resource productivity by 2050.

1.63   An approximate total of 1.4 million tonnes of waste was collected in the Arc in 2019/20 which accounts for 6% of the total local authority waste collected in the same year. Around 51% of this waste was sent to landfill and the remaining was sent for recycling, composting or reuse. Household waste made up 93% of the Arc's total collected waste in 2019/20. In the same year, South Oxfordshire District Council had the second highest household recycling and composting rates in the whole of England at 64% followed by the Vale of the White Horse District Council which had the third highest at 63%. Oxford City Council had one of the lowest household waste generation rates per head in the England in 2019/20. Waste is imported and exported between various counties in the Arc as well as outside of the Arc. The waste management and disposal capacity across the Arc is sufficient for current populations with each county having recycling, composting, waste transfer and landfill facilities.

1.64   It is not anticipated that growth across the Arc will result in any capacity issues for waste management and disposal. However, there is an opportunity to support an ambitious and long-term approach to improving regional or even national waste management capacity. There are currently two Energy from Waste plants in operation across the Arc with an additional site granted planning permission and three others in the early stages of development. Strategic scale growth would bring with it the potential to deliver new Energy from Waste plants that deliver combined heat and power. It may also be that concentrations of new growth aligned with highest standards of waste separation lead to the potential to deliver next-generation recycling facilities.

Transport

1.65 Growth and expansion across the Arc are dependent upon improvements in strategic transport provision, particularly east -west connectivity.

1.66 The Arc is generally well served by the Strategic Road Network (SRN), shown in Figure A.15. The M11, A1(M), M1 and M40 pass through the area in a north/south orientation, resulting in good overall connection into London and the M25, towards the Midlands, and to the North. Connectivity in the east-west direction is poor with large sections of single carriageway, both on primary and secondary roads. Currently, the roads providing the east to west connectivity are the A34, A43, A45, A14, A428, and A421.
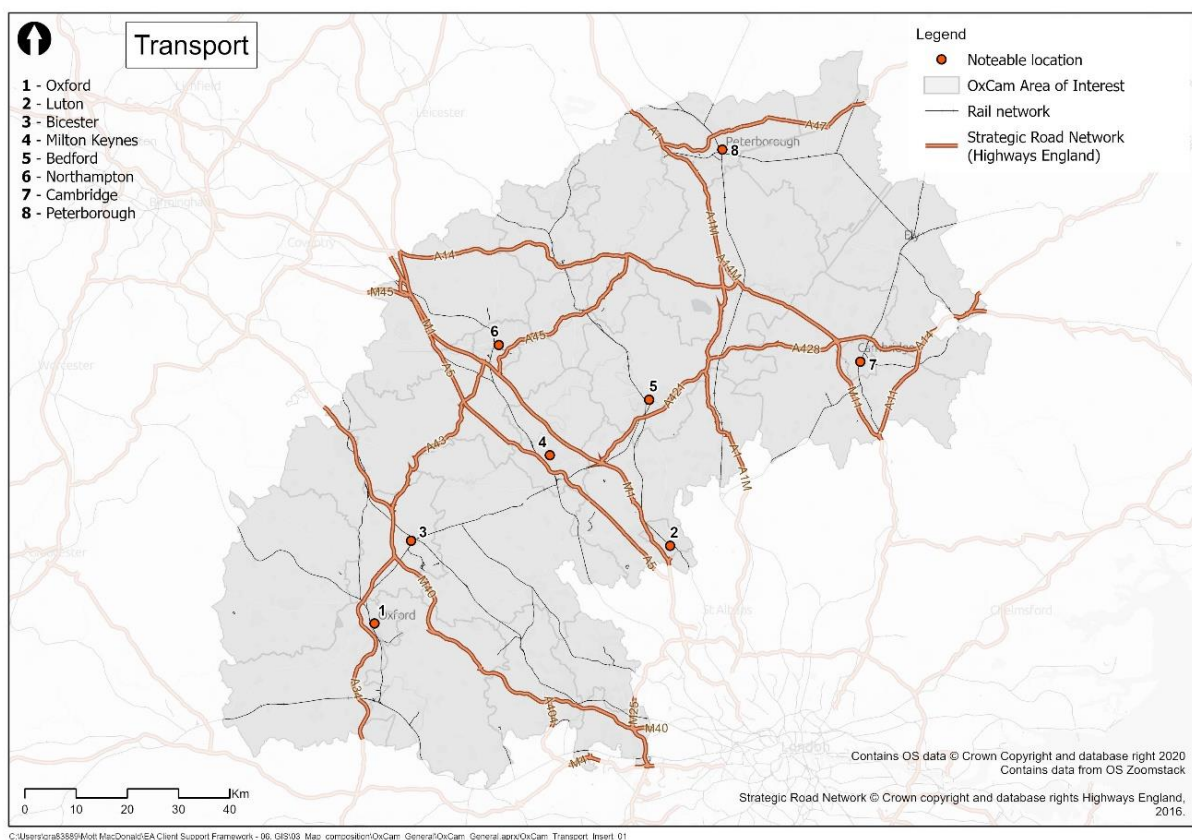

Figure A.15 – Strategic transport routes in the Arc

1.67 Car-based transport is the primary transport mode within the Arc where 67% of the workplace population travels by car in comparison to the national average of 60%. Approximately three-quarters of residents travel to work by car and typically travel between five and ten kilometres to reach their final destination. Most car journeys are within the immediate employment catchments and therefore commuting patterns tend to be localised. Across the Arc, there are significant constraints within the road network that impact safety, capacity and congestion. Areas of notable congestion include the M1 approaching Luton, Bedford and Northampton, M40 between Oxford and Bicester and M11 on the approach to Cambridge. In addition, congestion tends to be located within urban centres, and where the SRN joins the local road network. There are key pinch points approaching Aylesbury, Northampton, Bedford and Cambridge.

1.68   As with the road network, north-south infrastructure also prevails in rail infrastructure, with limited links available east to west. Key rail links passing through the area include the Great Western, West Coast, East Coast, West Anglia and Midland Mainlines. Across the Arc, there are a total of 94 rail stations, although only 17 are considered to have high frequency services with more than eight trains per hour. This level of service varies significantly across the network, in which some stations have less than an hourly service.

1.69   Where there are direct, frequent rail services (between Milton Keynes and Northampton, and between Wellingborough and Bedford), the journey times compare favourably to highway journey times. However, many other rail routes are typically not competitive when compared with journey times by road. The majority of the orbital routes do not have direct connections and require a change outside of the Arc (Swindon-Oxford via Didcot, or Oxford – Milton Keynes via London or Coventry). A twice-hourly express bus service is operated by Stagecoach UK Buses between Cambridge and Oxford, serving the key locations on route, although taking 3 hours and 40 minutes. Local bus services operate around the main settlements. As a result, for many people, the car is often the most logical mode of transport within the Arc.

1.70   The southern edge of the Arc experiences more congestion due to fast and semi-fast commuter trains to London. In particular, the southern end of the West Coast Main Line, East Coast Main Line, West Anglia Main Line and the Chiltern Main Line are capacity constrained.

1.71   London Luton Airport lies to the south of the Arc. In 2018, over 16 million passengers passed through the airport, a record total for Luton making it the fifth busiest airport in the UK. There are proposals to construct a second terminal and associated infrastructure to increase the capacity of the airport, in terms of both the number of flights and passengers. The current permitted capacity of the airport is 18 million passengers per year, and proposals will increase this to 32 million passengers per year by 2039.

1.72   To address the transport challenges currently faced by the Arc and to accommodate planned growth, a series of projects at both strategic and local scales have been proposed. The projects aim to begin resolving the congestion issues, and the lack of east-west connectivity within the Arc. This includes proposed upgrades to the strategic road network, the development of the East West Rail Corridor between Oxford and Cambridge, and improvements to local transport provision including proposals for rapid transit/ metro systems in Oxford, Cambridge and Milton Keynes. The proposed Oxford-Cambridge Expressway has been cancelled in favour of considering targeted, localised road investment.

1.73   The movement of goods and freight is a key aspect of the Arc and will be critical to the development of the area. The M1 serves as a major distribution corridor for road freight where Heavy Goods Vehicles (HGV) account for more than 15% of all road traffic. Along the M1, there are major distribution hubs, particularly around Milton Keynes, Northampton and Wellingborough, forming part of the "Golden Triangle" of national distribution hubs. The A14 and the A34 also see major flows of road freight as they provide important access to ports, particularly to the Port of Felixstowe, the UK's largest container port. Rail is an important component of freight movement in the Arc with terminals for handling construction materials, containerised traffic and other commodities across the area. Across the UK, forecasts for rail freight generally indicate increases under a range of scenarios: unconstrained central forecasts suggest a potential increase of 72% in rail

freight tonnes carried nationally (90% in tonne km) by 2043/44, with intermodal tonnes increasing by 186% and construction materials increasing by 120% in the same period. The East West Rail proposals will (if successfully brought forward) contribute to unlocking rail freight demand in the Arc and at a national level, with a potential role in supporting movement of new and expanding markets including containers from the ports of Southampton and Felixstowe to locations across the country.

1.74 Luton Airport is also an important operator for air freight with their Cargo Centre handling around 28,000 tonnes of cargo each year and DHL, MNG Airlines and British Airways using the centre as their dedicated freighter operations on a scheduled basis.

1.75 As identified in the Climate Change section, transport accounts for the largest amount of the Arc's carbon emissions and car dependency is high across the Arc. Creating this shift away from traditional vehicle transport to more sustainable modes presents a key challenge, particularly as the Arc develops. The Spatial Framework has the opportunity to promote active and public transport, by integrating it into new and existing development, and by creating connectivity around transport hubs. Increases in flexible working policies, business practices and significant improvements in digital infrastructure, particularly in the light of the COVID-19 pandemic, reduce the need to travel and therefore also present a key opportunity.

Infrastructure

1.76 Infrastructure underpins economic growth, and across the Arc inadequate infrastructure is a key constraint. As such, investment in housing, transport, utility and digital infrastructure will be critical to realising the Arc's full potential, whilst helping to ensure sustainable growth and resilience to current and future stresses.

1.77 The current success of the Arc has led to a growing demand for housing which has been met with a deficit in supply, fuelling high prices and low levels of affordability. This situation is acute in some areas and is likely to have increasingly detrimental effects on the competitiveness of the Arc by limiting access to labour.

1.78 Transport infrastructure is also considered to be a limiting factor for growth where poor east to west connectivity limits access to labour markets within the area. The rail and road connectivity of the Arc to London, the Midlands and the North of England make it a prime area for development. However, there is a lack of high-quality links within the Arc, particularly between the major centres of Cambridge, Milton Keynes and Oxford. Investment such as the proposed East West Rail are considered to be key for increasing connectivity within the Arc and beyond, whilst helping to unlock new areas for development.

1.79 Existing spatial variations in gas capacity exist across the Arc with some areas significantly constrained, and others able to support future planned development such as Milton Keynes and Cambridgeshire. In light of net zero commitments, the UK Government plan to stop new household gas connections after 2025, potentially reducing gas demand in the Arc. However, this will likely lead to an increase in electricity demand. Across the Arc there is limited spare capacity in electrical distribution and transmission networks, with significant constraints in some areas, for example to the west of Milton Keynes and east of Cambridge. The opportunity to develop low-carbon infrastructure provides the foundation for maximising affordable energy and clean growth.

1.80 Resilient, reliable and secure digital networks and infrastructure are continuing to grow in importance for supporting economic growth and providing social and wellbeing benefits, particularly during the COVID-19 pandemic. Broadband speeds typically differ across the Arc with higher speeds in urban areas compared to rural areas. Milton Keynes, however, is unique in that the network has received inadequate investment resulting in low speeds in comparison to other key economic areas within the Arc. Data demand is generally below 10 Megabits per second (Mbps) per km^2 across the Arc, except in some larger urban areas. This demand is projected to increase within the Arc, even in absence of growth scenarios, to 120 Mbps per km^2 in all urban areas with less populated rural areas requiring over 15 Mbps per km^2 by 2030.

1.81 The UK Government's Industrial Strategy (now archived), set out to tackle weaknesses and build on strengths in order to create conditions where businesses can be successful. Digital infrastructure, alongside energy and transport infrastructure, were identified as priorities to secure a high-quality, sustainable and well-connected environment for residents, workers and visitors.

Economics

1.82 The Arc has been one of England's fastest-growing economic areas over the last 20 years. In 2016 prices, its economic output increased from £81 billion in 2000 to £108 billion in 2018 with its economy growing at a faster rate within this period, than any other region in England, excluding the East of England and London.

1.83 The Arc experienced this growth due to the rapid increase in its population, highly specialised and productive sectors, and high employment rates. The latest data shows that Arc's residents have a higher employment rate as of September 2020 compared to the national average as shown in Figure A.16. However, though high employment levels have contributed to the Arc's economic growth, there is increasing evidence to show its local labour force is close to capacity, leading to increasing workplace commuting and migration.
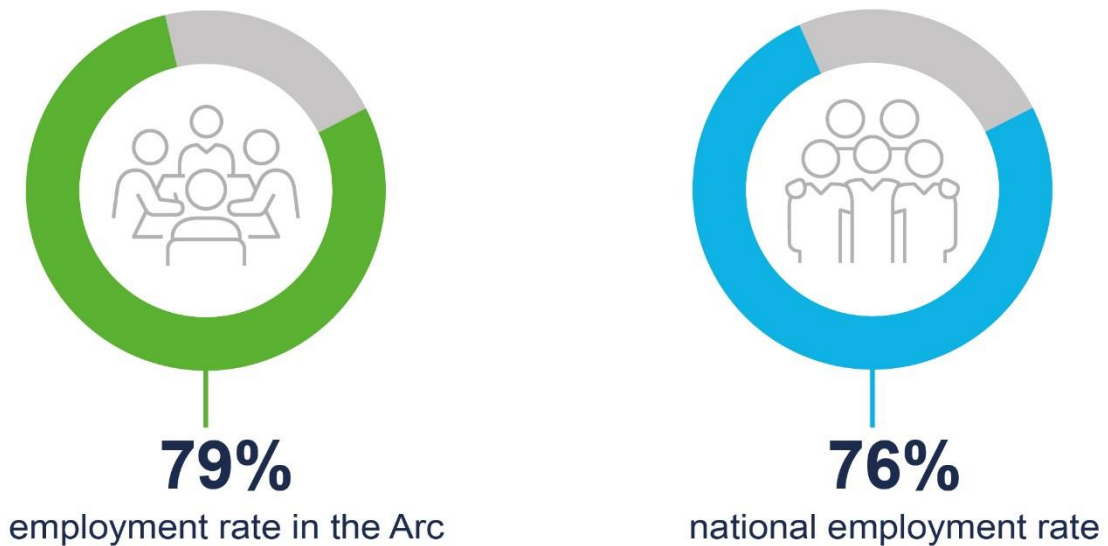
Employment rate

79%
employment rate in the Arc

76%
national employment rate

Figure A.16 - Employment rate in the Arc compared to the national average

1.84   Those employed, work across various knowledge-based industries and services such as education, health, business, professional, scientific, and technical services. Some of these knowledge-based industries operate together as economic clusters, where they benefit from close location to enable the sharing of ideas, expertise, and resources to achieve greater productivity.

1.85   The Arc is home to clusters in life sciences, advanced manufacturing, space, and aviation, amongst others. These contribute significantly to the UK economy and have the potential to become global innovation hubs that can attract further inward investment and create jobs.

