

VALE OF WHITE HORSE LOCAL PLAN 2031 EXAMINATION

STAGE 2 of Part 1 Strategic Sites & Policies.

SUBMISSION OF EAST HENDRED PARISH COUNCIL.

1. Matter 6 – Proposed Housing Sites in the North Wessex Downs AONB.

Having regard to the exceptional circumstance & public interest tests in paragraph 116 of the NPPF, are the Strategic Housing Allocations, (Sites 12 & 13), proposed in the AONB soundly based? In particular:

- a) What is the need for the housing development, including in terms of national considerations?**

The bottom line for East Hendred Parish Council, and probably the other 470 objectors on this matter, is that strategic housing allocations in the AONB should not be included in the Local Plan 2031, on the grounds that the adverse effects on landscape and amenity outweigh the social and economic benefits.

- 1.1 The PPG on Housing & Economic Assessments clearly states that the CLG 2012 based Household Projections should be the starting point.**

- i) In EXAM HOU10, page 1, the Council has accepted that:**

SHMA 2011 based Interim Projections = 9,360 dwellings (468 p.a.)

CLG 2012-based Household Projections = 8,640 dwellings (432 p.a.)

Difference between SHMA and 2012 base = -720 dwellings (-8%).

- ii) Proposed New Dwellings in the North Wessex Downs AONB:**

Site 12 North of Harwell Campus 550 dwellings

Site 13 East of Harwell Campus 850 dwellings

Total New Dwellings in AONB 1,400 dwellings

The difference between the 2014 SHMA's CLG 2011 & 2010 based Population Projections, and the CLG 2012 based Population & Household Projections, therefore represent 720 dwellings or 50% of the 1,400 dwellings proposed on Sites 12 & 13 in the AONB.

- iii) In the Council's Informal Note to East Hendred Parish Council, see Appendix 1, it states:

"At the time at which the SHMA was prepared, the 2012-based Sub-National Population Projections (SNPP) were not published and the latest projections were the 2011-based Interim SNPP which ran to 2021.

The interim status means they are not official statistics, not least as they were based on pre- (2011) Census estimates of components of population change. They projected population only to 2021."

- iv) On this evidence, the significantly greater impact on the AONB of a housing need based on superseded unofficial 2011-based Interim Population Projections, 2011-2021, based on pre 2011 Census components of population change, is not Justified, given the PPG advice to use the latest CLG 2012 based Household Projections, published in March 2015.

PROPOSED AMENDMENT OF TABLE 90 OF SHMA ON HOUSING NEED.

	SHMA TABLE 90	PROPOSED AMENDMENT
1. Demographic Base	9,365 (468 p.a.)	8,640 (432 p.a.) (-720)
2. Plus Shortfall (+801)	10,166 (508 p.a.)	9,441 (472 p.a.) (-720)
3. Affordable Housing Need.	13,660 (683 p.a.)	13,660 (683 p.a.)
4.To Support Econ. Growth.	20,559 (1,028 p.a.)	19,838 (991 p.a.) (-720)

JUSTIFICATION: To comply with the PPG and to mitigate the impact of development on the AONB, without significantly affecting the Council's aims and objectives for the Local Plan.

1.2 Effect of a 2014 Start Date for Adjustments for Economic Growth

i) The PPG on Housing and Economic Assessments states that:

“The primary objective of assessing need is to identify the FUTURE quantity of housing ...or land for economic development.”

This supports a start date of 2014 because adjustments for the FUTURE need for land for economic development should only start from 2014.

The period 2011-2014 is in the past, not in the future.

There are published statistics from the ONS Mid Year estimates and the ONS/Nomis labour statistics for the period 2011-14, to provide a robust evidence base for 2014, on which adjustments for FUTURE economic growth for 2014-31 can be based. It would be wrong to apply adjustments to PAST economic growth 2011-14, which ONS statistics tell us has not occurred.

ii) The Council are therefore asked to identify what housing and employment targets have been included in the Local Plan for the 5 year period 2011-16, so that the monitoring of the first 5 years of the plan can be assessed against existing ONS statistics of PAST TRENDS for the period 2011-2014 on:

Growth in Population
Growth in Employed Residents
Growth in Households/Dwellings
Growth in jobs.

The question is asked to ascertain if the need for housing allocations in the AONB is soundly based.

1.3 Evidence on the need for housing sites 12 & 13 in the AONB.

1.4 Firstly, the housing and economic need is a DISTRICT WIDE assessment. It does not require housing sites 12 & 13 to be located in the AONB to meet a District wide need.

1.5 Secondly, The HM Treasury Autumn Statement 2015 included a proposed Didcot Growth Accelerator, referred to subsequently as a “Garden Town” with funding for a Master Plan for the growth of 15,000 dwellings at Didcot. Didcot is the largest Settlement in Science Vale, and a focus for Growth in the South Oxfordshire Core Strategy. Strategic Housing Allocations in the AONB will prejudice the development of Didcot Garden Town because of the proposed significant increase in the rate of development compared to past trends. South Oxfordshire has struggled to achieve a 5 year housing land supply at Didcot.

SOUTH OXFORDSHIRE 5 YEAR HOUSING LAND SUPPLY for DIDCOT.

Didcot housing requirement 2006-2027	6,300 dwellings (300 p.a.)
Didcot housing completions 2006-2015	1,180 dwellings (130 p.a.)
Didcot 5 year housing requirement 2015-20	2,433 dwellings (486 p.a.)

SODC consider that Didcot has a 4 year housing land supply, based on a supply of 1,957 dwellings at April 2015, compared to 9 years in the rest of the District. The main supply comes from 193 dwellings per year at Great Western Park, and 175 dwellings per year at Didcot North East. Various appeal decisions have challenged these estimates.

Source: SODC Assessment of 5 year Housing land supply April 2015.

The Table above demonstrates that the actual 130 house completions per year 2006-2015 at Didcot have fallen well below the housing requirement of 300 dwellings per year. In the next 5 years, 2015-2020, house completions will need to be 486 dwellings per year, well in excess of the rate of house completions at Didcot in the plan, i.e. 300 dwellings per year over the whole plan period 2006-27.

It is in this context that the proposed strategic housing allocations in the AONB are considered likely to prejudice the focus for growth in Science Vale given to Didcot Garden Town. At Cherwell District, focusing growth on Bicester and Banbury, was seen as a sustainable spatial strategy by the Local Plan Inspector.

- 1.6 **Thirdly, there is a significant imbalance in the proposed jobs in The Vale** compared to South Oxfordshire. Only 25 hectares of employment land over 2006-31 (1 hectare per year) is being allocated in South Oxfordshire, (of which 6.5 hectares is within The Vale), compared to 209 hectares in Core Policy 6 in The Vale. This significant imbalance is likely to affect commuter flows between South Oxfordshire and Science Vale.
- 1.7 The South Oxfordshire Core Strategy 2006-2027 proposes 13.5 hectares of employment land plus 6.5 hectares in The Vale of White Horse to provide 5,000 B Class jobs. It acknowledges the close links with the proposed jobs growth in Science Vale. The emerging South Oxfordshire Local Plan 2031 proposes +3,600 dwellings divided between Science Vale and Market Towns and Larger Villages, and 5 hectares of employment land, i.e. a total of 25 hectares employment land.
- 1.8 Science Vale is allocated 16,000 jobs under Core Policy 5 out of a total proposed jobs target of 23,000 jobs.

- 1.9 An allowance for a Net Commuter Imbalance between The Vale and South Oxfordshire of c. 1,500 trips is estimated below:

Estimated commuting to Science Vale from S. Oxon = +3,200
(based on 20% of 16,000 Science Vale jobs taken up by South Oxfordshire residents. Source 2011 Census Travel to Work data)

Estimated commuting to S. Oxon from Science Vale = -1,700
(based on 20% of c.7,500 jobs in South Oxfordshire taken up by The Vale residents. Source: South Oxfordshire Core Strategy data).

Net Imbalance to Science Vale from S. Oxfordshire = +1,500

PROPOSED AMENDMENT TO CORE POLICY 15 SOUTH EAST VALE

The number of dwellings in South East Vale under Core Policy 15 should be reduced to reflect the net imbalance in commuting between The Vale and South Oxfordshire:

Core Policy 15 Housing Requirement	12,450 dwellings
Proposed Amendment	10,950 dwellings
Adjustment: a reduction of	-1,500 dwellings

JUSTIFICATION: To reflect a significant net commuter imbalance from the large scale of proposed additional jobs in Science Vale compared to South Oxfordshire, and the acknowledged close linkage between them. To mitigate the impact of development on the North Wessex Downs AONB.

- b) What is the likely impact of permitting, or refusing, the housing development on the local economy?**

2. THE NEED FOR HOUSING AT HARWELL CAMPUS.

- 2.1 **Firstly, Core Policy 3 on the Settlement Hierarchy establishes a hierarchy for the distribution of development**, with Market Towns having the ability to support the most sustainable patterns of living within the Vale. Appendix 1 of the Council's Statement on Matter 3 shows Harwell Campus being re-defined from a Larger Village to an Employment Location, with Didcot being added as a Main Town, so that 72% of new housing is shown as being located in Towns and Service Centres, 18% in Larger Villages and 10% in Employment Locations.