1.86   These knowledge-based industries and clusters are critical current and future drivers of the Arc's economy; however other sectors such as wholesale and retail are equally important contributors to its economy. The wholesale and retail sector accounts for the largest share of the Arc's workforce, employing 13% of its workforce as of 2019 as shown in Figure A.17.
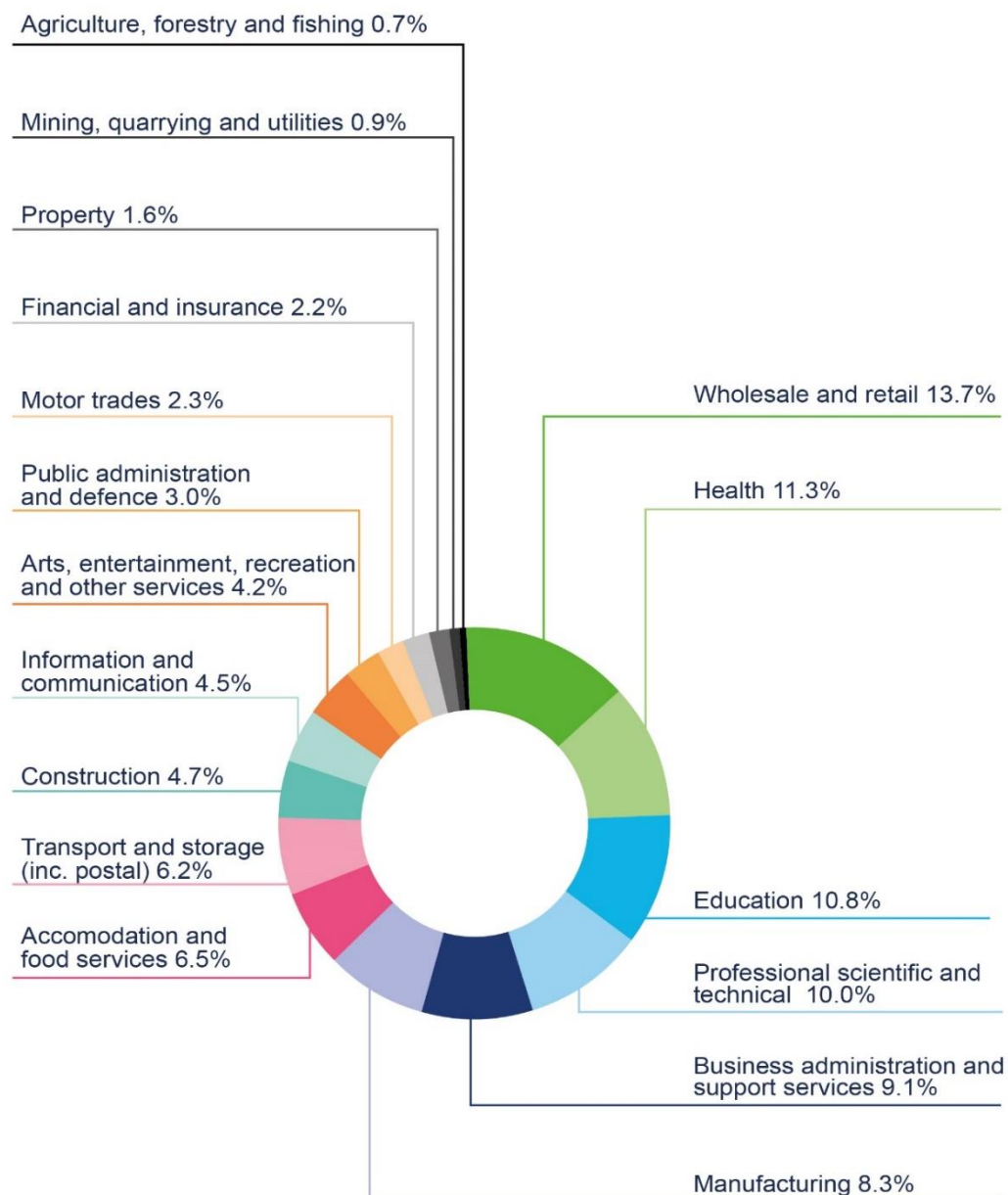
Agriculture, forestry and fishing 0.7%

Mining, quarrying and utilities 0.9%

Property 1.6%

Financial and insurance 2.2%

Motor trades 2.3%

Public administration and defence 3.0%

Arts, entertainment, recreation and other services 4.2%

Information and communication 4.5%

Construction 4.7%

Transport and storage (inc. postal) 6.2%

Accomodation and food services 6.5%

Wholesale and retail 13.7%

Health 11.3%

Education 10.8%

Professional scientific and technical 10.0%

Business administration and support services 9.1%

Manufacturing 8.3%

Figure A.17 – Workforce jobs by sector (2019)

1.87 A highly skilled labour force supports the Arc's industries and sectors; 41% of the Arc's resident population hold qualifications at degree level or equivalent, which has led to a significant presence of workers in managerial and professional occupations. This combination has also led to higher weekly gross median resident earnings, compared to the national median as shown in Figure A.18 (2018 is the most recent year where Arc-wide data on earnings is available). However, the greater share of managerial roles has meant significant shortages in vocational and applied skills, which increasingly are in demand from the Arc's employers.
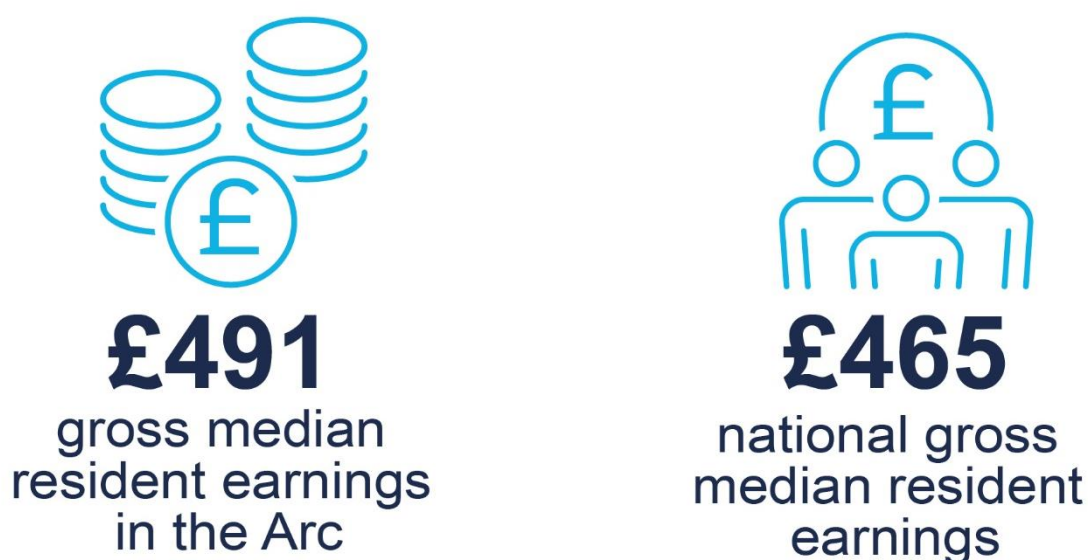
£491
gross median
resident earnings
in the Arc

£465
national gross
median resident
earnings

Figure A.18 – Gross median resident earnings compared to the national average

1.88 Though the Arc's economy has enjoyed high economic growth levels over the last 20 years, there are existing issues within its economy that could stifle and limit its future growth potential. As of September 2020, its average median house price of £288,000 compared to the England median of £249,000 has led to its residents settling further away from its economic centres, limiting the pool of labour available to the local employers. This average median house price excludes Aylesbury Vale, Chiltern, South Bucks and Wycombe Local District Authorities in the Arc due to unavailable data.

1.89 The issue of labour shortages resulting from housing unaffordability is made worse by the shortage of vocational and applied skills within its labour pool. When taken together, these two issues have created a labour market that is not fit for supporting the scale of future growth that could be realised by its sectors, particularly its economic clusters.

1.90 There are also increasing concerns with regard to the availability of the commercial spaces required to accommodate business growth across the Arc. This applies particularly to start-ups, and small and medium-sized enterprises. Highly congested road and rail networks, and lagging digital connectivity that does not meet the needs of its residents and businesses, are also concerning.

1.91 Such constraints are likely to limit the Arc's current and future productivity. Evidence shows that the high productivity growth the Arc has experienced over the last 20 years is beginning to slow down in some of its areas. Addressing these constraints will be critical, if the Arc is to maximise its long-term growth potential.

B. Plans, Policies and Programmes review

Introduction

1.92 A review of the plans, policies and programmes (PPP) relevant to the Sustainability Appraisal of the Oxford-Cambridge Arc Spatial Framework has been undertaken. The aim of the review was to inform the development of the Spatial Framework by identifying key external documents that contain direction on sustainability issues which can shape the Spatial Framework and the Sustainability Appraisal.

1.93 A proportionate approach to the PPP review has been implemented with relevant documents published up to March 2021 included. At this stage, the review has focussed on national PPPs which are relevant to the whole of the Arc rather than considering local level PPPs. The relevant international conventions have also been included in the review and UK Regulations highlight where they implement European Directives.

1.94 At this stage, the focus of the PPP review is to identify the PPPs that contain sustainability issues that: (a) inform the ambitions of the Spatial Framework; and (b) inform the development of Sustainability Themes. As the Sustainability Appraisal progresses, other documents may be added to the review. Future work for the Sustainability Appraisal also includes assessing the compatibility of the Spatial Framework with these PPPs.

Oxford-Cambridge Arc documents

1.95 The PPP review is focused on sustainability and therefore does not include the full spectrum of plans, policies, programmes and guidance which may be relevant to developing the Spatial Framework. At this stage, the PPP review identifies sustainability issues which the Spatial Framework should be considering in its development. As the Spatial Framework is government policy, there are a number of documents that set out specific objectives and requirements for the Oxford-Cambridge Arc. It is assumed that government policy objectives for the Arc apply in their entirety to the Spatial Framework and therefore the following documents will be considered in full in developing the Spatial Framework and are not summarised here:

- Planning for sustainable growth in the Oxford-Cambridge Arc: Spatial Framework (policy paper) (MHCLG, 2021)

- The Oxford-Cambridge Arc: Economic Prospectus (Arc Leadership Group, 2020)

- Government response to National Infrastructure Commission report, Partnering for Prosperity (UK Government, 2018) and Partnering for Prosperity: A new deal for the Cambridge-Milton Keynes-Oxford Arc (National Infrastructure Commission, 2017)

- The Oxford-Cambridge Arc: Government ambition and joint declaration (MHCLG, 2019)

1.96 The PPP review is presented in full in Table B.1 below. It provides a description of each PPP alongside an outline of the relationship to the Spatial Framework and Sustainability Appraisal, and highlights the links to relevant Sustainability Themes.

1.97 The language used when identifying the relationship between the PPP and the Spatial Framework and Sustainability Appraisal has been governed by the status of each PPP. Where the influencing PPP comprises or confers enforceable relevant legal obligations and/or the Spatial Framework is intended to help to meet these, 'will' is used to indicate the intent to comply with such legal obligations in relation to that PPP content which will be applied, where the PPP content is directly relevant to the scope of the Spatial Framework. Where the influencing PPP does not itself comprise nor confer enforceable relevant legal obligations, e.g. because it is a broader policy, programme or plan, the use of 'should' has been applied to indicate that there is a broader opportunity for the Spatial Framework to contribute to PPP aims, ambitions and actions. By doing so, the review highlights how legal duties and policy aims help to shape the development of the Spatial Framework and Sustainability Appraisal.

Key Themes, Messages and Objectives

1.98 The main themes, messages and objectives identified in the PPP review for the Arc Spatial Framework are presented below against each of the sustainability themes.

Land Use and Landscape

1.99 Protecting and enhancing landscape character and quality; protecting the ecosystem services of land and soil; using land and soil sustainably; considering natural capital approaches to land use; increasing the provision of and access to green infrastructure; and creating places and spaces which encourage sustainable and healthy lifestyles.

Historic Environment

1.100 Protecting historic and cultural heritage, including designated and non-designated assets and archaeology; and increasing the role of culture and the historic environment in the community and economy.

Communities

1.101 Ensuring social inclusivity, accessibility and community participation; creating equal opportunities; designing safe, secure and considered places to improve health and wellbeing; creating a sense of place and belonging; and connecting people to the natural environment.

Biodiversity

1.102 Ensuring the protection, recovery and enhancement of designated and non-designated sites; integrating biodiversity net gain, ecosystem service and natural capital principles into decision making and design; increasing public awareness and involvement in conservation; and increasing green and blue infrastructure.

Water

1.103 Promoting the efficient use of water and minimising additional pressures on water resources; improving the quality of all waterbodies to achieve "good status" or "good potential"; reducing impacts on the waste water sector; and increasing resilience to flood risk through implementing nature based solutions and SuDS.

Air Quality

1.104 Improving air quality to meet the standards and targets set out to improve human health; contributing to reducing vehicle emissions by encouraging active and sustainable modes of transports and supporting the transition to low emission vehicles; and accelerating clean growth to reduce emissions.

Climate Change

1.105 Urgent action required to mitigate the effects of climate change and to contribute to achieving the UK's net zero commitments through developing low carbon infrastructure, buildings and places, and growing the green economy; and ensuring places and communities have resilience to climate change, including flooding, overheating and droughts.

Resources and Waste

1.106 Increasing resource efficiency to maximise benefits and value; reducing waste through contribution to reduction and elimination targets; applying circular economy principles; preventing environmental pollution to achieve wider social benefits such as improved health and wellbeing from cleaner air and water; and contributing to net zero through energy efficiency and low carbon technologies.

Transport

1.107 Delivering transport networks which are inclusive, accessible and increase the quality of life; reducing congestion and increasing connectivity through active and sustainable modes; and integrating environmental considerations such as improvements for air quality, biodiversity, carbon emissions and noise.

Infrastructure

1.108 Provision of high quality digital, energy and transport infrastructure to support sustainable and innovative growth; supporting the shift towards clean growth through contributing to Green Industrial Revolution and net zero; and increasing green infrastructure.

Economy

1.109 Growing the economy following the COVID-19 pandemic through increasing investment in skills, infrastructure and innovation; enabling the transition to net zero alongside economic (and green) growth; and supporting inclusive access to long-life skills development to allow people to progress and increase productivity.

Plans, policies and programmes review

1.110 The role of the PPP is explained in paragraphs 1.92 to 1.109. In summary, this is to inform the development of the Spatial Framework by identifying key external documents that contain direction on sustainability issues which can shape the Spatial Framework and the Sustainability Appraisal.