- 2.2 This re-definition removes Harwell Campus from the list of Settlements in the Settlement Hierarchy, and puts it at the bottom of the hierarchy.
- 2.3 The likely impact of refusing housing in the AONB on the local economy would be limited because it would not effect the local economy of the Towns, Service Centres or Larger Villages within the hierarchy. By re-locating strategic housing allocations from the AONB to Main Towns or Larger Villages, the local economy could be enhanced.
- 2.4 **Secondly, the Council's response to why housing allocations in the AONB were preferred to Didcot A was that the Harwell Campus sites 12 & 13 provided "a better offer" to prospective occupiers.** This response is inconsistent with Core Policy 3, which seeks to support Towns, Service Centres and Larger Villages, which have the ability to support the most sustainable patterns of living within the Vale. It is contrary to the core principles of sustainable development in the NPPF, paragraph 17, in terms of re-using Brownfield land and managing growth to make the most of alternative modes of travel to the private car in Didcot.
- 2.5 The allocation of Greenfield sites in the AONB is likely to prejudice Brownfield development in Didcot, and hence prevent or delay a wide range of infrastructure, facilities and services e.g. town centre shops, roads, bus services, primary and secondary schools, local supermarkets, recreation areas etc. The local economy of Didcot "Garden Town," and its ability to meet its Ring-fenced 5-year land supply in the South Oxfordshire Core Strategy, is likely to be prejudiced by permitting strategic housing allocations in the AONB.
- 2.6 The mere fact that the Council states that strategic allocations in the AONB provide a "better offer" than sites at Didcot implies that, if they are correct, the development at Didcot would indeed be prejudiced by strategic housing allocations in the AONB. This is precisely why South Oxfordshire introduced a Ring-Fence around Didcot. Its aim was to prevent the 5 year land supply being taken up by new housing in the Villages, when the Core Strategy sought to focus 6,300 dwellings in Didcot
- 2.7 Chilton Parish Council has surveyed the workplaces of occupants of new housing south of Harwell Campus, which suggests that as few as 10% work at Harwell Campus.
- 2.8 It is concluded that the deletion of strategic housing allocations in the AONB would be unlikely to adversely affect the local economy, and could be beneficial if it was re-located into the **Main Towns, e.g. Didcot.**

c) Is there scope for providing housing development outside the AONB?

- 3.1 A current application for 4,250 dwellings at Valley Park indicates the potential for an additional c.900 dwellings at Didcot. Further submissions are made under Matter 9.

d) What is the likely effect of development on the environment, landscape and recreational opportunities having regard to the potential for moderation?

- 4.1 The adverse effect for housing on Sites 12 & 13 on the AONB arise from the adverse visual impact on the protected landscape character of the North Wessex Downs AONB from public viewpoints.
- 4.2. Views from elevated ground to the south along The Ridgeway, a National Trail. The 87 mile prehistoric recreational route through ancient landscapes, Downland, secluded valleys and woodland, which are characteristic of the AONB could not be effectively screened by boundary landscaping or landscaped bunds, as has been demonstrated in views from The Ridgeway above East Hendred looking north to Harwell Campus.
- 4.3 Views from the National Cycleway to the east towards Upton and Didcot, and west to East Hendred, across open countryside would be adversely affected.
- 4.4 Views from the numerous Bridleways and Public Footpaths regularly used by residents of East Hendred and the surrounding Downland Villages across open countryside, would be adversely affected.
- 4.5 The proposed Housing Sites 12 & 13 are unrelated to any Settlement, and hence are not seen in the context of an existing Settlement. New development adjoining existing Settlements on two or three sides are seen to be better related to existing development which can mitigate their impact on the countryside. That cannot be achieved on Housing Sites 12 & 13.
- 4.6. The A34 acts as a strong Defensible Boundary to development at Didcot. Once that boundary is crossed, there are no similar strong Defensible boundaries to prevent urban sprawl. The protection of the AONB from further development would be difficult to control, if the precedent for large scale development in the AONB was set in the Local Plan 2031.
- 4.7 For example, the protection of landscape character in the AONB from Sites 12 & 13, Land East & West of Harwell Campus, one in East Hendred Parish, would extend development across the A34 into the AONB. That would also apply to Omission sites in the AONB.

4.8 Land North of Harwell Campus proposed for 550 dwellings extends into open countryside on three sides, to the north, west, and south.

It is therefore poorly related to Harwell Campus. Development would adversely affect public views across the AONB from the National Cycleway running east-west, and a historic bridleway, locally known as The Golden Mile, which runs north – south. The site is prominent when viewed from the A4185 between Rowstock and Harwell Campus being at the top of the north facing slope towards Rowstock, from the Cycleway & Bridleway.

4.9 Under the definition of Previously Developed Land in the NPPF, “land that was previously developed but where the remains of the permanent or fixed structures have blended with the landscape in the process of time are excluded.”

It has been confirmed that “it should not be assumed that the whole of the curtilage of a brownfield site should be developed.”

4.10 It would appear that both Sites 12 & 13 are Greenfield sites under NPPF definition, and that their development would adversely affect the character of the AONB, without meeting the exceptional circumstances test, or public interest test in paragraph 116 of the NPPF. The need for housing in the AONB has not been fully justified due to the reasons set out in this Submission.

4.11 Land East of Harwell Campus, proposed for 850 dwellings, also adjoins the National Cycleway between Wantage and Didcot. Open views enjoyed by daily users of the Cycleway travelling to Harwell Campus would be adversely affected along the north boundary of the proposed Housing Site.

4.12 The open setting of Harwell Campus as seen by cars on the A4185 serving Harwell Campus would be adversely affected. There is more than sufficient land within Harwell Campus to protect and enhance the structured landscape and recreational facilities within Harwell Campus. These are currently protected by the Local Plan Policy E6 relating to the Harwell Campus. There is no identified need to provide further Green Infrastructure outside Harwell Campus. Hence the suggestion that the site could meet the need for Green Infrastructure accessible to Harwell Campus is not soundly based.

4.13 SEC of STATE APPEAL DECISION at HIGHWORTH ROAD, FARINGDON.

On 19th February 2015, the Sec of State DISMISSED an appeal for c.75 dwellings at Highworth Road, Faringdon., ref: APP/V3120/A/13/2210891, on the grounds that:

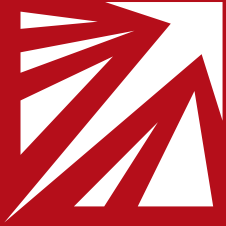
“ although the proposal would represent sustainable development in terms of the social and economic aims of sustainable development, in view of the harm to landscape and amenity, he does not agree with the Inspector’s view that the proposal would represent sustainable development in Faringdon.....

with the adverse impacts on landscape and amenity outweighing the benefits.”

The landscape in this case was protected by a local landscape designation, the North Corallian Ridge. Significantly greater weight should be given to a National Landscape designation, such as the North Wessex Downs AONB (NPPF para 116).

The appeal decision shows that, even in the absence of a 5 year land supply, as in this case, development proposals, where the adverse impact on landscape and amenity outweigh the social and economic benefits, do not amount to sustainable development, based on advice in the NPPF.

This participant considers that similar circumstances exist with the proposed strategic housing allocations in the AONB, and that the adverse impacts on landscape and amenity outweigh the social and economic benefits.



UK SPACE
AGENCY

Executive Summary: The Size & Health of the UK Space Industry

OCTOBER 2014

About London Economics

London Economics (LE) is a leading independent economic consultancy, headquartered in London, United Kingdom, with a dedicated team of professional economists specialised in the application of best practice economic and financial analysis to the space sector. As a firm, our reputation for independent analysis and client-driven, world-class and academically robust economic research has been built up over 25 years with more than 400 projects completed in the last 7 years.

We advise clients in both the public and private sectors on economic and financial analysis, policy development and evaluation, business strategy, and regulatory and competition policy. Our consultants are highly-qualified economists with experience in applying a wide variety of analytical techniques to assist our work, including cost-benefit analysis, multi-criteria analysis, policy simulation, scenario building, statistical analysis and mathematical modelling. We are also experienced in using a wide range of data collection techniques including literature reviews, survey questionnaires, interviews and focus groups.

Drawing on our solid understanding of the economics of space, expertise in economic analysis and best practice industry knowledge, our Aerospace team has extensive experience of providing independent analysis and innovative solutions to advise clients (both public and private) on the economic fundamentals, commercial potential of existing, developing and speculative market opportunities to reduce uncertainty and guide decision-makers in this most challenging of operating environments.

All consultants of our Aerospace team are highly-qualified economists with extensive experience in applying a wide variety of analytical techniques to the space sector, including:

- Insightful and accurate market analysis and demand forecasting;
- Analysis of industrial structure, strategy and competitive forces;
- New technology adoption modelling;
- Estimation of public utility benefits;
- Opportunity prioritisation and targeting to maximise exploitation of investment;
- Sophisticated statistical analysis (econometrics, regression);
- Economic and financial modelling, including: Cost-Benefit Analysis (CBA), cost effectiveness analysis, Value for Money (VfM), impact assessment, policy evaluation, business case development, cash flow and sustainability modelling.

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Acknowledgements

We would like to acknowledge the useful guidance and feedback provided by the UK Space Agency throughout this research. We would also like to thank all of the stakeholders surveyed for their informative questionnaire responses. Responsibility for the contents of this report remains with London Economics.

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Introduction

Since 1992, the UK Space Agency¹ has periodically surveyed organisations in the UK that supply, or make use of, the space sector. The objectives of the survey are to:

- establish the industry's general size and health;
- inform industry and the Government of the day
- promote the UK space sector overseas;
- provide an input into the formulation of UK space policy; and
- track progress towards the policy objectives (e.g. The Space Innovation and Growth Strategy 2014-30).