Table B.1 – Plans, policies and programmes review

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
SL01	**UN Sustainable Development Goals (2015)**	The UN Sustainable Development Goals (SDGs) derive from the 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and in the future. The SDG's relevant to the proposed framework are as follows: • Goal 1: End poverty in all its forms everywhere • Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture	• The SF should integrate an overarching commitment to the SDG's, as the core principles underlying sustainable development. • The SF should consider the wide scope of the SDGs and consider where the development and implementation of the SF can contribute to the high-level ambitions of the SDGs. • The SF should consider which SDG targets and indicators are most relevant to the SF and could be used to guide action, evidence and monitoring to support the implementation of the SF.	• Sustainability Leadership • Resilience • Communities • Biodiversity • Air Quality • Climate • Historic • Water • Land Use and Landscape • Transport • Infrastructure • Economy • Resources and Waste

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		• Goal 3: Ensure healthy lives and promote well-being for all at all ages • Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all • Goal 5: Achieve gender equality and empower all women and girls • Goal 6: Ensure availability and sustainable management of water and sanitation for all • Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all • Goal 8: Promote sustained, inclusive and economic growth, full and productive employment and decent work for all • Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation • Goal 10. Reduce inequality within and among countries		

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		• Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable • Goal 12: Ensure sustainable consumption and production matters • Goal 13: Take urgent action to combat climate change and its impacts • Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development • Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss • Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels		

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		• Goal 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development Each of the SDG Goals are underpinned by targets to be achieved by 2030 (relevant at a national level) and indicators for each of the targets. The SDGs are universal with all signatories expected to contribute to them internationally and deliver them domestically.		
SL02	**Agenda 2030: The UK Government's approach to delivering the Global Goals for Sustainable Development at home and around the world (DfID, 2017)**	The document provides the UK Government's commitment to delivering the Sustainable Development Goals (SDGs), both in terms of actions in the UK and actions internationally. The document sets out that the underlying aims of the goals are incorporated in the work of the government and are being embedded into the work of government departments (in	• The SF should support actions outlined by the government which contribute to the SDGs and consider how the design, concepts and infrastructures will contribute to each of the relevant goals. • The SF should consider where actions taken in the development of the SF and across the Arc can be used as examples to demonstrate government action to achieving the SDGs.	• Sustainability Leadership

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		Single Departmental Plans SDP). Departments are required to report progress towards the Goals through their Annual Reports and Accounts. The document provides an overview and examples of how the UK Government is contributing to the delivery of each of the SDG's.	.	
SL03	**A Green Future: Our 25 Year Plan to Improve the Environment (Defra, 2018)**	The Plan sets out a comprehensive and long term approach to protecting and enhancing the natural environment. This is the 'sister document' to the Clean Growth Strategy and also sits alongside the Industrial Strategy. The Plan's 25-year goals are: • Clean air • Clean and plentiful water • Thriving plants and wildlife • Reduced risk of harm from environmental hazards such as flooding and drought	The SF should facilitate achievement of the goals and targets stated in the Plan (and 2019 update). Of specific relevance to the SF are: • Clean air (meeting emissions reduction targets to reduce effects on health; provision for alternative motor vehicles that do not use conventional fuels); • Clean and plentiful water (reduce damaging abstractions with water bodies having enough water to support environmental standards; reaching or exceeding objectives for protected water bodies);	• Sustainability Leadership • Resilience • Biodiversity • Air Quality • Climate Change • Historic environment • Water • Land Use and Landscape • Economy • Resources and Waste

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		• Using resources from nature more sustainable and efficiently • Enhanced beauty, heritage and engagement with the natural environment The Plan sets out that pressures on the environment will be managed by: • Mitigating and adapting to climate change • Minimising waste • Managing exposure to chemicals • Enhancing biosecurity Policies focused around six areas: • Using and managing land sustainably • Recovering nature and enhancing the beauty of landscapes • Connecting people with the environment to improve health and wellbeing	• Thriving plants and wildlife (restoring protected sites to favourable condition; create wildlife-rich habitat outside of protected sites; prevent human induced extinction or loss of species; increase woodland); • Reduced risk of harm from environmental hazards such as flooding and drought (land use decisions reflect level of current and future flood risk, minimise interruptions to water supply; long-term resilience of homes, businesses and infrastructure); • Using resources from nature more sustainable and efficiently (maximise value and benefits from our natural resources; sustainable soil management; sustainable and profitable food production); • Enhanced beauty, heritage and engagement with the natural environment (safeguarding and enhancing beauty of our natural scenery, improving its environmental value and sensitive to its heritage; high quality, accessible natural	

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		- Increasing resource efficiency, and reducing pollution and waste - Securing clean, productive and biologically diverse seas and oceans - Protecting the global environment An update to the Plan (May,2019) identified the specific goals and targets for the environmental benefits and pressures identified in the Plan.	spaces close to where people live and work); - Mitigating and adapting to climate change (cut greenhouse gas emissions, including from land use and land use change; decisions take into account possible extent of climate change this century; implement adaptation); - Minimising waste (zero avoidable waste by 2050; eliminate avoidable plastic waste by 2042; meet existing waste targets and develop ambitious new targets; eliminate waste crime); - Managing exposure to chemicals (chemicals are safely used and managed); - Enhance biosecurity (manage plant and animal diseases, lower risk of new ones, tackle invasive non-native species). Where applicable to the content of the SF, the SF should consider and cascade other actions to deliver across the six policy areas. These include: Using and managing land sustainably: embedding an 'environmental net gain'	

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
			principle for development including housing and infrastructure; improve soil health, protect peatlands; expand woodland cover; greater use of natural flood management solutions. Plus strengthen requirement for net gain for biodiversity, expand use of natural capital benefits, stronger new standards for green infrastructure; consider district protected species licensing; using tariffs to steer development towards the least environmentally damaging areas and secure investment in natural capital. On housing: New development in the right places, protecting ancient woodlands, grasslands, high flood risk areas and best agricultural land; new homes will be built to reduce demand for resources, be resilient and encourage walking and cycling; Enhance the Green Belt. Recovering nature and enhancing the beauty of landscapes: restoration of habitats and wildlife to re-introduce species, managing non-native species,	

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
			use water sustainably through long-term strategies to increase resilience and managing water supply and demand. Connecting people with the environment to improve health and wellbeing: help people improve their health and wellbeing by using green spaces; encourage children to be close to nature (focus on disadvantaged areas); create green infrastructure and green spaces in urban areas, facilitate urban-tree planting, supporting local authorities to assess green infrastructure provision. Increasing resource efficiency and reducing pollution and waste: maximise resource efficiency and reduce waste through better design, use of recycled or reused materials where possible, and contribute to goal of zero avoidable by waste by 2050 and eliminate avoidable plastic waste by 2042. Improve waste management, including litter reduction, and reduce	

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			environmental pollution, including air and water pollution to achieve wider social benefits. Securing clean, productive and biologically diverse seas and oceans: protecting the marine environment and the habitats it supports, achieving good environmental status alongside continued growth and development of marine industries. Protecting the global environment: international leadership on climate mitigation and contribute to achievement of the Paris Agreement, deliver the relevant aspects of the UN Sustainable Development Goals (SDGs), protect and enhance internationally important biodiversity, enhance sustainability, implement the use of natural capital approaches, protecting and managing risks from hazards, and supporting zero deforestation supply chains.	

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes

SL04	**Draft Environment Bill (2020)**	The Environment Bill was first introduced to parliament in October 2019 and then reintroduced in January 2020. The Bill is expected to be progressed and receive Royal Assent during 2021.
		
		The Bill will support the UK Government's 25 Year Environment Plan to improve the environment and brings about urgent and meaningful action to combat the environmental issues that the UK is facing.
		
		A key component of the Bill is to set at least one long-term legally binding target in each of the following four key areas: air quality, resource efficiency and waste reduction, biodiversity and water.
		
		The Bill sets out the criteria for these long-term targets which will also be supported by interim targets. These will be reviewed
			• The SF should take an active role in implementing the Bill by putting sustainability at the centre of the Arc to create greener and fairer place to live and work.
			
			• The long-term targets across the priority areas have yet to be set but are expected to be brought forward by October 2022. However, the objectives for targets under consideration will be considered in developing the SF.
			   ○ Air quality: reducing annual mean level of fine particulate matter; reducing population exposure to particulate matter.
			   ○ Resource efficiency and waste reduction: increasing resource efficiency; reduce the volume of 'residual' waste.
			   ○ Biodiversity: improve the quality of habitats expressed through the condition of protected sites (SSSIs); improve the overall status of species populations; restore and create wildlife-rich habitat outside protected sites.
				• Sustainability Leadership
				• Biodiversity
				• Air Quality
				• Climate Change
				• Water
				• Land Use and Landscape
				• Resources and Waste

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		every five years via the Significant Improvement Test. The Bill also sets out a framework for monitoring, planning, and reporting, including an Environmental Improvement Plan of which the 25 Year Plan is the first.	○ Water: reduce pollution from agriculture; reduce pollution from wastewater; reduce water demand. • The Bill outlines a requirement for new development to achieve at least 10% biodiversity net gain and as such this will need to be considered throughout the development of the SF.	
SL05	**National Planning Policy Framework (MHCLG, 2019)**	The National Planning Policy Framework (NPPF) sets out the government's planning policies for England and how these should be applied. At the heart of the framework is the presumption of sustainable development (Paragraph 11). Achieving sustainable development means that the planning system has three overarching objectives - economic, social and environmental - which should be delivered through the framework.	• The SF should integrate a commitment to achieving sustainable development, in line with the NPPF, including a focus on low carbon development. • The SF should reflect the guidance of the relevant sections: <u>Section 6: Building a Strong Competitive Economy:</u> Create the conditions which businesses can invest, expand and adapt, supporting economic growth and productivity. Approaches should allow areas to build on their strengths, counter any	• Sustainability Leadership • Communities • Climate Change • Historic Environment • Water • Land Use and Landscape • Economy

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		The following sections of the NPPF are relevant to the Spatial Framework: • Section 6: Building a strong, competitive economy • Section 8: Promoting healthy and safe communities • Section 9: Promoting sustainable transport • Section 11: Making effective use of land • Section 12: Achieving well designed places • Section 14: Meeting the needs of climate change, flooding and coastal change • Section 15: Conserving and enhancing the natural environment • Section 16: Conserving and enhancing the historic environment .	weaknesses and address the challenges of the future. Section 8: Promoting Healthy and Safe Communities: Aim to achieve healthy, inclusive and safe places which promote social, are safe and accessible and encourage and support healthy lifestyles. The social, recreational and cultural facilities and services a community needs should be provided. Access to a network of high-quality open spaces and opportunities for sport and physical activity is important, therefore existing open space, sports and recreational land should not be built on. Section 9: Promoting Sustainable Transport: Opportunities to promote sustainable transport modes should be taken up, ensuring safe and suitable access can be achieved whilst mitigating any impacts on the existing transport network. Priority should be given to pedestrian and cycle movements, creating places that are safe, attractive and secure. Charging for plug-in and other ultra	

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			low emissions vehicles should be designed into development. Section 11: Making effective use of land Encouraging multiple benefits from both urban and rural land, recognising the functions of undeveloped land, and promoting the development of under-utilised land and buildings. Section 12: Achieving well-designed places Development should function well over time and add to the overall quality of the area, should be visually attractive as a result of good architecture, which is sympathetic to local character and history and maintain a strong sense of place. Great weight in planning decisions should be given to outstanding or innovative designs which promote high levels of sustainability or help raise the standard of design in an area, Section 14: Meeting the challenge of climate change, flooding and coastal change	

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
			The planning system should support the transition to a low carbon future in a changing climate, taking full account of flood risk. It should help to shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure. Section 15: Conserving and enhancing the natural environment: Planning should contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes, recognising the beauty of the countryside, minimising impacts on biodiversity and preventing new development from contributing to unacceptable levels of soil, water, air or noise pollution. The natural environment should be enhanced by remediating and mediating despoiled, degraded, derelict and contaminated land where	

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			appropriate. Development resulting in significant harm to biodiversity, which cannot be avoided, adequately mitigated or compensated for should be refused. Sites considered for development should be suitable for the proposed uses, taking into account ground conditions and any risks arising from land instability and contamination. Development should be appropriate for its location taking into account the likely effects of pollution on health, living conditions and the natural environment. <u>Section 16: Conserving and enhancing the historic environment</u> Heritage assets of local, national and international significance should be conserved and enhanced. Development should give great weight to asset conservation, with any harm to designated assets requiring clear and convincing justification. Grade II Listed assets and	

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			assets of the highest significance will be exceptional to this.	
SL06	**Planning Act 2008**	The Act establishes the system of consent for nationally significant infrastructure projects (NSIPs). The Planning Inspectorate are responsible for examining applications for development, whereby development consent will be given in the form of an order. Part 3 of the Act defines a NSIP, with categories of projects specified in fields such as transport, water and waste. Part 4 sets out a requirement for development consent in respect of development which is or forms part of a NSIP. Part 5 sets out the requirements for an application to the Commission for an order granting development consent.	• The SF will identify infrastructure and development proposals promoted by the SF that may meet the requirements of NSIP as set out in the Planning Act 2008. • The SF will be aware of the programme requirements for NSIPs and other major projects in phasing of infrastructure and development proposals within the Arc.	• Sustainability Leadership • Communities

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		Part 7 outlines the provisions that may be included in a development consent order including requirements corresponding to conditions in current legislation, with Part 8 setting out the enforcement provisions. Part 9 provides for compensation where land is blighted in connection to an application for development consent.		
SL07	**Natural Environment White Paper (The natural choice: securing the value of nature) (Defra, 2011)**	The White Paper sets out UK Government's vision for the national environment over the next 50 years and outlines actions that will be taken to deliver that goal. It recognises the need for understanding the value of the natural environment, including the economic and social benefits it can deliver. There are key areas which will be a focus including: protecting and improving the natural environment; growing a green	• The SF should protect and improve the natural environment through appropriate site selection for development, greener and low carbon design, implementing net gain, and integrating natural networks into development. • The SF should seek to contribute to growing the green economy by putting sustainability at its heart, and integrating natural capital and ecosystem services in its development.	• Sustainability Leadership • Biodiversity • Land Use and Landscape

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		economy; connecting people and nature; and leadership in the EU and internationally. Following the publication of the 25 Year Plan, the Natural Capital Committee have suggested that the White Paper could be used as a way to assess the Plan's progress.	• The SF should recognise the importance of natural environment for physical and mental health and wellbeing, and should seek to connect people to the natural environment through enhancing access to and the quality of greenspace, increase opportunities for community involvement and education in nature. • The SF has the opportunity to demonstrate national and international leadership in protecting and enhancing the natural environment across the Arc.	
SL08	**Environment Act 1995**	The Act established the Environment Agency, to make provision with respect to contaminated land and abandoned mines, to make further provision for the control of pollution, the conservation of natural resources and the conservation or enhancement of the environment. Part II relates to contaminated land and sets out laws in regard	• The SF will consult the EA on relevant matters throughout the formulation of the spatial framework and individual scheme proposals • The SF and subsequent policies will have regard to the Act in relation to remediation works or development on contaminated land. • The SF will consider the location of Air Quality Management Areas (AQMA's) within the Arc and plan for development accordingly	• Sustainability Leadership • Biodiversity • Land Use and Landscape • Air Quality • Water

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		to remediation and restrictions on liability relating to contamination of controlled waters, other land as well as duties by authorities. Part III make changes to the control of National Parks and states that governments and public bodies have a duty to regard the purposes of them. Part IV outlines that, where air quality standards are not being met subject to air quality reviews, shall designate air quality management areas. Part V sets out the protection of elements such as hedgerows and encourages the establishment of schemes for nature conservation.	• The SF will encourage nature conservation in accordance with this Act, and other relevant and subsequent policy documents.	
RE01	**Our plan to rebuild: The UK Government's**	This document sets out a plan to rebuild the UK for a world living with COVID-19.	• The SF has the opportunity to help improve people's living standards in the framework area through offering	• Resilience

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
	COVID-19 recovery strategy (July, 2020)	The government's aim at the centre of that plan is to return to life as close to normal as possible in a way that maximises health, economic and social outcomes. The first consideration is on the nation's health and the long-term health effects. The second consideration is improving people's living standards. The document sets out a road map to recovery. Step 1 includes the avoidance of public transport and encouraging active travel and use of open spaces. Step 2 includes the re-opening public transport and non-essential retail. Step 3 encompasses further re-openings. To deliver our phased plan, the government will deliver fourteen programmes of work. This includes investment into science, technology and skills, as well as rapid re-engineering of public health and governmental	a range of new economic opportunities and infrastructure. • The SF should emphasise elements of spatial planning that deliver resilient and health-focused outcomes, including provision of open space and active travel networks. • The SF should identify the opportunities to support the fourteen programmes of work, many of which already align with the industry and skills within the Arc area.	