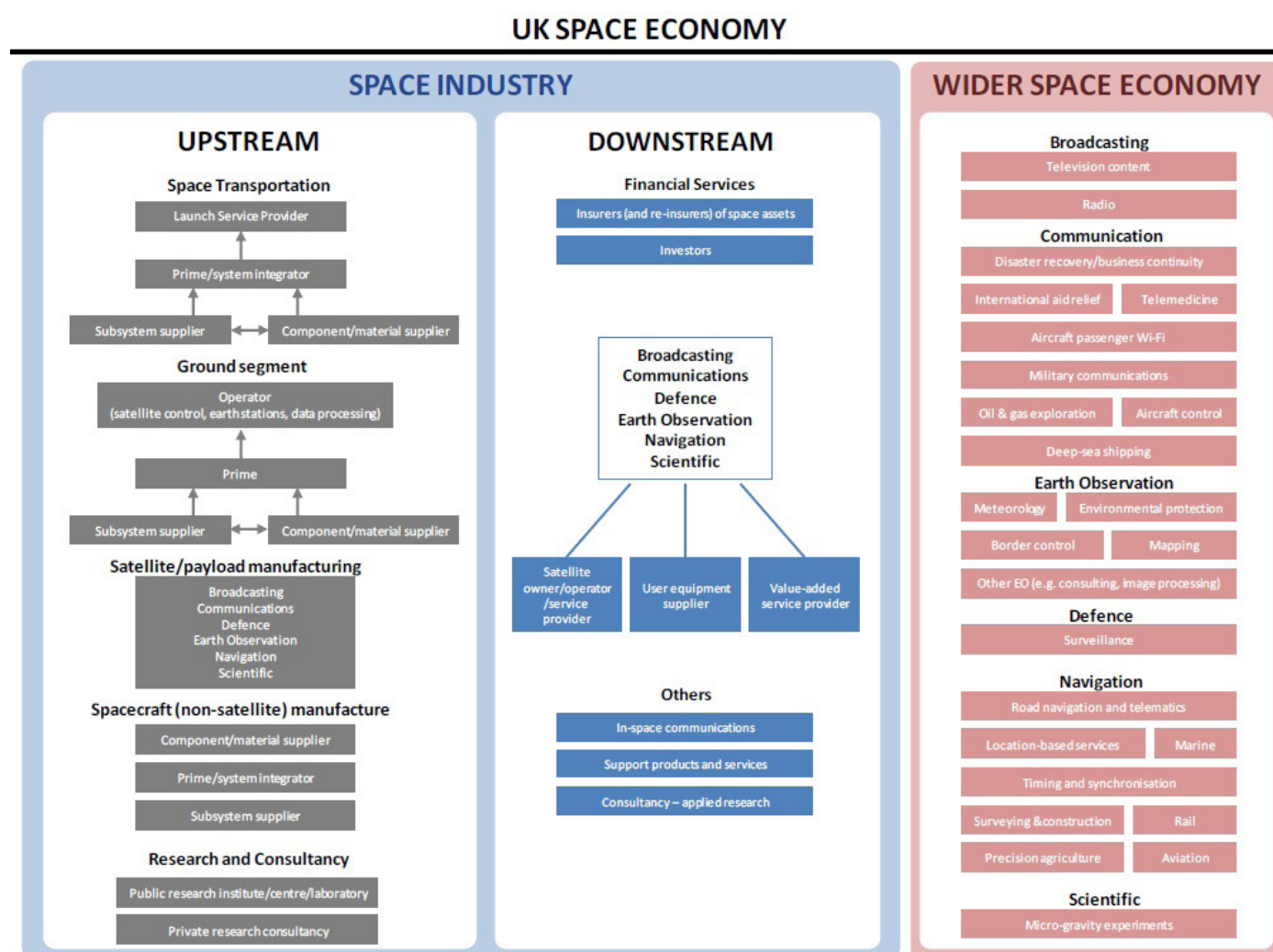
The series of studies, entitled the Size and Health of the UK Space Industry, provide a historically consistent series of observations on the state of the UK space industry, and thus represent a unique resource for assessing developments in the industry. The UK Space Agency commissioned London Economics to conduct the 2014 version of the study, covering 2011/12 and 2012/13, and this document presents an Executive Summary of the main findings.

The study has historically focused on the space industry, split into upstream and downstream segments. However, reflecting a growing belief that this definition of the industry is too narrow to capture the sector's future growth, particularly with reference to space-enabled applications, the 2014 analysis reflects three discrete segments of the space economy: upstream space industry (infrastructure and technology), downstream space industry (direct space services) and the wider space economy (space-enabled value-added applications).

The cornerstone of the research is an industrial survey, sent to over a thousand organisations in the UK. Reflecting the expanded space economy definition, the invitee count was increased substantially with a key focus on the industry supply chain (e.g. microelectronics firms) and the wider space economy (e.g. space-enabled value-added service providers). The survey results were supplemented by additional targeted stakeholder consultations, desk-based research of publicly available data sources and a statistical model to estimate inputs for non-responding organisations. The survey questionnaire was based on previous years' surveys and thus ensures a high level of comparability over time – a crucial feature of the study.

With the expanded list of invitees, the definition of the space economy differs from that of the space industry used in previous editions of the study. The quantitative results presented in the report pertain to the space industry to preserve the consistency of the historical data series. 464 invited organisations were deemed to be in the space industry.

The estimates are based on 303 companies, which either - responded to the survey, were estimated from previous responses, use of statutory annual accounts, or as part of the group of organisations that fall below the statutory reporting threshold. The UK space industry ranges from international market leaders with subsidiaries all over the world, to UK subsidiaries of international companies, on to start-ups and small enterprises.

Figure 0.1: Definition of the UK space economy

Source: London Economics

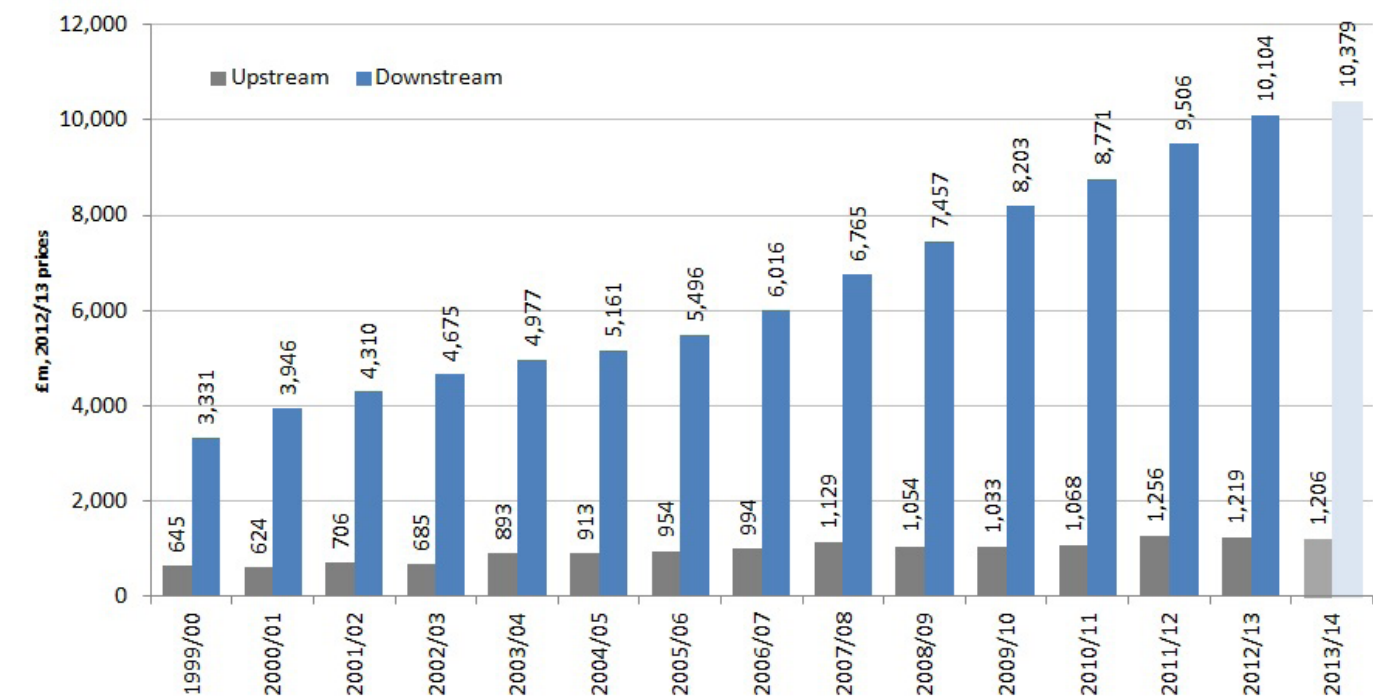
Size of the industry

Space industry turnover in 2012/13 was found to have increased by 15% in real terms² in the two years since 2010/11 (an annual average of 7.3%³), to £11.3 billion. Consolidated revenue grew slightly slower than overall space industry revenue, indicating that the space organisations are sourcing more and more inputs from other organisations within the industry. Though still well above the growth rate of the wider economy, space industry growth has slowed slightly, as compared to the 7.5% growth observed annually between 2008/09 and 2010/11.

The downstream sector has enjoyed stable growth over the survey period, with turnover increasing by 15% in real terms since 2010/11. The upstream sector had a very strong year in 2011/12, before contracting slightly in 2012/13. Total upstream turnover growth over the period amounts to 14%. The downstream sector dominates – at £10.1 billion in 2012/13 it accounts for 89% of total industry.

² That is, over and above the inflation rate in the economy.³ Computed as the compound annual growth rate (CAGR).