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		infrastructure to prepare for future crises.		
CM01	**Equality Act 2010**	Then Act aims to reform and harmonise equality law and restate the greater part of the enactments relating to discrimination and harassment related to certain personal characteristics and to increase equality of opportunity. The Act sets out nine protected characteristics and sets out prohibited conduct outlining multiple forms of discrimination. The Act sets out the law relating to discrimination and equality in relation to services, premises, employment, education, amongst other things, and outlines enforcement measures in relation to each of the aforementioned types of discrimination. The Act requires public authorities to consider all	• All individuals will be considered when developing the SF; and • The intended and unintended consequences the SF objectives, proposals and/or policies may have on population groups with protected characteristics, will be taken into account and minimised where required.	• Communities

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		individuals when carrying out their day-to-day work such as shaping policy and delivering services and also sets out, under section 149 of the Act,the public sector equality duty (PSED) which requires public authorities, in carrying out their functions, to have due regard to the need to achieve the objectives set out under s149 of the Equality Act 2010 to: (a) eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under the Equality Act 2010; (b) advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it; (c) foster good relations between persons who share a relevant		

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		protected characteristic and persons who do not share it.		
CM02	**The Equality Strategy: Building a fairer Britain (Government Equality Office, 2010)**	The document was the first cross-government equality strategy that sets out a way of tackling inequality, through recognising specific problems and focusing on specific actions to deal with them. The Strategy is based on five interconnecting principles for change, constituting creating equal opportunities for all, developing power to people, transparency, supporting social action and embedding equality. The Strategy is focussed upon five key priority areas: • Early years, education and social mobility – tackling deprivation and inequalities relating to family background and improving social mobility.	• The SF should facilitate high degrees of social mobility through the delivery of services and the provisions of sustainable transport infrastructure. • The SF should locate services in effective and equally accessible locations. • The SF should be informed by the views of the community and therefore should be developed with high levels of community consultation and engagement.	• Communities

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		- Creating a fair and flexible labour market – working with businesses to develop a fairer and more flexible labour market that draws on the talents of all and builds a strong economy. - Opening up public services and empowering individuals and communities – devolving power to local communities and promoting greater participation and inclusion in public, political and community life. - Changing culture and attitudes – building respect for all, tackling discrimination, hate crime and violence. - Making it happen – leading by example by being transparent in the policy making, and giving people the information they need to hold services to account.		
CM03	**Noise Policy Statement for**	The document is intended to provide a framework that enables noise management decisions to	• The SF should consider the noise policy vision in setting the framework for future development, with focus	• Communities

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
	England (Defra, 2010)	be made within the wider context (of sustainable development principles), at the most appropriate level, in a cost-effective manner and in a timely fashion The Noise Policy Vision is: "Promote good health and a good quality of life through the effective management of noise within the context of government policy on sustainable development." The vision is supported by aims: Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of government policy on sustainable development: • Avoid significant adverse impacts on health and quality of life; • Mitigate and minimise adverse impacts on health and quality of life; and	on promoting good health and good quality of life. • The SF should require development proposals to be tested against the three aims of the Noise Policy Statement.	

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		• Where possible, contribute to the improvement of health and quality of life.		
CM04	**The Environmental Noise (England) (as amended) Regulations 2006**	The Regulations transpose the EU Noise Directive (2002/49/EC) into UK law and requires the Secretary of State to identify and publish details of noise sources. The competent authority must then produce strategic noise maps and action plans to deal with these noise problems.	• The SF will consider existing and future noise mapping and action planning for road, rail and aviation noise and noise in large urban areas when considering location for future development and infrastructure.	• Communities

CM05	**National Design Guide (MHCLG, 2021)**	Provides guidance on how to design functioning places which contribute to improved health and wellbeing, safety, security, inclusion, and create a sense of place and belonging.	• The SF should be aligned to the guidance to allow the Arc to: have character, nurture and sustain a sense of community, and respond positively to issues affecting the climate through integrating the following 10 characteristics:
			  o Context: linking in local characteristics and the wider setting whilst also valuing the cultural and historical heritage of places.
			  o Identity: taking local character into account, designing high-
				• Communities

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
			quality and attractive places and buildings with character and identity. o Built form: compact form of development to optimise density, using the right mix of building types and forms, and creating destinations. o Movement: maximise journey choices through a connected transport network, prioritise and promote active travel, well-considered parking, services and utilities infrastructure. o Nature: integrate high quality green infrastructure and open spaces, increase sustainable management and use of water, and support biodiversity net gain. o Public spaces: create high quality and attractive local spaces which are safe and support public interaction. o Uses: multi-functioning spaces and mixed-use development, mixture of home tenure, types and sizes, and creating socially inclusive spaces.	

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
			o Homes and buildings: create healthy and comfortable internal and external spaces, integrate external amenity and public spaces, and ensuring storage, waste, servicing and utilities are integrated. o Resources: conserve natural resources and increase efficiency through following the energy hierarchy, careful selection of materials and techniques, and maximising resilience to climate change. o Lifespan: maintain and manage places well, adapt to changing needs and technology, and create a sense of ownership.	
CM06	**National Model Design Code (MHCLG, 2021)**	The document provides guidance on the production of design codes, guides and policies to promote successful design. It builds upon the ten characteristics of good design set out in the National Design Guide (MHCLG, 2021).	• The SF should require relevant design codes to be considered in new development so that development within the Arc is designed to a high-quality standard and is a healthy, green, environmentally responsive, sustainable and distinctive place.	• Communities

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
CM07	**Manual for Streets (DfT & MHCLG, 2007)**	The publication has a focus on lightly-trafficked residential streets and aims to provide guidance on how to create well-designed streets and spaces that serve the needs of the community.	• The SF should integrate the guidance into the design of new and existing places and streets to promote sustainability and inclusivity.	• Communities
CM08	**Natural Environment and Rural Communities Act 2006**	This Act makes provision about bodies concerned with the natural environment and rural communities, in connection with wildlife, sites of special scientific interest, National Parks and the Broads. Part 3 of the Act relates to biodiversity and sets out the duty to conserve biodiversity, as well as laws regarding pesticides and the protection of birds, amongst other things. Part 4 sets out offences in connection with SSSIs which includes operations damaging the flora and fauna within SSSIs without complying	• The SF will comply with the requirements set out in the Act to protect wildlife, SSSIs and other rural areas and, where possible, enhanced as part of future development. • The SF will encourage future development to give high regard to biodiversity enhancement and conservation, informed by up to date species and environmental assessments. • The SF will give specific consideration to sites identified in the Act, specifically those within close proximity to the Arc area, such as the Broads.	• Communities • Biodiversity

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		to other sections set out in the Act. Part 5 of the Act relates to National Parks and the Broads. Section 64 of the Act concerns the broads and contains amendments to the Norfolk and Suffolk Broads Act 1988. Further parts of the Act outline laws relating to matters including rights of way and inland waterways.		
BD01	**Conservation of Habitats and Species Regulations 2017**	The Conservation of Habitats and Species Regulations 2017 transpose the EU Habitats Directive (Council Directive 92/43/EEC) and Wild Birds Directive (Directive 2009/147/EC) into UK law and apply in the terrestrial environment and in territorial waters out to 12 nautical miles. Further updates to the regulations have been made by the Conservation of Habitats and	• The SF will seek to promote the protection of European designated sites alongside the protection of European protected species. • The SF will explore opportunities to enhance or improve the condition of these designated sites • The SF has the opportunity to increase public awareness of the importance of protected habitats and species, further contributing to their conservation.	• Biodiversity

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		Species (Amendment) (EU Exit) Regulations 2019. The aim is to protect biodiversity through the conservation of natural habitats and species of wild fauna and flora. The Regulations set down rules for the protection, management and exploitation of such habitats and species. The EU Habitats and Wild Birds Directives are transposed in UK offshore waters by separate regulations.	• The SF will be accompanied by Habitat Regulations Assessment (HRA) pursuant to the Regulations to determine if there are likely significant effects on protected features of a designated site (either from the SF or 'in combination' with other plans or projects). • The SF will seek to avoid potential for any likely significant effects from the outset where possible. HRA Appropriate Assessment (AA) may then be required (and will be undertaken pursuant to the Regulations) if a likely significant effect is identified.	
BD02	**Wildlife and Countryside Act 1981**	The Wildlife and Countryside Act is the main piece of legislation which protects animals, plans and habitats in the UK. It implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and the European Council Directive	• The SF will seek to protect, conserve and enhance wildlife (including birds, animals and plants), whilst also preventing the establishment and spread of non-native species. • The SF will seek to avoid negative impacts on Special Sites of Scientific Interest (SSSI), National Nature	• Biodiversity

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		79/409/EEC on the Conservation of Wild Birds (Birds Directive). The Act has been supplemented by Countryside and Rights of Way (CRoW) Act 2000 and the Natural Environment and Rural Communities Act 2006 (in England and Wales).	Reserves (NNR), Marine Nature Reserves, Limestone pavements, National Parks and the countryside. • The SF will avoid impacting public rights of way and should seek to enhance them where possible.	
BD03	**Biodiversity 2020: A strategy for England's wildlife and ecosystem services (Defra, 2011)**	The Strategy builds on the Natural Environment White Paper and sets out how the UK is implementing international and EU commitments. The mission for this strategy is as follows: 'to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people'.	• The SF should adopt an integrated approach to nature conservation, contributing to the further establishment of coherent and resilient ecological networks. • The SF should facilitate engagement with stakeholders (including the community) on biodiversity and conservation, increasing opportunities for learning and establishing new and improved green spaces. • The SF should help to reduce environmental pressures through incorporating biodiversity offsetting and net gain principles, reducing impacts on the water environment and forestry.	• Biodiversity

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
BD04	**The Great Britain Invasive Non-native Species Strategy (Defra, Scottish Government and Welsh Government, 2015)**	The Strategy builds on the previous 2008 publication and aims to address invasive non-native species (INNS) issues in the UK to deliver improvements for biodiversity, quality of life and the economy. It covers terrestrial, freshwater and marine environments and also species native to one part of a country that become invasive in areas outside their natural range.	• The SF should avoid development and infrastructure that increases the risk of INNS introduction and spread. • The SF should work in collaboration with key partners to tackle existing INNS issues within the Arc.	• Biodiversity
BD05	**UK Forestry Standard: The Government's approach to sustainable forestry (Forestry Commission, 2017)**	The Strategy aims to ensure that international agreements and conventions are implemented in the UK in relation to sustainable forest management, climate change and the protection of water resources via the UK Forestry Standard. The context for forestry in the UK and the approach of UK Government's to managing forests sustainably is set out in the Plan.	• The SF should seek to protect and enhance the economic, social and environmental benefits of forests. • The SF should contribute to the sustainable management of forests in alignment with the UK Forestry Standard requirements for biodiversity, climate change, historic environment, landscape, people, soil and water.	• Biodiversity

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
BD06	**Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) (Council of Europe, 1979)**	The Convention aims are to conserve wild flora and fauna and their natural habitats and to promote European cooperation. Particular importance is placed on the need to protect endangered natural habitats and endangered vulnerable species, including migratory species.	• The SF will protect and conserve species and habitats, particularly where these are endangered.	• Biodiversity
BD07	**Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) (UN, 1979)**	The Convention aims to conserve terrestrial, aquatic, and avian migratory species throughout their range.	• The SF will protect and conserve migratory species within the Arc and beyond.	• Biodiversity
BD08	**Ramsar Convention (UNESCO, 1971)**	Provides a framework for the conservation and wide use of all wetlands and their resources. The three pillars to the Convention are as follows:	• The SF will avoid impacts on Ramsar sites and will seek to enhance Ramsar sites.	• Biodiversity

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		• Wise use of all wetlands through national plans, policies and legislation, management actions and public education • Designation of suitable wetlands for the Wetland of International Importance (the 'Ramsar list') and ensure their effective management • Cooperate internationally on transboundary wetlands, shared wetland systems, shared species, and development projects that may affect wetlands		
BD09	**Convention on Biological Diversity (UN, 1992)**	The Convention on Biological Diversity considers biodiversity as more than plants, animals and microorganisms but is about people and our need for services such as food security, medicines, fresh air and water. The Convention has three main objectives: biodiversity conservation; the sustainable use of the components of biological diversity; and the fair	• The SF will promote biological diversity through protecting and enhancing habitats and species, but will also promote wider natural capital and net gain principles.	• Biodiversity

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		and equitable sharing of the benefits arising from the utilisation of genetic resources.		
AQ01	**Air Quality Standards Regulations (2010)**	The Regulations transpose Directive 2008/50EC into UK law and sets the air quality requirements for local authorities in England. The Regulations set mandatory (outdoor) standards for major pollutants that impact public health including particulate matter (PM_{10} and $PM_{2.5}$) and nitrogen dioxide (NO_2). The Regulations set Air Quality Objectives (AQOs) for a range of pollutants. AQOs expressed as 1 hour or 24 hour mean concentrations seek to manage pollutants where exposure can result in acute health effects over a short time. AQOs expressed as annual mean concentrations seek to manage pollutants where exposure can result in chronic health effects which occur due to	• The SF will consider the ability to achieve Air Quality Objectives in considering the scale, type and location of future development and infrastructure. • The SF will consider the implication of proposals on changes to pollutant concentrations, and their implications for human health and ecological receptors.	• Air Quality

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		longer periods of exposure to higher concentrations. The Regulations also specify standards applying to ecological receptors.		
AQ02	**Clean Air Strategy (2019)**	The Strategy recognises the importance of clean air in relation to health, life, the environment and the economy. It sets out the actions that are required to meet the targets for fine particulate matter, ammonia, nitrogen oxides, sulphur dioxide, non-methane volatile organic compounds by 2030 and 2050. Actions are focussed on reducing and managing emissions to protect human health and the environment. These include: • Cut public exposure to particulate matter pollution. Provide powers to enable targeted local action in problem areas	• The SF should incorporate the headline commitments to protecting human health and the environment. • The SF should consider how it can provide leadership, recognising that action should be taken at appropriate tier of local government, and neighbouring local authorities and other public bodies should work collectively to tackle air pollution. • The SF should consider the following specific actions and ambitions in developing the SF. o Clean growth: action to clean up the air will boost productivity and economic growth. Future electricity, heat and industrial policies will together improve air quality and tackle climate	• Air Quality • Transport

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		• Reduce nitrogen deposition and tackle the environmental impacts of air pollution • Monitor and report the impacts of air pollution on natural habitats • Provide guidance for local authorities to assess and mitigate, through the planning system, the cumulative impacts of nitrogen deposition on natural habitats. Additional actions are focused on achieving clean growth and innovation, transport, at home, from farming, and industry.	change. Ambition to lead the world in the development, manufacture and use of technologies, systems and services that tackle air pollution. ○ Transport: reduce emissions of nitrogen oxides in areas where concentrations exceed legal limits. Consider implications of the ending of sales of petrol and diesel cars and vans by 2040. Encourage the cleanest modes of transport for freight and passengers, including active travel. ○ Home: look at opportunities to align work on air quality, clean growth and fuel poverty. ○ Farming: environmental land management to protect habitats from the impacts of ammonia ○ Industry: reduce industrial pollution, develop sector roadmaps for industry to lead in clean technology and secure emissions reductions.	
AQ03	**The Clean Growth**	The government strategy sets out a comprehensive set of	• The SF should be conscious of carbon and promote decarbonisation	• Air Quality

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
	Strategy (BEIS, 2017)	policies and proposals that aim to accelerate the pace of 'clean growth'. The strategy sets out how the government will invest £2.5 billion to support carbon innovation between 2015-2021 to ensure the UK meets the fourth and fifth carbon budgets (covering the periods 2023-2027 and 2028-2032). This will encompass a drive to decarbonisation, and the strategies within the document will help to ensure the targets are met: • Accelerating Clean Growth • Accelerating the Shift to Low Carbon Transport – 24% of UK Emissions, including investing £1.2 billion to make walking and cycling the natural choice for shorter journeys • Enhancing the Benefits and Value of Our Natural Resources – 15% of UK Emissions, encompassing	wherever possible, in order to support the policies of the Clean Growth Strategy. The potential impact of the Arc is significant due to its size and as a connector between urban centres, therefore it is important that a commitment to low carbon wherever possible is clear. • The SF should consider how national targets should be transferred to influence planning decision in the Arc. The Clean Growth Strategy contains a number of targets that are transferable including carbon budgets for the fourth and fifth period (up to 2032) and the UK 2050 target, which, following an amendment of the 2008 Act, constitutes a 100% reduction in carbon emissions. • Whilst there is no requirement for developments to individually meet the national net zero target, the SF should consider the approach to development proposals that do not, or are not able, themselves to	• Climate Change • Economy

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		establishing a new network of forests. The strategy is informed by the commitments under the 2015 Paris Agreement as well as European Council (2014) target of a 40% reduction in EU domestic emissions to 2030. In the context of the UK's legal requirements and binding target under the Climate Change Act 2010, the UK's approach to reducing emissions has two guiding objectives: 1. To meet domestic national commitments at the lowest possible net cost to UK taxpayers, consumers and businesses; and, 2. To maximise the social and economic benefits for the UK from the transition to net zero.	contribute to national targets to reduce emissions. • The SF should also emphasise the social and economic benefits of incorporating low carbon development. This includes promoting opportunities for walking and cycling and investment into forests/natural networks.	