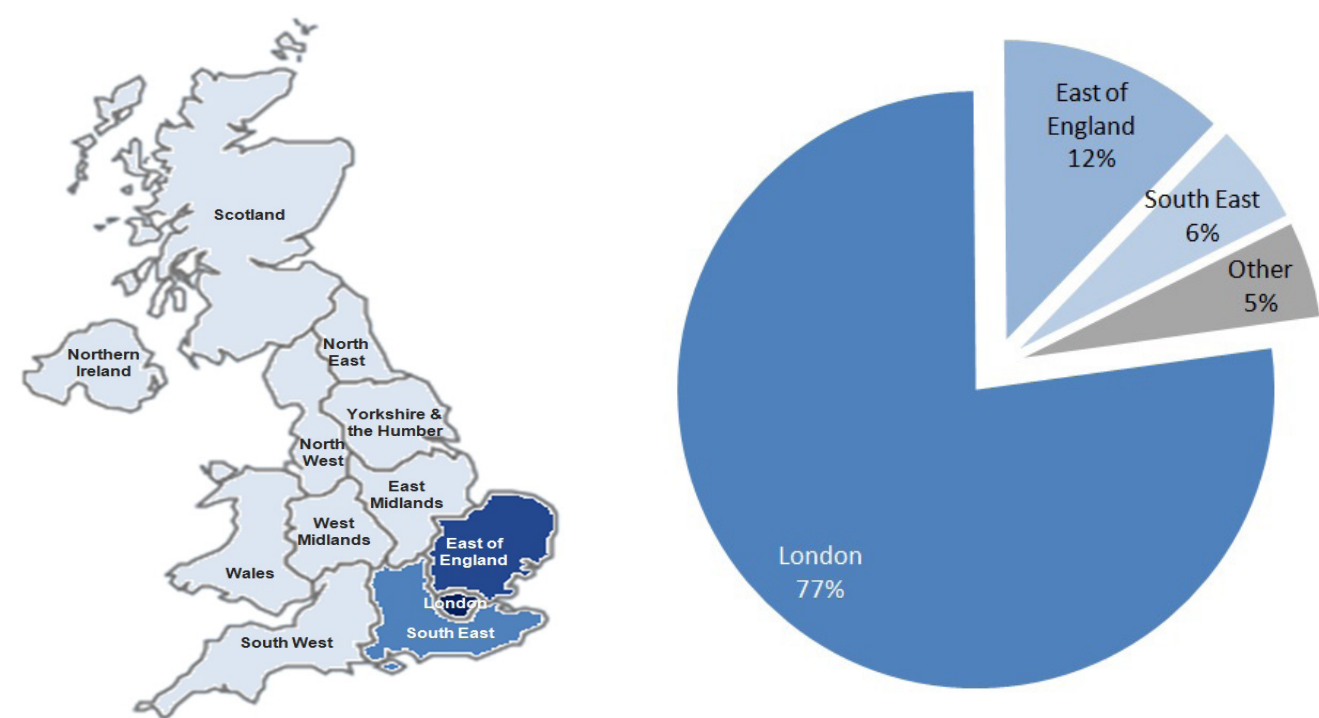
Figure 0.2: UK downstream and upstream space industry turnover 1999/2000 - 2013/2014



Note: 2013/14 forecast based on survey responses and analysis of annual accounts.
Source: London Economics analysis

The London, East of England, and the South East regions dominate space turnover, accounting for 95% of total turnover. The dominance is slightly greater in downstream turnover, where the three regions make up 95% of the total. Upstream exhibits a little more geographic dispersion, with London, East of England and South East accounting for 88% of turnover.

Figure 0.3: Regional distribution of space industry turnover 2012/13



Note: Based on location of UK headquarters.
Source: London Economics analysis

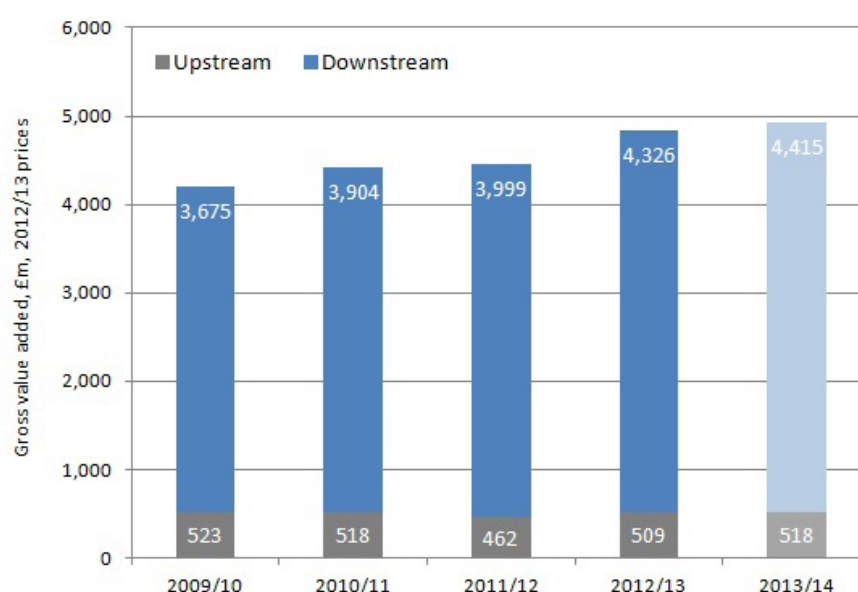
Economic impact of the UK space industry – Value-Added

A key economic impact of any industry or company is its Gross Value-Added (GVA), which is its contribution to the national GDP. GVA is defined as turnover less the cost of intermediate goods excluding labour costs, and is equivalent to salaries and taxes paid, and profits earned.

Direct GVA of the space industry amounted to £4.8 billion in 2012/13, from a turnover of £11.3 billion. The UK space industry therefore contributes to UK GDP to a similar extent as passenger rail transport and motion picture production. The downstream sector contributes 89% of direct GVA, and has had a steady increase over the last two survey periods. The upstream sector on the other hand has exhibited more fluctuation, with growing input costs among key large firms, resulting in a real decrease of upstream GVA since 2010/11.

Comparing GVA results between this survey period and the previous survey period – strong growth in turnover, but a weaker increase in GVA (GVA of £4.4 billion from a turnover of £9.8 billion, at 2012/13 prices) – suggests that the UK space industry has experienced additional demand for its output, and has satisfied the demand by purchasing an increased share of intermediate inputs.

Figure 0.4: UK space industry gross value added 2009/10 - 2013/14



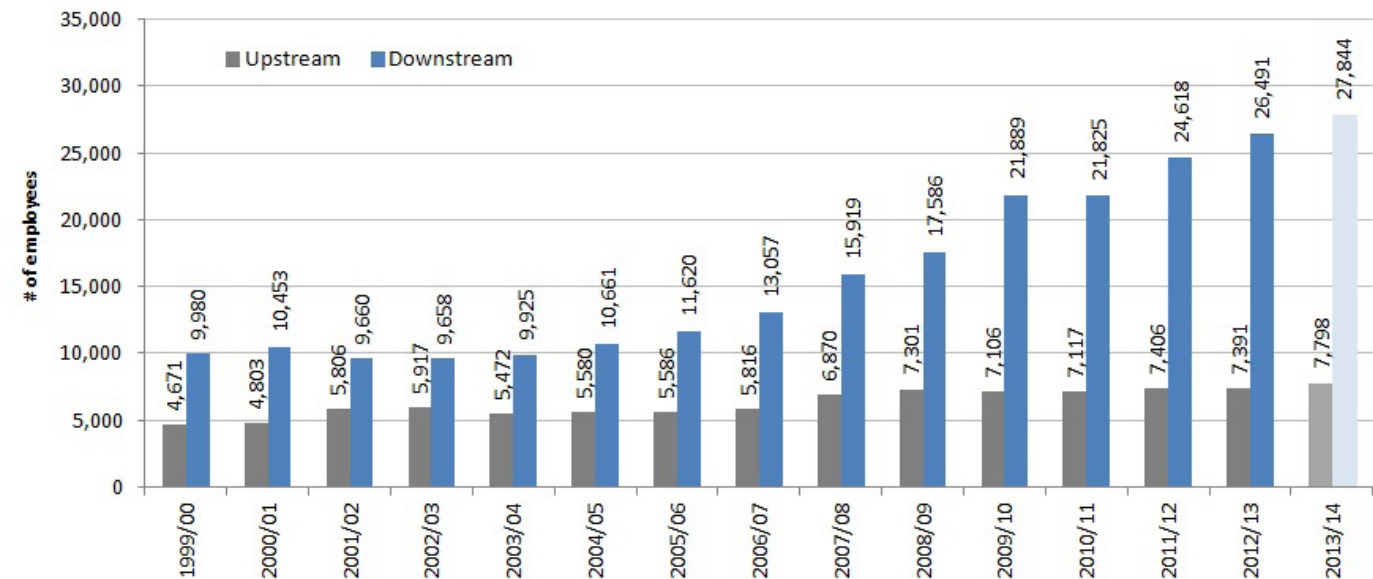
Note: 2013/14 forecast based on survey responses and analysis of annual accounts.

Source: London Economics analysis

Economic impact of the UK space industry – Employment

Employment in the UK space industry has increased to 34,300 employees (an increase of 18.7% since 2010/11), helped by significant hiring by the largest employer (BSkyB) and the rest of the downstream sector (up by 21%). The upstream sector grew at a slower rate (4% over the period).

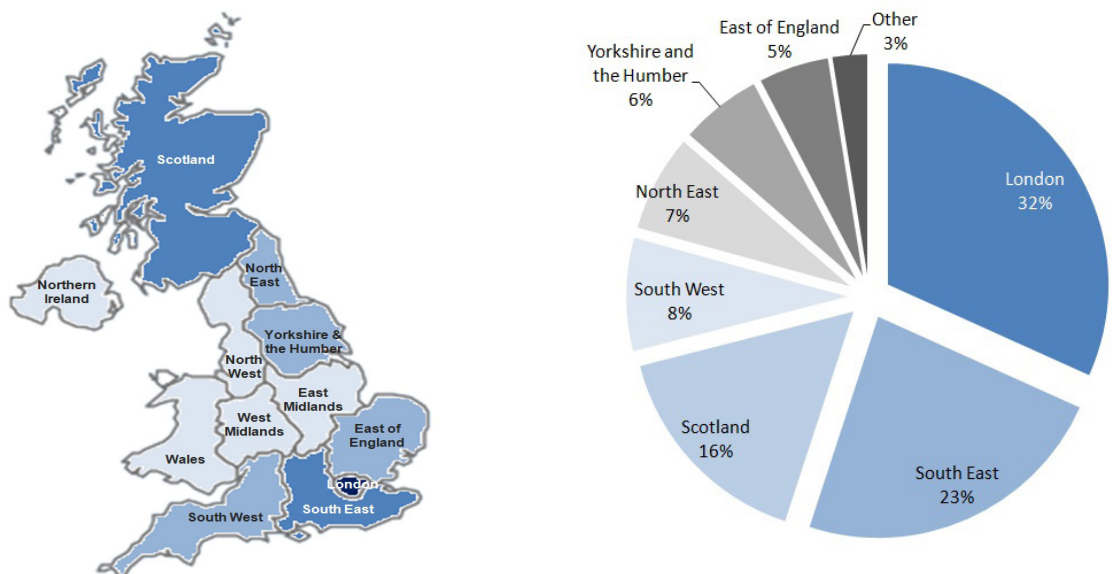
Figure 0.5: UK downstream and upstream space industry employment 1999/2000-2013/14



Note: The figure excludes employment levels supported by firms for which a corresponding estimate of turnover was not available, standing at approximately 400 employees. 2013/14 forecast based on survey responses and analysis of annual accounts.
Source: London Economics analysis

The 2014 questionnaire was the first to ask respondents to indicate the split of UK employment by region. As with turnover, London and the South East dominate the majority of space employment, but unlike turnover, Scotland comes third with 16% of UK space employment in 2012/13. The difference between turnover and employment can be explained by companies tending to have headquarters in or near London, and production sites or customer support in other regions.