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		The Strategy builds upon the Climate Change Act 2008 which established the UK's binding 2050 target (80% reduction in emissions, amended by legislation in 2019 to 100% against 1990 levels) and the supporting framework of carbon budgets. Greenhouse gas removal is closely linked to how the Sustainable Development Goals will be achieved.		

AQ04	**Air Quality Plan for Nitrogen Dioxide (NO2) (Defra and DfT, 2017)**	This Plan recognises tackling nitrogen dioxide (NO$_2$) concentrations around roads as the most immediate air quality challenge. It sets out the plan for bringing NO$_2$ air pollution within statutory limited within the shortest possible time.	• The SF should identify the areas of poor air quality and facilitate the ability of local authorities to develop plans to tackle air quality that:
			  o are likely to cause NO2 levels in the area to reach legal compliance within the shortest time possible;
			  o the effects and impacts on local residents and businesses have been assessed, including on disadvantaged groups, and there
				• Air Quality

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
			are no unintended consequences; and, o proposals that require central government funding demonstrate value for money.	
AQ05	**The National Emission Ceilings Regulations 2018**	The EU National Emissions Ceilings Directive (2016/2284/EU) is transposed into UK law through these Regulations which aim to reduce emissions from a variety of substances. National emissions of these substances are to be reduced to below a specified percentage, dependent on the 2005, the base year of this reduction for: • Nitrogen oxides (NO_x) • Non-methane volatile organic compounds (NMVOCs) • Sulphur dioxide (SO_2) • Ammonia (NH_3) • Fine particular matter ($PM_{2.5}$)	• The SF will aim to improve air quality across the Arc to create a cleaner and healthier environment. • The SF will seek to contribute to a reduction in emissions from the various emissions sources to help the UK achieve the targets set out in the Regulations.	• Air Quality
CC01	**Climate Change Act 2008 (2050**	The Act sets out a legal framework to commit the government to tackling climate	• The SF will make a clear commitment to the Arc contributing to meeting national net zero target.	• Climate Change

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes

	Target Amendment) Order 2019	change. Climate change adaptation is also covered in the Act as it provides a legal framework for adaptation policy.
		
		The Order provided that the Secretary of State considers that since the Act (2008) was passed, there have been significant developments in scientific knowledge about climate change that make it appropriate to amend section 2(1)(a) of the Act.
		
		This is the amendment of the national target for 2050, which increases the required percentage reduction of greenhouse gas emissions from at least 80% to at least 100%, from the '1990' baseline. This Is also known as net zero.
			• The SF will clearly identify the measures taken to contribute to the national net zero target and any measures or indicators that will be adopted by the SF to monitor Arc-based progress on contributions towards the national target.
			• The SF will be founded on resilience to climate change, particularly in relation to flooding, water resources and water quality, and biodiversity. Future design will implement features to increase resilience, such as increasing the provision of blue and green infrastructure.
			• The SF will promote:
			  o climate mitigation and adaptation, and the role this plays in enabling economic priorities to be met.
			  o resource and energy efficiency in new development, explore opportunities for renewable or low carbon energy generation, and retrofitting existing development.
			  o increased awareness and influence behaviour change.	

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
CC02	**Paris Agreement (UN, 2016)**	The Paris Agreement, in enhancing the implementation of the UN Convention on Climate Change (1992), aims to strengthen the global response to climate change, in the context of sustainable development and efforts to eradicate poverty by: • Holding an increase in global temperature to well below 2°C and efforts to limit this to 1.5^{o}C above pre-industrial levels • Increase the ability to adapt to the impacts of climate change, foster climate resilience and low greenhouse gas emissions development • Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development The Agreement outlines that developed countries should take the lead by undertaking economy-wide absolute	• The SF should seek to be consistent with the commitments in the Paris Agreement, which aims to limit increases in global temperature to below 2°C through domestic emissions targets and enhanced mitigation efforts. • The SF should communicate the national commitments to climate change targets and mitigation such as legislation (Climate Change Act and amendment) and associated plans such as the Clean Growth Strategy (2017) to show the framework embeds and is consistent with the relevant national strategies and targets. • The SF should take into account the actions identified in the agreement which include: ○ encourage socio-economic and ecological resilience ○ economic diversification ○ conservation of forests and other important natural resources ○ commitment to low greenhouse gas emissions.	• Climate Change

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		emissions targets and should continue enhancing their mitigations efforts. Parties are encouraged to take action to implement and support the existing framework (1992) for policy approaches and positive incentives relating to reducing emissions from deforestation, conservation and sustainable management of forests. The Agreement states that each party shall as appropriate, engage in adaptation planning processes and the implementation of actions, including the development or enhancement of relevant plans, policies and/or contributions, which may include the implementation of adaptation actions, undertakings and/or efforts; Building the resilience of socio-economic and ecological systems, including through economic diversification and	• The SF should be informed by climate resilience and adaptation considerations. • The SF should consider how to cascade the international and domestic commitments for climate resilience and adaptation considerations to be embedded in future development decisions in order to contribute to national commitments and targets.	

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		sustainable management of natural resources.

Now that the UK has left the EU, it was required to submit its own Nationally Determined Contribution (NDC) to the United Nations Framework

Convention on Climate Change (UNFCCC) in line with Article 4 of the Paris Agreement. In its NDC, published in December 2020, the UK is committing to reduce economy-wide greenhouse gas emissions by at least 68% by 2030, compared to 1990 levels. This sits alongside the net zero by 2050 target set out in the Climate Change Act. | | |
| CC03 | **Land Use: Reducing emissions and preparing for climate change (Climate Change** | The Plan explores the role of land use in relation to meeting climate mitigation and adaptation objectives. It recognises the need to balance the delivery of these climate goals whilst also addressing other pressures and | • The SF should promote sustainable land use across the Arc area in order to (i) conserve and enhance ecosystem service provision; and (ii) contribute to UK climate commitments and ambitions set out in the 25 Year Environment Plan. | • Climate Change
• Land Use and Landscape |

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
	Committee, 2018)	services the land provides such as clean water, healthy soils and timber, food production and areas for development.	• The SF should explore the potential for afforestation and peatland restoration to contribute to emission reductions.	
CC04	**The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting (Defra, 2018)**	This is the second National Adaptation Programme (NAP) and sets out the government's response to the second Climate Change Risk Assessment (CCRA). It also outlines the actions that will be taken to address the climate change issues identified in the CCRA across the following key sectors: Natural environment; Infrastructure; People and the Built environment; Business and Industry; and Local government. The following are identified to be key risks and actions: • Flooding and coastal change risks to communities, businesses and infrastructure	• The SF should contribute to the climate resilience of the natural environment by protecting and improving habitats and species, restoring degraded ecosystems, minimising impacts on water availability and water quality, reducing flood risk and exploring the use of natural flood management, protecting soils and carbon stores, amongst others. • The SF should seek to reduce climate risks on infrastructure through understanding the interdependencies, and reducing the risk of flooding and erosion. • The SF should incorporate the environmental net gain principle for new development, manage flood risk, enhance green infrastructure, and allow for protection from heat and cold, amongst others, to	• Climate Change

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		• Risks of shortages in the public water supply for agriculture, energy generation and industry • Risks to natural capital including terrestrial, coastal, marine and freshwater ecosystems, soils and biodiversity • Risks to domestic and international food production and trade • New and emerging pests and diseases and invasive non-native species affecting people, plants and animals	increase the resilience of people and the built environment. • The SF should seek to reduce the risk of climate change affecting businesses and industry. • The SF should take a collaborative approach with local government to effectively implement climate adaptation at a local level.	
HE01	**Planning (Listed Buildings and Conservation Areas) Act 1990**	This Act consolidates certain enactments relating to special controls in respect of buildings and areas of special architectural or historic interest. The Secretary of State shall compile lists of such buildings and approve lists	• The SF will be aware of the conservation areas within the framework area, and outline measures to enhance and protect them. The location of assets and their conservation will inform the spatial arrangements of development.	• Historic Environment

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		prepared by other relevant bodies. The Act sets out the restrictions and authorisation of works affecting listed buildings and outlines the requirements and provisions regarding applications for listed building consent. In addition, the Act outlines how conditions may be imposed on listed building consent and outlines the purposes and requirements of certificate of lawfulness applications, amongst other things. The Act states that it is the duty of the local planning authority to designate areas of special architectural or historic interest as conservation areas and formulate proposals for their preservation and enhancement. Section 74 of the Act outlines controls for demolition in conservation areas. The Act	• The SF will require proposals for development to identify all historic assets within and near to development sites to consider potential impacts of the development on assets and their settings. • Consent for development relating to heritage impacts will be sought through the relevant applications outlined in the Act where required.	

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		encompasses a list of schedules to further detail relevant matters.		
HE02	**Ancient Monuments and Archaeological Areas Act 1979**	This Act consolidates and amends the law relating to ancient monuments, to make provision for the investigation, preservation and recording of matters of archaeological and historic interest and for the regulation of activities affecting such matters. The Secretary of State shall compile and maintain a schedule of monuments for the purpose of the Act. The Act outlines that damage to an ancient monument is a criminal offence and any works will require scheduled monument consent. Part II of the Act relates to the designation of areas of archaeological importance (AAIs).	• The SF will be aware of any ancient monuments within the framework area to outline measures to enhance and protect them and to consider potential impacts of the development on assets and their settings. • Consent for development relating to ancient monuments will, if applicable, be sought through an application for Ancient Monument Consent. • At present there are only five areas designated as AAIs, and none are located within the Arc, so this has limited significance to the SF.	• Historic Environment

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
HE03	**Culture White Paper (DfDCMS, 2016)**	The Culture White Paper sets out the government's ambition and strategy for the cultural sectors. The White Paper sets out that our historic built is a unique asset in which communities environment will be supported to make the most of such assets. It outlines that the development of the historic environment can drive regenerations, jobs and business growth. The document states that funding has been allocated to various organisations and communities to enhance historic assets. Schemes such as the Great Place Scheme will be funded to help support placemaking in areas where there is a commitment to embed arts. The government aims to promote the role culture plays in building stronger and healthier communities and boosting economic growth and will support	• The SF should show a commitment to enhance existing and developing new cultural institutions, to boost economic growth and enhance access to culture for both residents and visitors of the Arc. • The SF should place emphasis on the protection and enhancement of historic assets and cultural venues • The SF should encourage engagement with a wide range of stakeholders, including local communities, in developing new cultural institutions.	• Historic Environment • Communities • Economy

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		the increase digitalisation of culture, to increase access. The paper sets out that the government will continue to invest in the growing cultural sectors to help cultural organisations grow, diversify and develop more mixed models of private, government and corporate support.		
HE04	**The Heritage Statement (DfDCMS, 2017)**	This heritage statement sets out how the government will support the heritage sector and help it to protect and care for our heritage and historic environment in the coming years, in order to maximise the economic and social impact of heritage. The government pledges to work across government to ensure that the role of heritage in placemaking and economic development is understood to ensure that support for heritage contributes to the aims of the	• The SF should capitalise on the area's heritage assets as focus for social and economic activity in the Arc. • The SF should emphasise and incorporate the role of heritage assets in establishing a strong and distinctive sense of place in the corridor • In line with the aims set out in the Cultural White Paper (2017) the SF should integrate a commitment to innovation and potentially the digitalisation of the heritage sector, to allow it to be resilient and enterprising.	• Historic Environment

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		government's forthcoming 25-year plan. The statement emphasises the creation of a sustainable and resilient heritage sector that is outward-facing, innovative and enterprising, that can draw on funding from a range of public and private sources and collaborate across organisations. It states that digital technology can help heritage organisations improve their resilience and sets out that accessing new forms of funding presents an opportunity for the heritage sector.		
HE05	**UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage**	The main aim of the Convention is to ensure the identification and protection of the natural and cultural heritage across the world which is considered to be Outstanding Universal Value.	• The SF will identify the one designated UNESCO World Heritage site within the Arc (Blenheim Palace) and should seek to maintain its continued protection as part of the existing protections of the planning system.	• Historic Environment

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
	(UNESCO, 1972)			
WA01	**Water Resources Act 1991**	The Act sets out the functions of National Rivers Authority (now the Environment Agency) and is the primary piece of legislation for the protection of water resources.	• The SF will be intended to contribute to the appropriate management of the water environment and seek to minimise additional pressures on water resources as far as possible. • The SF will be intended to contribute to the protection the water environment by preventing pollution.	• Water
WA02	**The Water Environment (Water Framework Directive) Regulations 2017**	The Regulations implemented the EU Water Framework Directive (WFD) (2000/60/EC) into UK law (for England and Wales) and are now part of EU retained law (as amended) following Brexit. They help to implement the WFD requirement in England and Wales. They aim to protect and enhance the quality of surface freshwater, groundwater, groundwater dependent ecosystems, estuaries and coastal water (out to one mile from low-water).	• The SF will be intended to contribute to the achievement of "Good Status" for all water bodies in the Arc. • The SF will have regard to relevant River Basin Management Plans (RBMPs) in determining the spatial distribution of development. • The SF will carry out an assessment in line with the Regulations where applicable to determine if relevant activities have effects on waterbody status in relation to: hydrogeomorphology, biology – habitats, biology – fish, water quality and protected areas.	• Water

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
WA03	**The Urban Waste Water Treatment (England and Wales) Regulations 1994 (as amended)**	The Regulations transpose the EU Urban Waste Water Treatment Directive (91/271/EEC) and sets out to regulate the disposal of sewage.	• The SF will take into account the impacts on the waste water sector in its development, considering adequate capacity to meet the needs of the population. • The SF will protect the water environment by considering the appropriate collection, treatment and discharge of waste water, and the appropriate disposal of sludge.	• Water
WA04	**The Water Supply (Water Quality) Regulations 2016 (as amended)**	The regulations transpose the EU Drinking Water Directive (1998/83/EC) consolidate legislation concerning the quality of water supplies for human consumption in England. The primarily relate to water undertakers and licensed water suppliers for domestic or food production purposes and with arrangements for the publication of information about water quality.	• The SF will work with the relevant water companies and stakeholders to avoid negative impacts on water quality and water resources to allow access to clean and plentiful water across the Arc.	• Water
WA05	**Future Water: The Government's**	The Strategy sets Defra's vision for the water sector up to 2030 and outlines the steps they will	• The SF should work closely with water companies and key	• Water

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
	Water Strategy for England (Defra, 2008)	implement to achieve that vision. The vision is where rivers, canals, lakes and seas have improved for people and wildlife, with benefits for angling, boating and other recreational activities, and with continued provisions for excellent quality drinking water.	stakeholders to encourage the sustainable supply and use of water. • The SF should contribute to the protection and improvement of water quality to support biodiversity and social value. • The SF should seek to reduce surface water and river flood risk across the Arc as far as possible and should implement measures such as SuDS and nature-based solutions. • The SF should contribute to a reduction in GHG emissions from water use in homes, businesses and industry.	
WA06	**Control of Pollution Act 1974**	This Act makes provision with respect to waste disposal, water pollution, noise, atmospheric pollution, and public health; and for purposes connected with these matters. Part I of the Act relates to waste on land and states that under the act, except in prescribed cases, a person shall not deposit, cause or knowingly permit the deposit	• The SF will be informed by the Act and all waste generating activities associated with development will be lawful and will not result in significant environmental impacts. • The SF will consider the location of sensitive environmental assets, such as water bodies, in order to minimise harmful impacts of development and to enhance the resilience of new infrastructure.	• Water • Air Quality • Waste

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		of controlled waste on land. Part II states under the Act, which controls the entry of polluting matter into water, a person is guilty of offence if they permit toxic or solid waste matter entering streams without authorisation. Section 40 of the Act gives local planning authorities (LPAs) powers for controlling noise and vibration from development sites. Part IV regards the prevention of atmospheric pollution.		
WA07	**Flood Risk Regulations 2009**	The Regulations transpose the EU Floods Directive (Directive 2007/60/EC on the assessment and management of flood risks) into UK law. It sets out the duties regarding producing preliminary flood risk assessments, flood hazard maps and flood risk maps and flood risk management plans.	• The SF will aim to minimise flood risk for existing and future development. • The SF will not lead to the exacerbation of flood risk across the Arc and beyond. • The SF will work collaboratively with the lead local flood authorities and other key stakeholders.	• Climate Change • Resilience • Water •

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
WA08	**Flood and Water Management Act 2010**	The Act seeks to address the threat of flooding and water scarcity. The Act takes forward a number of recommendations from the Pitt Review into the 2007 floods and places new responsibilities on the Environment Agency, local authorities and others to manage the risk of flooding. Climate projections suggest extreme weather will happen more frequently in the future and this Act is central to reducing the flood risk associated with extreme weather.	• The SF will seek to reduce the risk of flooding for people, homes, businesses and industry across the Arc. • The SF will work collaboratively with stakeholders so that flood risk is appropriately considered within the development proposed by the SF.	• Water • Resilience • Climate Change
WA09	**National Flood and Coastal Erosion Risk Management Strategy (Environment Agency, 2020)**	The Strategy outlines actions to be implemented across the country which contribute to the vision of becoming a "nation ready for, and resilient to, flooding and coastal change – today, tomorrow and to the year 2100". It sets out the need for collaborative action to deliver infrastructure which is	• The SF should seek to create climate resilient places to improve flood protection, response and recovery whilst enhancing a sense of place. • The SF should incorporate climate resilience considerations into new development and infrastructure. • The SF should avoid proposing future development in high risk flood areas and should seek to	• Water • Resilience

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		resilient to flooding and coastal erosion.	incorporate nature-based solutions to minimise flood risk. • The SF should incorporate natural capital and net gain principles to integrate the environment into the Arc to deliver sustainable growth which is resilient to flooding. • The SF should help to contribute to awareness raising around climate change and flooding to encourage people to take action and be able to better respond and recover.	
WA10	**The Flood and Coastal Erosion Risk Management Policy Statement (Defra, 2020)**	The Policy Statement sets out the long-term goal of the government to create a nation which is resilient to future flood and coastal erosion, and therefore protects people, the environment and the economy. The National Flood and Coastal Erosion Strategy has helped to inform this policy statement. It identifies five key areas for action which include: • Upgrading and expanding our national flood defences and infrastructure	• The SF should seek to increase the resilience of new and existing places to flood risk through hard infrastructure where required. • The SF should seek to integrate flood risk management with water resource management to provide wider benefits for the environment and people. • The SF should look to incorporate nature-based solutions to minimise flood risk. • The SF should set out to equip communities and business with the tools and information they need to	• Water • Resilience

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		• Managing the flow of water more effectively • Harnessing the power of nature to reduce flood and coastal erosion risk and • achieve multiple benefits • Better preparing our communities • Enabling more resilient places through a catchment-based approach	be more prepared and resilient to flood events. • They SF should take a catchment-based approach when integrating flood risk management into new and existing places.	
WA11	**Creating a great place for living - Enabling resilience in the water sector (Defra, 2016)**	The Plan acts as a roadmap for how the policy framework will be enhanced to ensure the long-term resilience of the water sector in order to deliver an environment which is cleaner and healthier, benefitting people and the economy. It recognises that climate change and population growth is placing further pressure on water resources and as such, the sector needs to adapt in order to continue to meet current and future needs.	• The SF should work collaboratively with water companies and other key stakeholders to have an aligned understanding of the future water needs of the Arc. • The SF should seek to minimise pressure on water resources as far as possible to contribute to more resilient water supplies.	• Water • Resilience • Climate Change

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		The Plan sets out the potential need to develop a NPS for Water Resources Infrastructure. A NPS has now been drafted with details presented below under ID WA14.		
WA12	**Water Abstraction Plan (Defra, 2017)**	The Plan sets out how water resources are managed in England and outlines the technical, legal and policy requirements behind the abstraction licensing strategies.	• The SF should encourage sustainable abstraction to help to protect the environment and improve access to water. • The SF should encourage the sustainable use of water resources to minimise the impact of increased development and population growth across the Arc.	• Water
WA13	**Water Act 2003**	The Act amends the Water Resources Act and Regulations 1991 and the Water Industry Act 1991. The Act has the following four broad aims: • the sustainable use of water resources • strengthening the voice of consumers	• The SF will contribute to the aims of the Act by encouraging sustainable water use across the Arc while also supporting economic growth. • The SF will aim to encourage those living and working across the Arc to conserve water resources, helping to reducing demand.	• Water

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		• a measured increase in competition • the promotion of water conservation		
WA14	**National Policy Statement (draft): Water Resources (Defra, 2018)**	The NPS has undergone public consultation and feedback from this is currently under analysis. It is considered a step to addressing the drought resilience challenge facing the UK. The strategy states that an NPS for water resources infrastructure is needed as part of a twin-track approach, in which the pressing issue is how best to achieve the additional capacity required. The NPS states that in considering any proposed development, and in particular, when weighing its adverse impacts against its benefits, the Examining Authority and the	• The SF should be providing a commitment to drought and wider climate resilience • The SF should emphasise the potential benefits of water resource infrastructure including economic benefits through job creation and housing improvement • The SF should integrate a strong commitment to biodiversity net gain, in accordance with this and other policy documents.	• Water

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		Secretary of State should take into account: • potential benefits, including the facilitation of economic development including: job creation, housing and environmental improvement and any long-term or wider benefits; and • potential adverse impacts, including any longer-term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impacts. The draft strategy promotes environmental enhancement, including environmental net gain and mitigating impacts on biodiversity.		
WA15	**Drought response: our framework for**	The document outlines the national framework for how drought is managed by the Environment Agency, the government and water companies to reduce the effects	• The SF should be committed to preventing and minimising the impacts of drought events through encouraging sustainable water use across the Arc.	• Water • Resilience

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
	England (Environment Agency, 2017)	on the people, business and the environment. It sets out how drought affects different areas of England, who is involved in management drought and how those stakeholders, and how drought is manged, monitored and reported on.	• The SF should seek to minimise additional pressure of water resources as far as possible.	
WA16	**Groundwater (England and Wales) Regulations 2009**	The Regulations implement the EU Groundwater Directive (2006/118/EC) into UK law. The Regulations set out to protect groundwater from being polluted by hazardous substances.	• The SF will seek to protect groundwater resources from pollution.	• Water
WA17	**Nitrate Pollution Prevention Regulations 2015**	The Regulations implement EU Nitrates Directive (91/676/EEC) into UK law and aim to reduce the pollution in the water environment from nitrates.	• The SF will seek to contribute to the reduction in nitrate pollution across the Arc, particularly in agricultural areas. • The SF will take into account nitrate vulnerable zones in the spatial distribution of development.	• Water
LL01	**Agriculture Act 2020**	The Act received royal assent on the 11th November 2020 and sets out to create a legislative framework for the UK	• The SF will be aware of and support the uptake of the ELMS' to deliver more environmentally sustainable agriculture.	• Land Use and landscape

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		government for agricultural policy following leaving the EU. The Act lays the framework for DEFRA's future Environmental Land Management Scheme (ELMS) which will see farmers, foresters and other land managers being paid for managing their land in a way that will deliver against the key goals in the UK Government's 25 Year Environment Plan.		
LL02	**Natural Choice: Securing the value of Nature (2011)**	The White Paper makes proposals to place the value of nature at the centre of the nation's choices, to enhance the environment, economic growth and personal wellbeing. The paper sets out to mainstream the value of nature across society by: • Facilitating greater local action to protect and improve nature • Creating a green economy	• The SF should include a commitment to achieving sustainable economic growth. • The SF should protect and, where possible, enhance natural spaces. • The SF should encourage the development of low carbon infrastructure and green infrastructure, to secure social, economic and environmental benefits.	• Land Use and landscape

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		• Strengthening connections between people and nature • Showing leadership in the EU and globally The White Paper states that the government's priority is to restore sustainable economic prosperity for all, stating that a healthy environment is essential to long term growth. It outlines that we need to make enhancing nature a central goal of social action. One ambition of the document is to improve the quality of the natural environment across England, moving to a net gain in the value of nature. A further ambition is for a green and growing economy which not only uses natural capital in a responsible and fair way but contributes to improving it. The White Paper states that the planning system will improve the sustainability of new infrastructure and its capacity to		

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		withstand climate change, with planning for low-carbon infrastructure and offsetting the impacts of development on biodiversity constituting actions to achieve this. The strong social and economic benefits of green infrastructure are also noted.		
LL03	**Countryside and Rights of Way Act 2000**	The purpose of the Act is to make new provision for public access to the countryside, amend the law relating to public rights of way, to amend the law relating to nature conservation, the protection of wildlife and to make further provisions with respect of areas of outstanding natural beauty. Part I sets out provisions to introduce new statutory rights of access to land, including mountain and registered common land. Part II enhances the legislation governing the rights of way	• The SF will identify areas of open access countryside within the Arc corridor and aim to enhance access to these areas, whilst ensuring they are protected or enhanced • The SF will support the protection and enhancement of SSSIs. This will both protect and enhance biodiversity but may also create sites of interest that could attract tourists/visitors. • The SF will integrate commitments to biodiversity in proposals for development.	• Land Use and landscape • Biodiversity

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		systems, including measures to improve strategic planning and management of rights of way. This includes environmental safeguards such as powers to regulate vehicles for conservation purposes, and orders to prevent damage to sites of special scientific interest (SSSIs). Part III of the Act concerns nature conservation and wildlife protection, for the protection of SSSIs, which are considered nationally important sites for wildlife and geology. The Act sets out new powers for conservation management and powers to refuse consent for damaging activities. Public bodies will be under a statutory duty to conserve SSSI and the Act sets out to include statutory underpinning to Biodiversity Actions Plans.		

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LL04	**National Parks and Access to the Countryside Act 1949**	This Act makes provision for National Parks and the establishment of a National Parks Commission; to confer on the Nature Conservancy and local authorities' powers for the establishment and maintenance of nature reserves; to make further provision for the recording, creation, maintenance and improvement of public paths and for securing access to open country. Part II of the Act relates to the designation of national parks and the duties of certain bodies including Natural England. Part III regards nature conservation, outlining the declarations and establishment of nature reserves by local authorities and the bylaws for the protection of these reserves. Part IV regards the provisions of rights of way, including the	• The SF will set out measures to protect and enhance nature reserves within the framework area. • The SF will have regard to access to the nearby Norfolk Broads National Park. • The SF will enhance access to open countryside and spaces where possible to promote socio-environmental wellbeing • The SF will encourage new developments to promote ease of access to naturally significant and other sites.	• Land Use and landscape

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		ascertainment of footpaths, bridleways and other highways. Part V relates to access to open county. This encompasses the public access to open country and the provision of means of access.		
LL05	**European Landscape Convention (Council of Europe, 2000)**	The European Landscape Convention was the first international instrument which was devoted to landscape. The UK signed the European Landscape Convention in 2006. It aims to encourage the protection, management and planning of all landscapes, rural and urban, large and small, coastal and inland, protected or degraded. The Convention defines landscape as 'an area, as perceived by people, whose character is the result of action and interaction of natural and/or human factors'. The Convention takes landscape management to mean 'action, from a perspective	• The SF will seek to manage the current and future landscape sustainably, protecting the character of landscapes, in harmony with changes brought about by social, economic and environmental processes.	• Land Use and landscape

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		of sustainable development, to ensure the regular upkeep of a landscape, so as to guide and harmonise changes which are brought about by social, economic and environmental processes'		
IN01	**UK Digital Strategy 2017**	The Digital Strategy applies the framework set out in the Industrial Strategy (2017) green paper to the digital economy in England. The digital strategy is formed of seven strands: • Building world-class digital infrastructure for the UK • Giving everyone access to the digital skills they need • Making the UK the best place to start and grow a digital business • Helping every British business become a digital business	• The SF should promote the development of modern infrastructure that can support high levels of digital technology including emerging digital infrastructure. • The SF should encourage the development of innovative digital business and harness the potential of digital technology in institutions, public services and other infrastructures. • The SF should consider the equal distribution of digital infrastructure as far as possible in order to reduce existing inequalities in access to digital services.	• Infrastructure

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		• Making the UK the safest place in the world to live and work online • Maintaining the UK Government a world leader in serving its citizens online • Unlocking the power of data in the UK economy and improving public confidence in its use		
IN02	**National Infrastructure Strategy (HM Treasury, 2020)**	The National Infrastructure Strategy sets out plans to transform UK infrastructure to level up the country, strengthen the Union and achieve net zero emissions by 2050. The strategy outlines how the government will build back better, faster and greener by: • Boosting growth and productivity across the UK • Putting the UK on the path to meeting its net zero emissions target by 2050 • Supporting private investment into infrastructure	• The SF should demonstrate how it will support growth and productivity, including maximising the role of cities to deliver growth. • The SF should support the development of low carbon infrastructure across the corridor and should aim to support the creation of infrastructure growth clusters where appropriate to maximise socio-economic potential. • The SF should support the transition to a low carbon future by accommodating emerging technologies, such as electric vehicle charging points as much as possible.	• Infrastructure

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		• Accelerating and improving delivery of infrastructure projects The government aims to make cities the engines of growth, including cities outside of London. This includes support for green growth cluster with carbon capture and low carbon infrastructure. As part of the Green Industrial Revolution, infrastructure investment is fundamental to delivering net zero emissions. The government will unlock private sector investment to accelerate the deployment of existing technology, such as retrofitting the UK's building stock and electrification of vehicles, while advancing newer technologies such as carbon capture and low-carbon hydrogen.	• The SF should plan for infrastructure delivery as quickly as possible, noting concerns with potential delays in infrastructure delivery as identified in the strategy.	
EC01	**Build Back Better: our**	The Plan sets out the UK Government's plan to support	• The SF should help to stimulate and support both short and long-term	• Economy • Infrastructure

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
	plan for growth (HM Treasury, March 2021)	growth through investment to allow every part of the UK to grow while enabling a transition to net zero. The Plan recognises that there has been a lot of changed since the Industrial Plan was published in 2017 (net zero commitments, COVID-19 and the exit from the European Union) and as such, a new framework for growth is needed. Infrastructure, skills and innovation are the three pillars of growth the Plan focuses on.	growth and productivity by planning for and delivering adequate infrastructure. • The SF should support the transition to net zero through its support for developing low carbon infrastructure across the Arc. • The SF should support inclusive opportunities for high-quality skills and training. • The Arc contains 10 universities, two of which are globally renowned, and the SF should support their continued growth. • The SF should aim to support the Arc in continuing to be a centre for world-leading research and innovation.	
EC02	**Skills for Jobs: Lifelong Learning for Opportunity and Growth (Department for Education, January 2021)**	The White Paper focusses on further education reform to ensure people are able grow their skills throughout their lives, wherever they live, to support economic growth, increase productivity and allow people to progress.	• The SF should support equal opportunities for education and training. • The SF has the opportunity to support growth in education and training in the digital, technology, science and financial sectors given the facilities, institutions and businesses already located in the Arc.	• Economy

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
RW01	**Our Waste, Our Resources: A Strategy for England (2018)**	The Strategy recognises that natural capital is one of our most valuable assets and sets out how the government plans to preserve the stock of material resources by minimising waste, promoting resource efficiency and moving towards a circular economy. The Strategy also sets out the aim to minimise damage to the natural environment and is aligned to the UK Government's 25 Year Environment Plan.	• The SF should contribute to the commitments outlined in the Strategy including: eliminating food waste from landfill by 2030, eliminating avoidable plastic waste over the lifetime of the 25 Year Plan, eliminating all kinds of avoidable waste by 2050 and doubling resource productivity by 2050. • The SF should encourage sustainable production through resource efficiency. • The SF should contribute to changing the behaviours of those living and working with the Arc. • If the SF includes provisions for waste management, the SF has the opportunity to improve domestic and commercial recycling rates and reduce the amount of waste sent to landfill.	• Resources and Waste • Infrastructure
RW02	**National Planning Policy for Waste (2014)**	This document sets out detailed waste planning policies. The document sets out detailed waste planning policies. and should be read in conjunction with the National Planning Policy	• The SF should be based on a proportionate evidence base on planned provision of new capacity, waste arisings and the need for waste management facilities. • The SF should highlight the requirement of the Waste National	• Resources and Waste • Infrastructure