Figure 0.6: Regional distribution of space employment, 2012/13



Note: Based on regional distribution of employees across the UK as indicated by survey respondents.
Source: London Economics analysis

Economic impact of the UK space industry – Multiplier impact

In the analysis of Gross Value-Added, it is reasonable to include contribution beyond the direct contribution of the industry itself. Activity in the space industry requires inputs from the supply chain. For example manufacture of satellites requires intermediate inputs such as electronic subsystems, which might not be produced in the absence of space industry demand. The associated GVA of the supply chain is known as the Indirect GVA contribution of the space industry. Further to the indirect effect, employees in the space industry and supply chain spend their salaries in yet other sectors of the economy. Capturing these effects in the calculation is known as estimating the induced effects of the industry.

In total, the UK space industry contributes £10.8 billion to UK GDP through direct (£4.8bn), indirect (£3.0bn) and induced (£3.0bn) effects, equivalent to a Type II GVA multiplier of 2.2.

Figure 0.7: The total economic impact of the UK space industry, value added 2012/13



Source: London Economics analysis

The UK space industry also supports employment in addition to the jobs supported by firms in the industry. Intermediate inputs need people to produce them, and retail and service industries need people to do the work. It is found that the UK space industry supports 72,000 jobs through indirect and induced effects in addition to the 34,300 jobs supported by direct employment. This result is equivalent to a Type II employment multiplier of 3.1, yielding an estimated total UK-based employment supported of 106,300 jobs in 2012/13.

Figure 0.8: The total economic impact of the UK space industry, 2012/13



Source: London Economics analysis

Sub-sectors

The breakdown of employment by upstream business sector appears similar to the split of turnover by these categories, with satellite / payload manufacturing contributing the largest share of 36% of employment supported by the sector. However, key differences arise for the ground segment and space transportation subsectors. Whereas the ground segment market accounts for 17% of upstream industry turnover, the respective share of employment amounts to 31%. In the other direction, though the space transportation subsector accrues 24% of upstream turnover, only 5% of upstream jobs are supported by space transportation (such a ratio is consistent with launch service provision and brokerage).

Figure 0.9: Upstream sector turnover by sub-sector, 2012/13

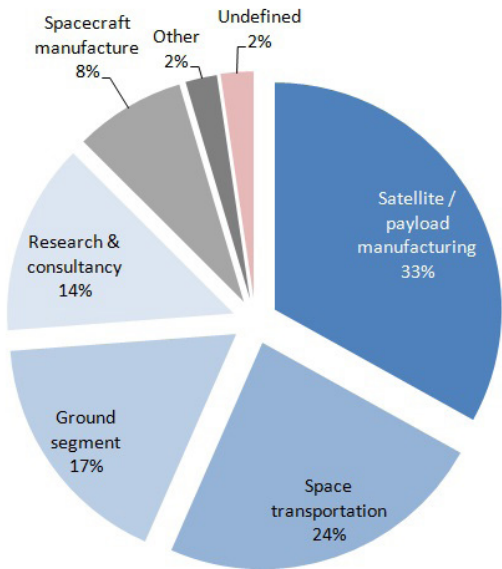
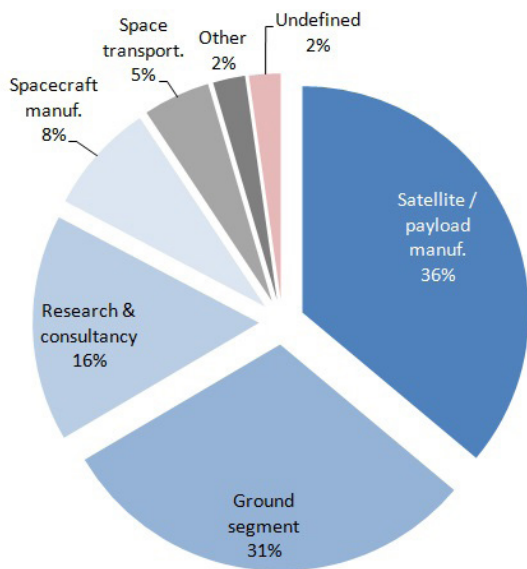


Figure 0.10: Upstream sector employment by sub-sector, 2012/13



Source: London Economics analysis

Downstream employment similarly aligns with the distribution of turnover across downstream subsectors, and continues to be dominated by broadcasting, even more so in 2012/13 than in 2010/11, with broadcasting’s share increasing from 65% to 74% over the period. The growth in downstream employment is linked with BSkyB’s staff expansion, adding 1,200 customer-facing staff to its workforce in 2012 alone⁴. The second and third largest employment shares are supported by the satellite communications (8%) and defence subsectors (6%).

Figure 0.11: Downstream sector turnover by business category, 2012/13

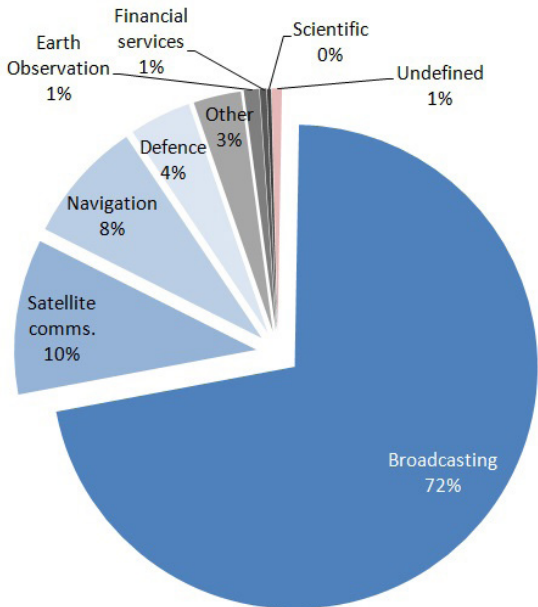
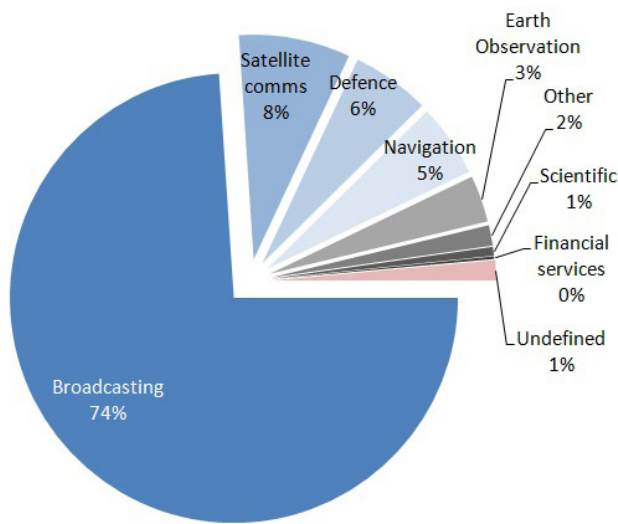


Figure 0.12: Downstream sector employment by business category, 2012/13



Note: Satellite communications include communications other than broadcasting, such as telecommunications and Internet.
Source: London Economics analysis

⁴ British Sky Broadcasting Group Plc (2012) Annual Review 2012, available at: http://annualreview2012.sky.com/_assets/downloads/pdfs/Sky_Annual_Review_2012.pdf

Customers

In 2012/13, business-to-consumer (B2C) sales accounted for 62% of total sales from the space industry, with sales to businesses (B2B) representing 24% of sales. These proportions have remained almost constant since 2010/11, and total turnover generated from B2C and B2B customers has increased from £8.3 billion in 2010/11 to £9.8 billion in 2012/13, which equates to a real compound annual growth rate of 8.7%. Commercial sales to consumers and businesses are concentrated in the broadcasting application and to lesser extent in the satellite communications application.

Figure 0.13: Market share by customer type, 2012/13

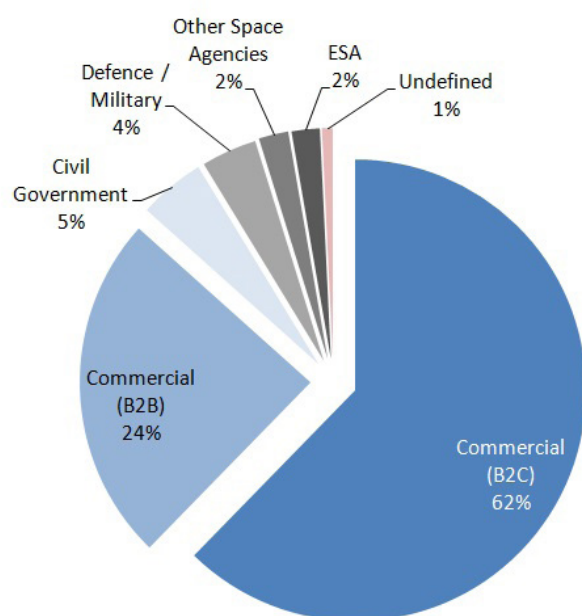
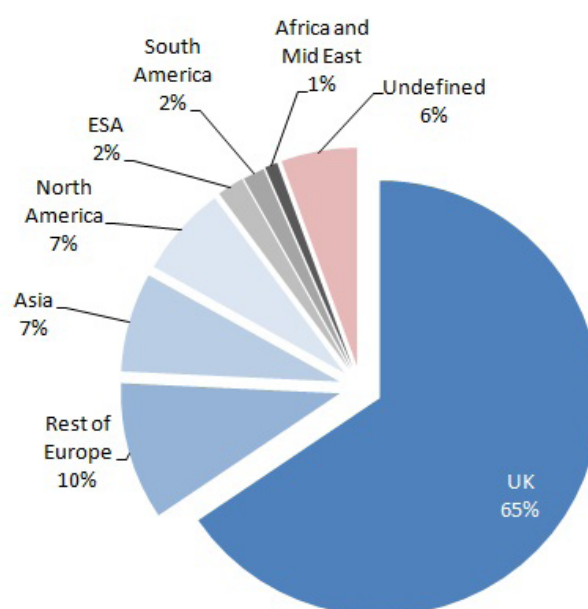


Figure 0.14: Market share by customer location, 2012/13



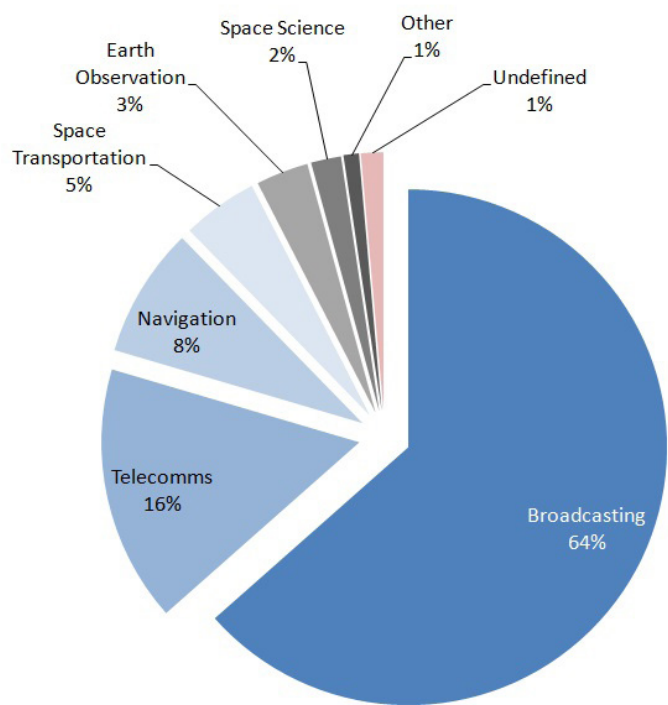
Source: London Economics analysis

The UK remains the key market for the UK space industry, with 65% of turnover coming from domestic customers, but this share is falling. The composition of customer location is changing, with the corresponding share in 2010/11 being 78%. The value of UK sales has grown in real terms, so the decreased share is actually being driven by growth in export sales. Turnover generated from Asian customers has doubled since 2010/11, sales in Europe outside the UK have grown by 50% and sales to the Americas grew by 11%. Only sales to Africa and the Middle East have experienced a minor decrease (less than 1% since 2010/11).

Applications

The largest application in terms of revenue remains broadcasting, as has been the case for the last 5 issues of the study. Telecommunications has decreased in real value terms, but remains the second largest application. Navigation has increased by a factor of three since 2010/11 and now generates 8% of total turnover, while space transportation has increased even faster and represents around 5% of turnover, thus exceeding the turnover generated in Earth Observation. With a UK Spaceport planned for 2018, this growth is encouraging.

Figure 0.15: UK Space turnover by application, 2012/13

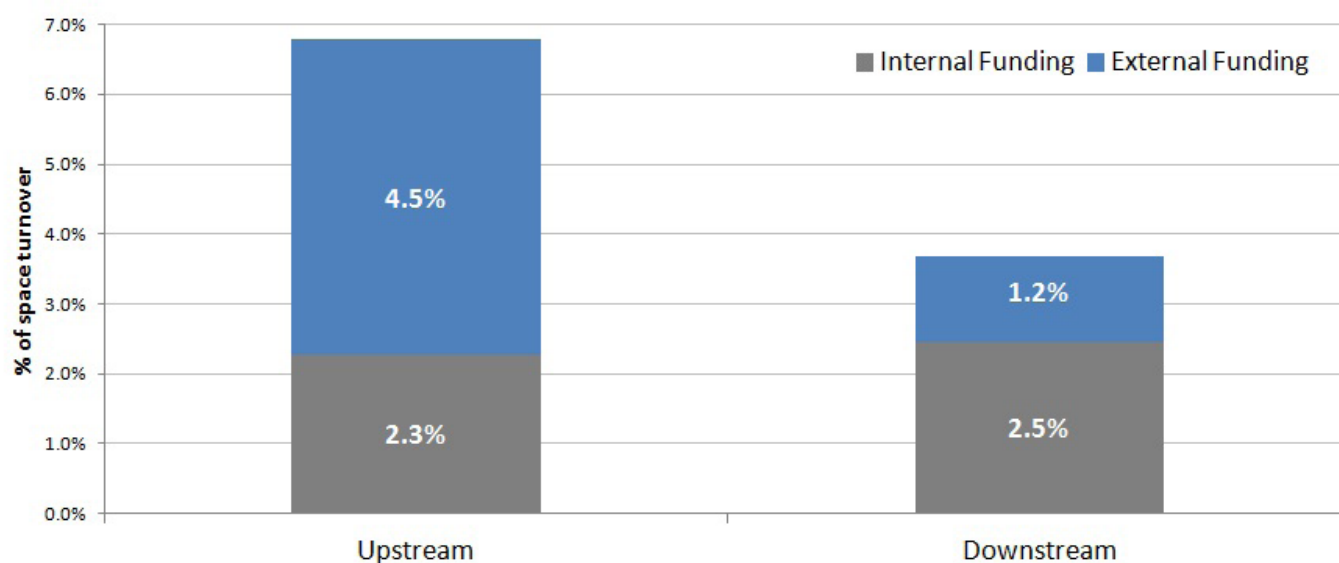


Source: London Economics analysis

Research and Development

R&D investment in the downstream segment is increasing. Following difficult years of financial and economic challenges, the results suggest that the levels reported in the 2008 edition of the study could return. In 2012/13, an equivalent of 3.7% of the downstream sector’s turnover was invested in research and development activities, up from 0.8% in 2010/11. The upstream segment exhibits a higher R&D intensity but a different trend: the proportion of upstream turnover invested in R&D activities has been falling over time, from nearly 15% in 2006, to 5.2% of turnover in 2012. However, upstream R&D intensity recovered to 6.8% in 2012/13, albeit with a slightly lower 2.3% of turnover funded from internal sources (was 3.3% in 2010/11).

With the equivalent of 9.3% of direct GVA in the industry invested in Research and Development, the UK space industry compares favourably to key economic sectors such as telecommunications and computer programming/information services (3.4% and 4.1%, respectively). However, the much larger motor vehicles and parts sector and pharmaceuticals invest greater proportions of GVA than the space sector with 16.2% and 60.7%, respectively.

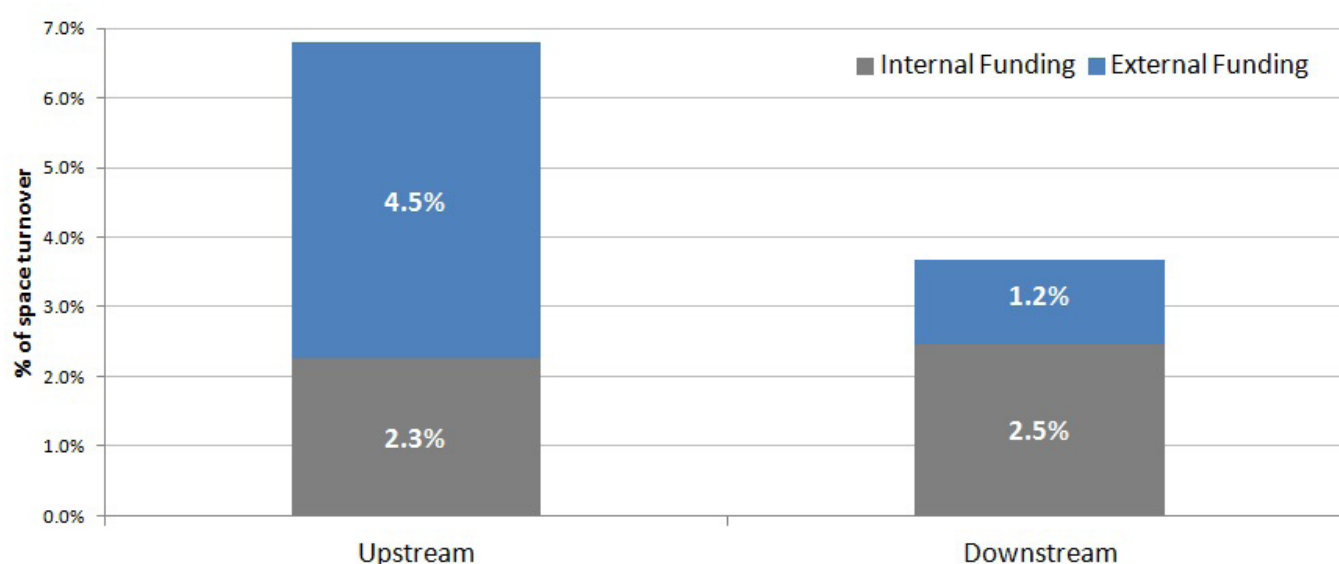
Figure 0.16: UK Space research and development expenditure, 2012/13

Source: London Economics analysis

Beyond 2014

Looking towards the future, survey respondents reported experience of barriers to growth and, on balance, cautiously optimistic expectations for future growth over the next three years:

- **Barriers to growth** were encountered by 70% of survey respondents in the last two years: Large organisations have experienced a lack of demand, while small organisations have difficulty accessing working capital and investment capital.
- **Small organisations have very optimistic outlooks**, with 79% of all respondents expecting performance in the next three years to be greater than the previous three years. These organisations do, however, only account for 64% of space turnover.