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		Framework, the Waste Management Plan for England and National Policy Statements for Waste Water and Hazardous Waste The document places responsibility on waste planning authorities to ensure that waste management is considered alongside other spatial planning concerns, recognising the positive contribution waste management can make to developing sustainable communities.	Planning Policies for waste planning authorities, specifically for: identifying the need for waste management facilities, identifying suitable sites and areas, and determining planning applications.	
RW03	**National Policy Statement: Overarching Energy (EN-1) (2011)**	This National Policy Statement (NPS) sets out national policy for the energy infrastructure. It has effect, in combination with the relevant technology-specific NPS, on the decisions by the Infrastructure Planning Commission (IPC) on applications for energy developments that fall within the scope of the NPSs. The IPC has	• The SF should aim to deliver energy infrastructure as quickly as possible, to reflect the urgency of need for this infrastructure as set out in Part 3 of this document • The SF should take into account the effects of climate change when developing infrastructure, in addition to the consideration of pollution control measures	• Resources and Waste • Resources and Waste • Infrastructure

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		the power to issue a development consent order under the Planning Act 2008. In England and Wales this NPS is likely to be a material consideration in decision making on applications that fall under the Town and Country Planning Act 1990. The document outlines government policy on energy infrastructure development and sets out the need for new nationally significant infrastructure projects. Part 4 of the statement outlines general assessment principles in accordance with which applications relating to energy infrastructure are to be decided. It outlines that the IPC should start with a presumption in favour of granting consent to applications for energy NSIPs, and sets out a		

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		number of elements that must be included in project proposals. Part 5 of the statement sets out the impacts that could arise from the development of energy infrastructure, and outlines what must be provided within applications to consider potential impacts.		
RW04	**National Policy Statement: Hazardous Waste (2013)**	The NPS is a framework document for planning decisions on nationally significant hazardous waste infrastructure. The document sets out the main objectives of government policy on hazardous waste, which constitute the protection of human health and the environment, the implementation of waste hierarchy, self-sufficiency and proximity and an objective to maximise opportunities for climate change adaptation.	• If the SF includes provisions for waste management, the SF should consider the need for waste management facilities in the Arc and, if needed, promote the development of a small number of large waste management facilities to meet growing demand, as recommended in Part 3 • If the SF includes provisions for waste management, the SF could explore the potential to develop infrastructures such as electronic equipment plants, plants for air residues and hazardous waste landfill infrastructures, as they are identified as needed facilities	• Resources and Waste • Infrastructure

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		Part 3 of the document sets out that there will be a demand for new and improved large scale hazardous waste infrastructure, due to trends in hazardous waste and the need to meet legislative requirements. Part 4 of the statement states the general assessment principles in accordance with which applications relating to hazardous waste infrastructure are to be decided. It sets out that there should be a presumption in favour of granting consent to applications for hazardous waste NSIPs.	• The SF should consider the potential impacts of development projects within the Arc; to meet the criteria for good design, including ensuring good visual appearance of infrastructure. • The SF should take into account the effects of climate change when developing infrastructure, in addition to the consideration of pollution control measures	
RW05	**National Policy Statement: Waste Water (2012)**	The NPS is a framework for planning decisions on nationally significant waste water infrastructure and covers the following infrastructure development:	• The SF should aim to deliver waste water infrastructure as efficiently as possible, to reflect the urgency of need for this infrastructure and deliver government objectives: sustainable development, public health and environmental improvement and the improvement	• Resources and Waste • Infrastructure

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		• construction of waste water treatment plants which are expected to have a capacity exceeding a population equivalent of 500,000 when constructed; or • alterations to waste water treatment plants where the effect of the alteration is expected to be to increase by more than a population equivalent of 500,000 the capacity of the plant: and • development under the Thames Tunnel Project. Part 2 of the strategy sets out the government objectives regarding waste water and identifies the urgency of need for the infrastructure covered within the NPS. Part 3 sets out factors for examination and determination of applications, stating that potential benefits include contribution to meeting the need	of water quality in the natural environment. • The SF should aim to capitalise on the socio-economic benefits of waste water infrastructure development • The SF should integrate a commitment to adapting to climate change and how potential impacts may be prevented or mitigated through good, climate adaptive design. This is especially important in relation to waste water infrastructure due to the predicted impacts on the water cycle, as set out in the document.	

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		for waste water infrastructure, job creation and any long-term or wider benefits should be considered, along with potential adverse impacts. Developments may have to provide an EIA, must be of good design and must regard pollution control. Part 4 considers the generic impacts related to waste water infrastructure. It outlines the potential that an Environmental Statement may be provided.		
RW06	**National Policy Statement: Geological Disposal Infrastructure (2019)**	The NPS is a framework providing the basis for planning decisions on geological disposal infrastructure for the long-term management of higher activity radioactive waste. It covers geological disposal infrastructure as well as deep boreholes, as included in the Planning Act 2008.	• The SF should consider whether geological disposal infrastructure is likely to be provided in the Arc.	• Resources and Waste • Infrastructure

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		The document emphasises that in addition to generic impacts of development, broader impacts on environmental and socio-economic should be identified. The NPS states that higher amount of radioactive waste will arise as existing nuclear facilities are decommissioned. Infrastructure will be assessed against a number of principles. Part 4 sets out the impacts related to geological disposal infrastructure and states potential requirements in applications for development.		
RW07	**Environmental Damage (Prevention and Remediation) Regulations 2009**	The Regulations transpose the EU Liability Directive (2004/35/EC) into UK law and are based on the "polluter pays principle" to prevent damage to the environment and place the requirement for remedial action	• The SF will seek to identify and where possible avoid potential environmental damage to SSSIs or protected species and habitats (originating from European designations). • The SF will seek where possible to avoid environmental damage to	• Resources and Waste • Biodiversity • Water • Land Use and Landscape

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		on the polluter rather than the tax payer.	surface and groundwaters, preventing deterioration of waterbody status. • The SF will seek to not exacerbate or cause contaminated land and should seek to support the remediation of contaminated land where possible.	
RW08	**The Environmental Permitting (England and Wales) Regulations 2016**	The Regulations set out requirements for permits for those undertaking certain types of activities which have the potential to cause harm to the environment or human health. The Regulations cover waste, emissions, water discharge and groundwater activities, amongst others.	• The SF will consider the recommended siting of activities to avoid any impacts on the natural environment or human health.	• Resources and Waste • Infrastructure • Air Quality • Water
RW09	**The Waste (England and Wales) (Amendment) Regulations 2014**	The Regulations transpose the EU Waste Framework Directive (2008/98/EC). A key requirement set out in the Regulations is the Waste Hierarchy, to prioritise the disposal route of waste as follows: prevention, preparing for re-use, recycling, recovery,	• If the SF includes provisions for waste management, the SF will promote the application of the waste hierarchy. • If the SF includes provisions for waste management, the SF will set out to increase resource efficiency to reduce waste and provide for	• Resources and Waste

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		disposal. The Regulations also set out the requirements for handling waste and recycling. The Regulations were adopted in 2011 and amended in 2014.	enhanced recycling and recovery opportunities.	
RW10	**Landfill (England and Wales) Regulations 2002**	The Regulations set out to regulate the governing of landfills to ensure landfill site landfill site operators comply with the EU Landfill Directive (1999/31).	• The SF will take into account the location of historic and authorised landfills.	• Resources and Waste
RW11	**The Promotion of the Use of Energy from Renewable Sources Regulations 2011**	The Regulations transpose EU Energy and renewable sources Directive (2009/28/EC) into UK law, which aim to increase renewable energy.	• If the SF includes provisions for energy management, the SF will promote the use of renewable energy across the Arc to contribute to the achievement of the stated 32% renewable energy by 2030 national target. • If the SF includes provisions for energy management, the SF will consider the promotion of renewable and other low carbon energy to contribute to achieving net-zero by 2050 national target.	• Resources and Waste
RW12	**The Renewable Transport Fuel**	The Renewable Transport Fuel Obligation (RTFO) supports the	• If the SF includes provisions for energy management, the SF should	• Resources and Waste

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
	Obligations (Amendment) Order 2011	government's policy on reducing greenhouse gas emissions from vehicles by encouraging the production of biofuels that don't damage the environment.	help to support the transition to low emission fuels in transport.	
TR01	**National Networks National Policy Statement (DfT, 2015)**	The National Networks National Policy Statement (NN NPS), sets out the need for, and government policies to deliver, development of nationally significant infrastructure projects (NSIPs) on the national road and rail networks in England. The statement is consistent with the aims of the NPPF, however the NPPF does not contain specific policies for NSIPs. The government will deliver national networks that meet the country's long term needs; supporting a prosperous and competitive economy and improving overall quality of life, as part of a wider transport system. This means:	• The SF should consider requiring development of the national road and rail networks in the Arc be designed to minimise social and environmental impacts and improve quality of life. • The SF should require new schemes avoid and mitigate environmental and social impacts in line with the principles set out in the NPPF and the government's planning guidance. In addition, evidence that reasonable opportunities to deliver environmental and social benefits as part of schemes should be provided. • The SF should recognise that, in some locations, developments that are in accordance with government policy and planned in an environmentally sensitive way (including considering opportunities to deliver environmental benefits)	• Transport

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		• Networks with the capacity and connectivity and resilience to support national and local economic activity and facilitate growth and create jobs. • Networks which support and improve journey quality, reliability and safety. • Networks which support the delivery of environmental goals and the move to a low carbon economy. • Networks which join up our communities and link effectively to each other. The NN NPS recognises that for development of the national road and rail networks to be sustainable these should be designed to minimise social and environmental impacts and improve quality of life. The NN NPS sets out a number of assessment principles to be taken account of by those bringing forward proposals for development. For example,	may still result in some adverse local effects.	

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		considering environmental, safety, social and economic benefits and adverse impacts, at national, regional and local levels. The NN NPS identifies a number of generic impacts across environmental and social issues, which are likely to require consideration in detailed assessments, including the application of mitigation.		
TR02	**Guidance on Local Transport Plans (DfT, 2009)**	Statutory Guidance to support local transport authorities in producing Local Transport Plans.	• The SF should reflect and cascade the guidance. • The SF should integrate environmental considerations into transport planning including climate change mitigation and adaptation, air quality, noise, landscape and biodiversity amongst others. • The SF transport planning should contribute to economic growth, increase equality, accessibility and inclusivity whilst contributing to a safer network.	• Transport

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
TR03	**Local Transport Act 2008**	The Local Transport Act aims to reduce road congestion and improve the quality of local bus services. It includes provisions for effective collaboration between local transport authorities and bus operators with the aim to improve the accessibility and quality of bus services in order to meet the needs of local people.	• The SF will contribute to promoting access to public transport, including supporting the improved quality of bus services, across the Arc. • The SF should seek to reduce congestion by supporting improved bus transport links and wider public transport.	• Transport
TR04	**Towards a Sustainable Transport System Supporting Economic Growth in a Low Carbon World (DfT, 2007)**	The document recognises the importance of transport in sustainable growth and sets out to achieve the following three aims: • Describe the government's response to the Eddington study recommendations to improve the contribution from transport to economic growth and how it will support carbon reductions recommended by the Stern Review.	• The SF has the opportunity to contribute to the economic competitiveness and productivity of the Arc by providing delivering an efficient and connected transport network. • The SF should integrate climate change mitigation for transport • The SF should contribute to improving safety and security of the transport network as well as improving health through reducing air pollution and encouraging active travel. • The SF should enhance quality of life through transport provision	• Transport • Climate Change

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		• Set out the DfT's ambitious policy and investment plans for the period to 2013-14 • Propose a new approach to longer term transport strategy, building on the model recommended by Sir Rod Eddington, and explains the engagement strategy with passengers, users, the transport industry and other stakeholders.	• The SF should promote equality and inclusivity of the transport network.	
TR05	**UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations (DfT, 2017)**	The document identifies nitrogen dioxide (NO_2) pollution around roads as the most immediate air quality challenge. It sets out the plan for bringing NO_2 air pollution within statutory limits within the shortest possible time.	• The SF should aim to improve air quality across the Arc to reduce impacts on human health and the environment. • The SF should contribute to reducing congestion, encourage the uptake of low emission vehicles and support greater use of public transport.	• Transport • Air Quality
TR07	**Connecting people: a strategic vision for rail (DfT, 2017)**	The Strategy sets out the vision for the UK rail sector to 2030 and beyond. The Strategy outlines the expectation that rail will be innovating to improve emissions performance whilst reducing	• The SF should encourage the use of rail through identifying opportunities to integrate rail network into new and existing developments.	• Transport

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		exposure of passengers and workers to emissions.	• The SF should contribute to creating a railway which is more inclusive and accessible.	
TR08	**The Road to Zero (DfT, 2018)**	The Road to Zero Strategy sets out plans for an expansion of green infrastructure across the UK, reduce emissions of vehicles already on the road and drive the uptake of new zero emissions cars and vans. It includes an ambition for at least 50%, and as many as 70%, of new car sales to be ultra-low emission by 2030 alongside 40% of new vans.	• The SF should support the transition to low emission vehicles. • The SF should integrate the provision of electric vehicle charging infrastructure into communities • The SF should encourage a reduction in car journeys through promotion of alternative sustainable transport modes.	• Transport • Air Quality • Climate Change
TR09	**Working Together to Build a Safer Road System: British Road Safety Statement (DfT, 2015)**	The Road Safety Statement set out to improve safety on the UK's roads and reduce the number of people injured or killed every year. It outlined the following priorities for improving road user safety: • Safer learning and road behaviours • Better testing and licensing	• The SF should take the opportunity to prioritise pedestrians and cyclists in development to help improve safety. • The SF should promote safety of the road network, including through increasing awareness and behaviour change.	• Transport

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		• Increased road user awareness • Safer vehicles and equipment • Fairer and more responsive insurance • More intelligent and effective enforcement		
TR10	**The Road Safety Statement 2019** **A Lifetime of Road Safety (DfT, 2019)**	The Road Safety Statement sets out the actions over the next two years to create a new safety of road culture for children, young adults, those who drive for work, the environment in which we live and the roads we use, and keeping safe and mobile as we get older.	• The SF has the opportunity to increase awareness and change behaviours to promote road safety. • The SF should promote the safety of the road network for all users.	• Transport
TR11	**Inclusive Transport Strategy: Achieving equal access for disabled people (DfT, 2018)**	The Strategy sets out plans to make the UK's transport system more inclusive and accessible for disabled people as well as older people. Although the Strategy is focussed on disabled people, the outcomes will also benefit other travellers. The vision is for disabled people to have the	• The SF should promote inclusive transport, where disabled users will be able travel across the network at ease and at no extra cost. • The SF should contribute to the Strategy's 2030 goal to create a network which offers equal access to disabled people.	• Transport • Communities

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		same access to transport as everyone else. By 2030 we envisage equal access for disabled people using the transport system, with assistance if physical infrastructure remains a barrier.	• The SF should create streetscapes and other physical infrastructure elements are accessible to all.	
TR12	**Cycling and Walking Investment Strategy (DfT, 2017)**	The UK Government has a vision to make cycling and walking the natural choices for shorter journeys, or part of a longer journey by 2040. The Strategy sets out their ambitions, the financial resources for supporting this ambition, and the actions required to achieve the objectives. The following aims are set out as follows: • double cycling to 1.6 billion by 2025 (from 0.8 billion in 2013) • increase walking activity to 300 stages per person per year in 2025 • increase the percentage of children aged 5 to 10 that	• The SF should contribute to the Strategy's 2030 goal to create a network which offers equal access to disabled people. • The SF should help to increase a safer transport network for cyclists and pedestrians and through better connected communities. • The SF should promote better mobility by increasing the quality and provision of walking and cycling networks, encouraging behaviour change, and better links to education and employment. • The SF should aim to create safer streets through prioritising pedestrians and cyclists of all ages, improving the public realm, and a wider green network.	• Transport • Communities