Figure 0.17: Growth prospects 2014-2017

Note: 79 respondents out of 111 space industry respondents, accounting for £1,538 million turnover in 2012/13.

Source: London Economics analysis

The wider space economy

An innovation on previous studies of the Size and Health of the UK Space Industry has been the extension of scope to cover the 'space economy', including the manufacturers, operators and providers of space-based services in the 'space industry', but also the commercial consumers of these services which use space-enabled technologies (e.g. satellite navigation, satellite imagery, mapping, meteorological forecasts, satellite broadband, satellite broadcasting content providers) in their operations, research and/or service provision in the UK.

The wider space economy contains two general types of entities: professional entities that employ space services to enable or enhance their own offerings; and users of space services whose productivity is improved as a result of space services.

In the attempt to engage the wider space economy and quantify its size, 228 companies were invited to participate in the survey. However, despite targeted invitations, just 12 companies participated, so supplementary analysis was undertaken of company accounts, finding that:

- Space services support various activities ranging from disaster relief, telemedicine, navigation of leisure craft, to broadcast of entertainment programming and sports.
- Earth observation enables or significantly enhances delivery of products and services among half the respondents to the survey question, implying existence of a significant community applying the service.
- Satellite navigation enables a smaller proportion of survey respondents, but does enable a large community of smartphone app developers, providing benefit to end-user consumers.
- The wider space economy comprises companies in multi-billion pound industries, with space-enabled revenue conservatively estimated as upwards of £1.5 billion. Additional benefits in terms of cost savings have not been monetised.

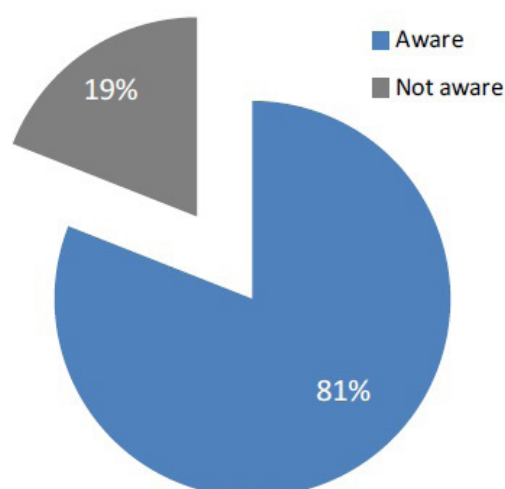
Performance of the UK Space Agency

81% of respondents are aware of the UK Space Agency's growth promotion activities. Among larger (medium-sized SMEs and large) organisations, this number increases to 85%, and in the downstream the proportion is 87%.

The UK Space Agency's ability to target high growth opportunities is confirmed by 89% of respondents, with 52% respondents rating performance as 'good' or 'very good'. Small organisations' ratings exhibit a broad range of opinions, with 18% saying the UKSA's ability at targeting opportunities is 'very good', and 4% saying 'very poor'.

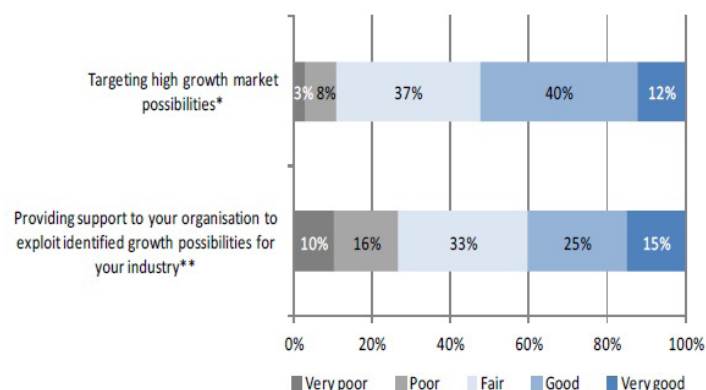
73% of respondents approve the UK Space Agency's ability to provide support in exploiting growth opportunities and 40% rate performance as 'good' or 'very good'. Among small enterprises, however, 35% of respondents say support is 'bad' or 'very bad'.

Figure 0.18: Awareness of UK Space Agency's growth promotion activities



Note: 84 respondents.

Figure 0.19: Performance of the UK Space Agency in delivering growth



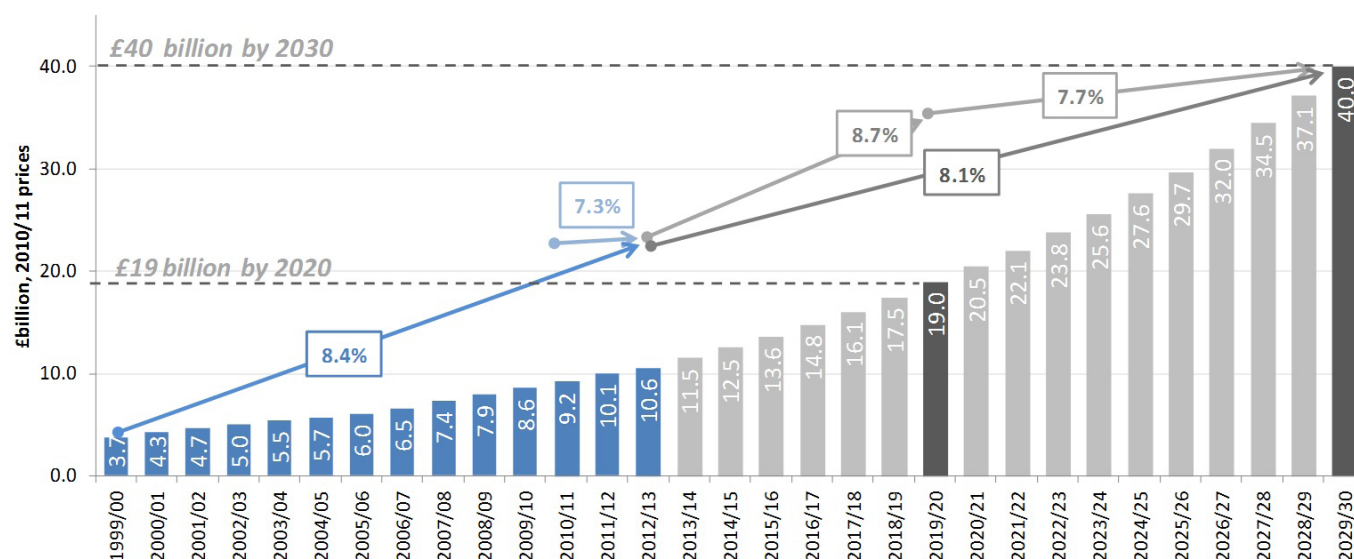
Note: * 65 respondents. ** 67 respondents

Source: London Economics analysis

Towards the Space Growth Action Plan objectives

The study further analysed the current position and considered the future growth path required to achieve the government's objectives, as set out in the Space Innovation and Growth Strategy 2014-30 and the Space Growth Action Plan, in the context of actual historical growth rates. The conclusion is that a continuation of historical growth trends would be sufficient to reach the target of 10% of the global space economy in 2030, as shown in Figure 0.20.

Figure 0.20: Space Growth Action Plan targets



Note: Arrows indicate compound annual growth rates of UK space industry. Figure does not include forecasted turnover for the 2013/14 financial year, but instead presents values required to achieve the target of £19 billion by 2019/20 (based on a compound annual growth rate of 8.7% from 2012/13 to 2019/20). All values are in 2010/11 prices, the base year of the Space Growth Action Plan.

Source: London Economics analysis and Space Innovation and Growth Strategy Steering Board (2013)

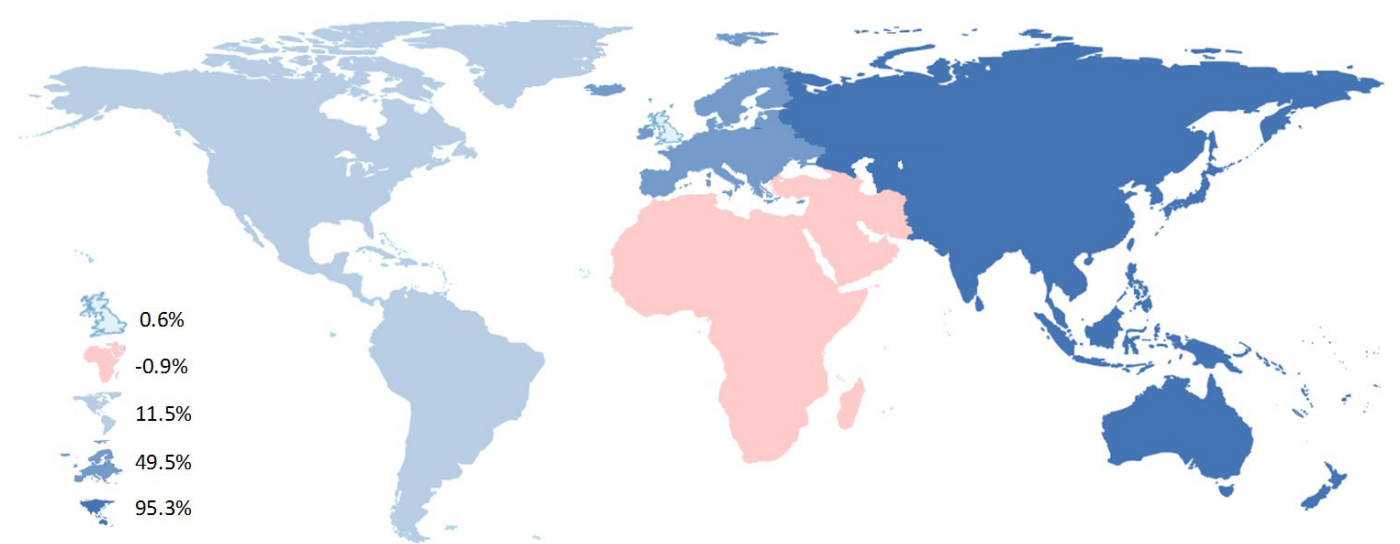
While the UK space industry’s revenue experienced average real growth of 8.4%⁵ between 1999/2000 and 2012/13, growth over the past two years has slowed to 7.3%. In comparison, to achieve the interim objective set by the Space Growth Action Plan for 2020, industry turnover will need to grow by an average of 8.7% per year, to increase from £10.6 billion in 2012/13 (in 2010/11 prices) to the targeted £19 billion in 2019/20. In light of lower historical growth trends particularly since 2010/11, the timeframe set for the interim objective thus appears a challenging target, and would necessitate a significant acceleration in revenue growth over the next six years.