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
		usually walk to school from 49% in 2014 to 55% in 2025		
TR13	**Local Cycling and Walking Infrastructure Plans (DfT, 2017)**	Local Cycling and Walking Infrastructure Plans (LCWIPs), as set out in the government's Cycling and Walking Investment Strategy, are a strategic approach to identifying local cycling and walking improvements.	• Where available, LCWIPs should be taken into account in the development of the SF to allow walking and cycling to be a key consideration, and existing plans can be integrated into the SF.	• Transport • Communities
TR14	**Building Sustainable Transport into New Developments (DfT, 2008)**	Part of the government's advice on transport within Eco-towns and New Growth Points, this document sets out advice on how to effective and sustainable build transport systems into new developments. It outlines the planning and design process, a suite of sustainable transport options before looking at funding, implementation and monitoring.	• The SF should integrate sustainable transport into the design of new places and spaces, making cycling, walking and public transport the most convenient choice which should contribute to reducing car use and congestion. • The SF should place emphasis on sustainable connectivity to education and employment, and other key services.	• Transport • Communities
TR15	**Road Traffic Reduction Act 1997**	The Act sets out to reduce traffic and requires local authorities to prepare reports relating to the levels of road traffic in their area.	• The SF will seek to contribute to reducing traffic and congestion on the roads across the Arc.	• Transport

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
TR16	**Road Traffic Reduction (National Targets) Act 1998**	The Act makes further provisions to the Road Traffic Reduction Act 1997 for road traffic reduction targets. The Act included a target to reduce road traffic by 10% by 2010 based on 1990 levels.	• The SF will prioritise sustainable modes of transport in order to contribute to a reduction in road traffic and congestion.	• Transport
TR17	**Road Safety Act 2006**	The provisions contained within the Act are to improve road safety and help to achieve a reduction in casualties from road traffic accidents. It creates an office of causing death by careless or inconsiderate driving.	• The SF will consider the safety of the road network for all users.	• Transport
TR18	**Automated and Electric Vehicles Act 2018**	The Act sets out to promote the development and deployment of automated and electric vehicles and is part of the UK Government's Industrial Strategy.	• The SF will contribute to the aims of the Act through seeking to increase the provision of and access to electric vehicle infrastructure to encourage uptake.	• Transport • Air Quality
TR19	**Working Together to Promote Active Travel (Public Health England, 2016)**	The guidance recognises the importance of active travel for public health and wellbeing, and the environment. It sets out actions for transport planners and others to help increase active travel.	• The SF can contribute to increased walking and cycling by endorsing the creation of spaces which are well connected, well designed and accessible. • The SF should seek to link active travel and public transport.	• Transport • Communities

ID	Document name	Description	Relationship to Spatial Framework and Sustainability Appraisal	Links to Sustainability Themes
			• The SF should integrate the safety of children into its development, creating an environment for safe travel by walking and cycling.	

C. Habitat Regulations Assessment sites

1.111 Table C.1 presents the internationally designated sites which would likely be considered as part of a Habitats Regulation Assessment (HRA) of the Spatial Framework. The designations relevant to this assessment are: Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites.

1.112 The Spatial Framework has the potential to have impacts on protected sites both within and outside of the Arc boundary; therefore, proposals for development within the Arc will need to consider the potential for direct and indirect impacts on protected sites up to 20 km from the boundary of the Arc. Table C1 includes a list of the sites within the Arc and within 20 km from the boundary of the Arc.

Table C.1 – HRA sites within the Arc and within 20 km from the boundary of the Arc

Proximity to Arc	Name	SAC	SPA	Ramsar	Districts
Within Arc	Aston Rowant	SAC	-	-	South Oxfordshire
Within Arc	Burnham Beeches	SAC	-	-	South Bucks
Within Arc	Chilterns Beechwoods	SAC	-	-	Aylesbury Vale District, South Oxfordshire, Wycombe
Within Arc	Chippenham Fen	-	-	Ramsar	East Cambridgeshire
Within Arc	Cothill Fen	SAC	-	-	Vale of White Horse
Within Arc	Devils Dyke	SAC	-	-	East Cambridgeshire, Forest Heath
Within Arc	Eversden and Wimpole Woods	SAC	-	-	South Cambridgeshire
Within Arc	Fenland	SAC	-	-	East Cambridgeshire, Huntingdonshire
Within Arc	Hackpen Hill	SAC	-	-	Vale of White Horse
Within Arc	Hartslock Wood	SAC	-	-	South Oxfordshire
Within Arc	Little Wittenham	SAC	-	-	South Oxfordshire
Within Arc	Nene Washes	SAC	SPA	Ramsar	City of Peterborough, Fenland District
Within Arc	Ouse Washes	SAC	SPA	Ramsar	East Cambridgeshire, Fenland District, King's Lynn and West Norfolk District
Within Arc	Oxford Meadows	SAC	-	-	Oxford, Cherwell, West Oxfordshire

Proximity to Arc	Name	SAC	SPA	Ramsar	Districts
Within Arc	Portholme	SAC	-	-	Huntingdonshire
Within Arc	Upper Nene Valley Gravel Pits	-	SPA	Ramsar	East Northamptonshire, Northampton, Wellingborough, East Northamptonshire
Within Arc	Wicken Fen	-	-	Ramsar	East Cambridgeshire
Within Arc	Woodwalton Fen	-	-	Ramsar	Huntingdonshire
Within 20km	Barnack Hills & Holes	SAC	-	-	City of Peterborough
Within 20km	Breckland	SAC	SPA	-	Breckland District, Forest Heath District, King's Lynn and West Norfolk District, St. Edmundsbury
Within 20km	Chilterns Beechwoods	SAC	-	-	Dacorum District, Windsor and Maidenhead
Within 20km	Kennet & Lambourn Floodplain	SAC	-	-	Wiltshire, West Berkshire
Within 20km	North Meadow & Clattinger Farm	SAC	-	-	Wiltshire
Within 20km	Orton Pit	SAC	-	-	City of Peterborough
Within 20km	Rex Graham Reserve	SAC	-	-	Forest Heath District
Within 20km	River Lambourn	SAC	-	-	West Berkshire
Within 20km	Rutland Water	-	SPA	Ramsar	Rutland
Within 20km	South West London Waterbodies	-	SPA	Ramsar	Elmbridge District, Spelthorne, Hounslow, Windsor and Maidenhead, Runnymede
Within 20km	Thames Basin Heaths	-	SPA	-	Surrey Heath, Bracknell Forest, Hart, Windsor and Maidenhead
Within 20km	The Wash	-	SPA	Ramsar	King's Lynn and West Norfolk District, South Holland
Within 20km	The Wash & North Norfolk Coast	SAC	-	-	King's Lynn and West Norfolk District, South Holland
Within 20km	Thursley, Ash, Pirbright & Chobham	SAC	-	-	Surrey Heath, Windsor and Maidenhead
Within 20km	Windsor Forest & Great Park	SAC	-	-	Bracknell Forest, Windsor and Maidenhead, Runnymede

D. The Water Environment (Water Framework Directive) Regulations waterbodies

1.113 The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as retained and as amended) set out a framework for the protection of surface waters, transitional waters (e.g. estuaries), coastal waters and groundwater – the waterbodies within the Arc are set out in Table D.1. The environmental objectives of the Regulations principally relate to the improvement of water bodies through the development and implementation of plans to recover failing water bodies to a good condition, or better.

Table D.1 – The Water Environment (Water Framework Directive) Regulations waterbodies in the Arc

Type	Water body name	Catchment	Districts
Groundwater	Banbury Jurassic	Thames	Daventry, South Northamptonshire, Cherwell, West Oxfordshire
Groundwater	Berkshire Downs Chalk	Thames	South Oxfordshire, Vale of White Horse
Groundwater	Bicester-Otmoor Cornbrash	Thames	Cherwell, South Oxfordshire, West Oxfordshire
Groundwater	Burford Jurassic	Thames	Cherwell, West Oxfordshire
Groundwater	Byfield Jurassic	Thames	Daventry, South Northamptonshire, Cherwell
Groundwater	Cam and Ely Ouse Chalk	Anglian	East Cambridgeshire, South Cambridgeshire, Cambridge
Groundwater	Cam and Ely Ouse Woburn Sands	Anglian	East Cambridgeshire, Huntingdonshire, South Cambridgeshire
Groundwater	Chiltern Chalk Scarp	Thames	Aylesbury Vale, Chiltern, Wycombe, South Oxfordshire
Groundwater	Chipping Norton Jurassic	Thames	Cherwell, West Oxfordshire
Groundwater	Headington Corallian	Thames	Aylesbury Vale, Cherwell, Oxford, South Oxfordshire, Vale of White Horse
Groundwater	Kemble Forest Marble	Thames	West Oxfordshire
Groundwater	Lower Thames Gravels	Thames	South Bucks
Groundwater	Maidenhead Chalk	Thames	South Bucks, Wycombe, South Oxfordshire

Type	Water body name	Catchment	Districts
Groundwater	Mid-Chilterns Chalk	Thames	Central Bedfordshire, Aylesbury Vale, Chiltern, South Bucks, Wycombe
Groundwater	Nene Mid Lower Jurassic Unit	Anglian	Bedford, Huntingdonshire, Corby, Daventry, East Northamptonshire, Kettering, Northampton, Wellingborough, Peterborough
Groundwater	Nene Northampton Sands	Anglian	Corby, East Northamptonshire, Kettering, Wellingborough, Peterborough
Groundwater	North Essex Chalk	Anglian	East Cambridgeshire, South Cambridgeshire
Groundwater	Northampton Sands	Anglian	Milton Keynes, Bedford, Huntingdonshire, East Northamptonshire, Northampton, South Northamptonshire, Wellingborough, Peterborough
Groundwater	Radlett Tertiaries	Thames	Chiltern, South Bucks, Wycombe
Groundwater	Shrivenham Corallian	Thames	South Oxfordshire, Vale of White Horse
Groundwater	South-West Chilterns Chalk	Thames	Chiltern, South Bucks, Wycombe, South Oxfordshire
Groundwater	Tackley Jurassic	Thames	South Northamptonshire, Cherwell, West Oxfordshire
Groundwater	Twyford Tertiaries	Thames	South Bucks, Wycombe
Groundwater	Upper Bedford Ouse Chalk	Anglian	Central Bedfordshire, Aylesbury Vale, South Cambridgeshire
Groundwater	Upper Bedford Ouse Oolite Principal 1	Anglian	Milton Keynes, Aylesbury Vale, South Northamptonshire, Cherwell
Groundwater	Upper Bedford Ouse Oolite Secondary	Anglian	Milton Keynes, Aylesbury Vale, Daventry, South Northamptonshire, Cherwell
Groundwater	Upper Bedford Ouse Principal Oolite 2	Anglian	Milton Keynes, Bedford, South Northamptonshire, Wellingborough
Groundwater	Upper Bedford Ouse Woburn Sands	Anglian	Milton Keynes, Bedford, Central Bedfordshire, Aylesbury Vale, Huntingdonshire, South Cambridgeshire
Groundwater	Upper Lee Chalk	Thames	Central Bedfordshire
Groundwater	Upper Thames Gravels	Thames	Vale of White Horse, West Oxfordshire
Groundwater	Vale of White Horse Chalk	Thames	South Oxfordshire, Vale of White Horse

Type	Water body name	Catchment	Districts
Groundwater	Warwickshire Avon - Secondary Mudrocks	Severn	Corby, Daventry, Kettering, Northampton, South Northamptonshire, Cherwell
Groundwater	Welland Limestone Unit A	Anglian	Huntingdonshire, East Northamptonshire, Peterborough
Groundwater	Welland Lower Jurassic Unit	Anglian	Corby, Daventry, East Northamptonshire, Kettering, Peterborough
Groundwater	Welland Mid Jurassic Unit	Anglian	Peterborough
Surface Water	Anglian TraC	Anglian	East Cambridgeshire, Fenland, Huntingdonshire, South Cambridgeshire, Peterborough
Surface Water	Avon Warwickshire	Severn	Daventry, South Northamptonshire, Cherwell, West Oxfordshire
Surface Water	Cam and Ely Ouse	Anglian	Central Bedfordshire, East Cambridgeshire, Huntingdonshire, South Cambridgeshire, Cambridge
Surface Water	Cherwell and Ray	Thames	Aylesbury Vale, Daventry, South Northamptonshire, Cherwell, Oxford, South Oxfordshire, West Oxfordshire
Surface Water	Colne	Thames	Central Bedfordshire, Aylesbury Vale, Chiltern, South Bucks, Wycombe
Surface Water	Combined Essex	Anglian	East Cambridgeshire, South Cambridgeshire
Surface Water	Cotswolds	Thames	Cherwell, Vale of White Horse, West Oxfordshire
Surface Water	Gloucestershire and the Vale	Thames	Cherwell, Oxford, South Oxfordshire, Vale of White Horse, West Oxfordshire
Surface Water	Kennet and tributaries	Thames	Vale of White Horse
Surface Water	Maidenhead and Sunbury	Thames	South Bucks, Wycombe
Surface Water	Nene	Anglian	Milton Keynes, Bedford, Fenland, Huntingdonshire, Corby, Daventry, East Northamptonshire, Kettering, Northampton, South Northamptonshire, Wellingborough, Peterborough
Surface Water	North West Norfolk	Anglian	Fenland
Surface Water	Old Bedford and Middle Level	Anglian	East Cambridgeshire, Fenland, Huntingdonshire, Peterborough

Type	Water body name	Catchment	Districts
Surface Water	Thames and South Chilterns	Thames	Aylesbury Vale, Chiltern, South Bucks, Wycombe, Cherwell, South Oxfordshire, Vale of White Horse
Surface Water	Upper and Bedford Ouse	Anglian	Milton Keynes, Bedford, Central Bedfordshire, Aylesbury Vale, Huntingdonshire, South Cambridgeshire, Daventry, East Northamptonshire, Wellingborough, Cherwell
Surface Water	Upper Lee	Thames	Central Bedfordshire, South Cambridgeshire
Surface Water	Welland	Anglian	Corby, Daventry, East Northamptonshire, Kettering, Peterborough
Transitional	Nene	Anglian	Fenland, Peterborough
Transitional	Great Ouse	Anglian	East Cambridgeshire, South Cambridgeshire, Huntingdonshire
Lake	Blenheim Lakes	Thames	West Oxfordshire
Lake	Brogborough Lake	Anglian	Central Bedfordshire
Lake	Cornbury Park Lakes	Thames	West Oxfordshire
Lake	Farmoor Reservoir	Thames	Vale of White Horse
Lake	Felmersham Gravel Pits	Anglian	Bedford
Lake	Foxcote Reservoir	Anglian	Aylesbury Vale
Lake	Grafham Water	Anglian	Huntingdonshire
Lake	Grimsbury Reservoir	Thames	Cherwell
Lake	Hollowell Reservoir	Anglian	Daventry
Lake	Littleworth Ponds	Thames	South Bucks
Lake	Pitsford Water	Anglian	Daventry
Lake	Ravensthorpe Reservoir	Anglian	Daventry
Lake	Sonning Eye gravel pit	Thames	South Oxfordshire
Lake	Stanford Reservoir	Severn	Daventry
Lake	Stewartby Lake	Anglian	Central Bedfordshire
Lake	Stow Cum Quy Fen	Anglian	South Cambridgeshire
Lake	Thrapston Lake	Anglian	East Northamptonshire
Lake	Upware North Pit	Anglian	East Cambridgeshire

Source: Water Framework Directive Cycle 2, Environment Agency. www.data.gov.uk

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