In contrast, the UK space industry looks more likely to achieve its long-term target of £40 billion of total revenue by 2030. To realise this objective, UK space sector turnover would have to increase at an average of 8.1% per year, i.e. 0.3 percentage points lower than actual growth observed between 1999/2000 and 2012/13. Hence, though short-run average growth between 2010/11 and 2012/13 implies that the interim target for 2019 will be relatively difficult to achieve, the long-term growth trend exhibited by the UK space industry appears sufficiently strong for the industry to reach 10% of the global space sector by 2029/30.

However, the target is unlikely to be achieved by the current space industry members alone as broadcasting is unlikely to be able to deliver the growth needed. Some of the current applications, on the other hand, space transportation and satellite navigation, could deliver growth over and above the required rate to 2030. In all likelihood, however, the space industry needs to expand into new markets in terms of applications to realise the targets. Some of the High Growth Markets identified in the Space Growth Action Plan are already being exploited, with many firms already active in the market for ubiquitous M2M⁶ and smart cities. The optimistic growth expectations of smaller companies also suggest that they could be an important engine for long-term growth.

New geographical markets could represent another channel towards success for the space industry, with the current survey returning considerable growth in export intensity. As Figure 0.21 shows, the space industry’s sales to foreign customers have grown in most regions and sustained growth rates that will help to reach the target.

Figure 0.21: Real growth rate of turnover by customer location



Source: London Economics analysis

⁵ Compound average growth rate per year.
⁶ Machine-to-Machine, and the associated Internet of Things.

Notes

[illegible]

Notes

[illegible]

UK SPACE AGENCY

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An executive agency of the Department for Business, Innovation and Skills

Vale of White Horse Local Plan Examination

Informal Response Note to East Hendred Parish Council

This informal note responds to queries raised by Roger Turnbull of East Hendred Parish Council during Stage 1 of the Examination through an email dated 28th September 2015. It seeks to provide information where it is readily available in the interests of being transparent. GL Hearn and Justin Gardner Consulting have prepared the demographic projections in the Oxfordshire SHMA (HOU.01).

1. Adjustments to the CLG Population Projection

ONS publishes official population projections (rather than CLG). At the time at which the Oxfordshire SHMA was prepared, the 2012-based Sub-National Population Projections (SNPP) were not published and the latest official population projections were thus the 2011-based Interim SNPP which ran to 2021. Their interim status means that they were not official statistics, not least as they were based on pre-Census estimates of components of population change. They projected population only to 2021.

Migration

The table below shows the average migration assumptions over the 2011-31 period from:

- The ONS 2011 and 2010-based SNPP;
- The SHMA demographic-led projections; and
- ONS 2012-based SNPP, taking account of figures from actual MYE data for 2012-14.

All figures are average migration in the 2011-31 period. All three projections are based on demographic trends, albeit that take account of trends over different time periods and pre/post Census data.

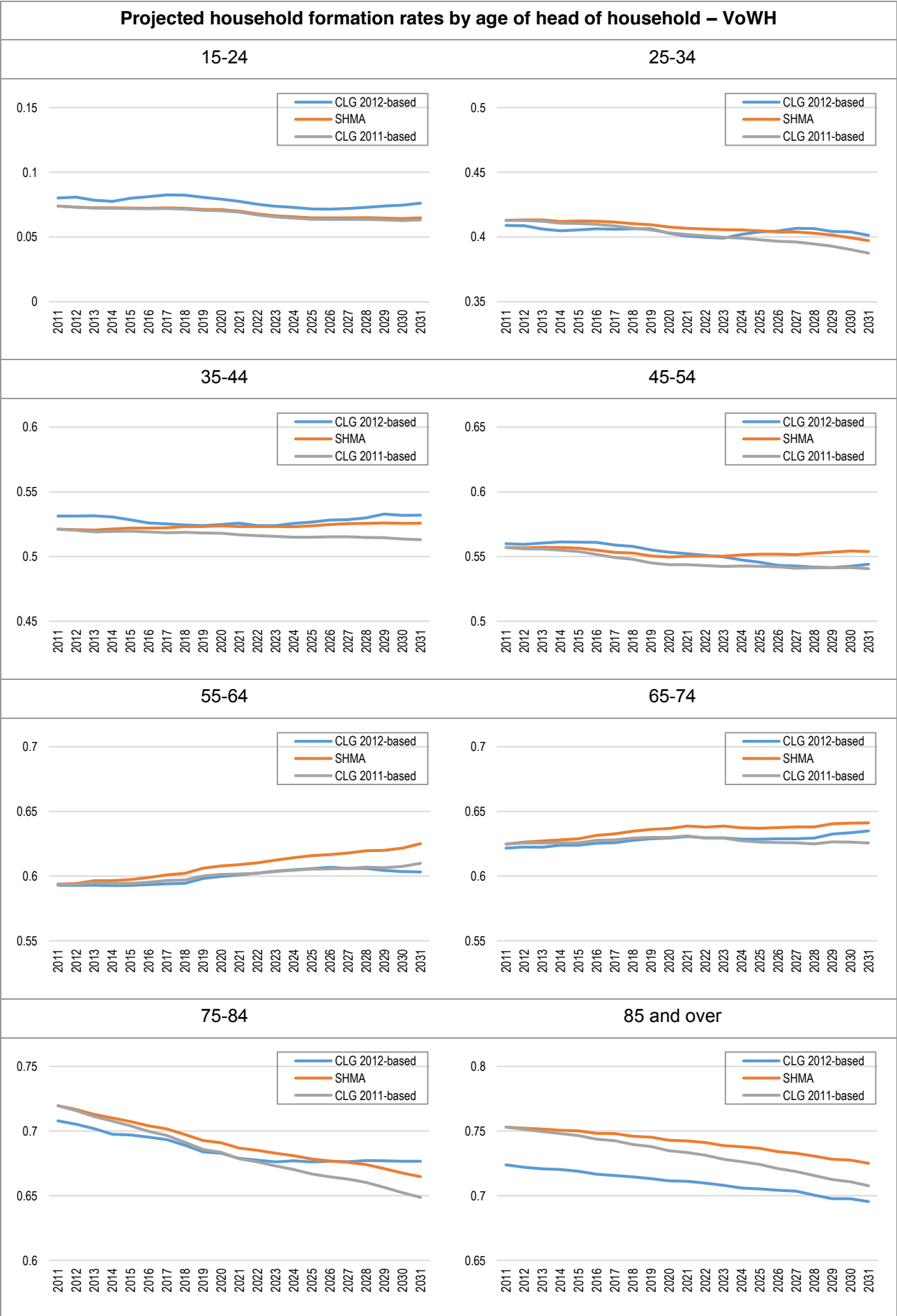
	2011/10 SNPP	SHMA As adjusted	2012-based SNPP
Internal in-	7,705	7,449	7,440
Internal out-	7,676	7,317	7,222
Internal net	29	131	218
International in-	1,048	934	738
International out-	708	633	553
International net-	340	301	185
TOTAL net	368	432	403

Unattributable Population Change

The table outlines the 2010/11 CLG Population Projection and 2012 CLG Population Projections. The projections for migration (international and domestic) in each set of projections is as shown in the table. The projections for migration in the 'SHMA as adjusted' column have taken account of UPC. This is used in the methodology employed to quantify the starting point estimate of migration for the projections – rather specific quantified adjustments made to year-on-year changes.

Household Formation Rates

The figure below shows the household formation rates in the SHMA and the 2012-based CLG household projections for the 2011-31 period. It should be noted that to allow for consistency both sets of figures are calculated as the number of households divided by the total population and figures do therefore include the institutional population.



Source: Derived from CLG data

2. Effect of a 2014 Start Date for Economic Growth Adjustments

The latest economic forecasts prepared are those by Cambridge Econometrics/SQW as set out in ECO02. The Implications of 2012-based Household Projections on Housing Need in the Vale of White Horse District Council Document (HOU10) has updated the modelling to take account of the latest information (2014 Mid-Year Population Estimates; the 2012-based SNPP; and the CLG 2012-based Household Projections). The data suggests an estimated growth in residents in employment of 978 persons between 2011-14. The modelling in HOU10 then, in effect, adjusts migration over the 2014-31 period to support growth in the resident workforce of 23,328 persons over the plan period (2011-31). This is based on the expected economic growth and calculated as follows:

Calculating Expected Growth of Residents in Employment

Factor		Source	
A	Change in Employment, 2011-31	22,982	CE Economic Forecasts
B	% With More than One Job	4.2%	Annual Population Survey
C	Ratio Job Change to People	95.8%	Calculated from Annual Population Survey
D	Change in People in Employment in VOWH, 2011-31	22,012	A*C
E	Total working in VOWH	62,746	Census 2011
F	Total living in VOWH (and working)	63,646	Census 2011
G	Commuting ratio	1.01	Calculated from Census 2011
H	Expected Growth in VOWH Residents in Employment, 2011-31	22,328	D*G

Taking account of the 978 growth in residents in employment between 2011-14, the modelling assumed growth in the resident workforce of 21,350 between 2014-31.

This results in a housing need for 1,001 homes per annum (over the 2011-31 period as a whole) based on headship rates in the 2012-based Household Projection.