Professor Paul Cheshire – Written Evidence (LUE0012)

Questions

Pressures and challenges

1. What do you see as the most notable current challenges in relation to land use in England? How might these challenges best be tackled? How do you foresee land use in England changing over the long term? How should competing priorities for land use be managed?

The first and fundamental point to make is that conversion of agricultural or forest land to urban use is NOT a problem. Table 1 in the Appendix shows that in England as a whole in 2005[1] only 4.3 percent of all land had any kind of building on it at all. This is excluding the additional 4.3 percent of urbanised areas which was in the form of gardens. In the most urbanised region – the GLA – only 27.5% of land was built on; in the South East the figure was just 4.7%. Given that land designated as Green Belt covers some 1.4 times as much of the area of England as do all urbanised areas combined (a figure hardly changed since 1973), this should come as no great surprise.

Moving to changes in land use, Table 2 in the Appendix shows that in the period from 1990 to 2011 – even in the region where it was greatest (the South East) – urban land take was equal to only 0.051 percent of the region's total area.

Across regions, except in the GLA, about half of new housing has been built on previously developed land. In the GLA this has been more than 80 percent with the next most urbanised region, the North West, second in terms of building new houses on previously developed land. There was little change in the more recent period for which data are available.

Thus the rhetorical claim that 'we are concreting over England' is fantastical: it is completely unsupported by the facts of land use or changes in it.

The most important challenges

In my judgement these are to:

[1] In case the Committee should be concerned about the age of this data, it should be stressed that 1) any change is very slow (because few houses are built and, relatively, they occupy very little space); and 2) more recent data, for 2018, from a different source using slightly different definitions, show 92.3 percent of England as 'undeveloped' and even 59.8 percent of the GLA area, likewise, 'undeveloped'. https://www.gov.uk/government/statistical-data-sets/live-tables-on-land-use.

1) Ensure policy supplies sufficient – that means more – land for housing, in locations accessible to jobs and making the best use of energy efficient infrastructure; and does so in the context of global warming, rising sea levels and increased flood risk.
2) Substantially reduce – indeed reverse – the ongoing environmental damage of agriculture.

Challenge 1)

With respect to successfully responding to challenge 1) our planning system is unfit for purpose. It manages at the same time to be both far too rigid and far too discretionary. It is too rigid in its land use classifications. How land is used should be dependent on its qualities, not its designation, and criteria for designation are out of date, ill-thought through and too rigid.

Green Belt designation was made in the late 1950s – 75 years ago – on the sole basis of local councils' decisions which explicitly attached no weight to any scenic or environmental qualities of the land. Some – such as Sevenoaks – designated as much as 93 percent of their total area as Green Belt. Given there were urban settlements within the total area, this meant virtually no land could be developed for housing regardless of the land's characteristics or changing housing demand. In Sevenoaks still 93 percent of all its surface is designated Green Belt. While even for council areas immediately adjoining big cities, the 93 percent designated in Sevenoaks is towards the high side of the range, the rigidity of designation is typical.

Historically urban land supply increased at almost constant real cost as first commuter railways and innovations such as London's underground were built, then the road system developed. An often unrecognised positive aspect of rail transport is that access is focussed at stations, so late 19th and early 20th Century new residential development tended to be at quite high densities, close to them. As cars and roads came in, so access to the transport system became diffused and a 'free rider' problem developed with builders exploiting existing roads they had not contributed to, and each now development eating up space and imposing congestion costs on existing residents/users. To a substantial extent it was this problem of market failure which generated the response of freezing all urban land supply by imposing Green Belts: a reaction to 'ribbon-development'.

Our Green Belts not only freeze land supply, so force up the real cost of housing, but they prevent people moving to areas most accessible to the most productive jobs and also prevent a more intensive use of the most energy-efficient efficient transport infrastructure available: the existing rail network. Increasing capacity of existing rail infrastructure costs relatively little; building new rail infrastructure is all but prohibitively expensive. It has become impossible, since the late 1950s, to build new houses close to commuter stations. There are stations, even in London's

Zone 6, entirely surrounded by undeveloped land – usually golf courses: for example Crews Hill or Knockholt (where the golf course is derelict). CrossRail is likely to cost close to £20 billion yet as soon as the line crosses the Green Belt boundary in Southall no houses can be built to take advantage of the public investment. As shown in a 2019 Centre for Cities research paper, there is some 47,000 hectares of vacant land within 800 metres of commuter stations with 45 minute services to city centres across just five English city-regions[2]. Of this, nearly 25,000 hectares is in the London region – enough for about 1 million houses.

There is a similar problem with the rigidity of Brownfield designation. In reality land that was previously developed is hugely heterogeneous. Some is very seriously contaminated, so very expensive to build on. Some is in places no one wants to live in. As a recent House of Lords Select Committee report pointed out:

> '…A major problem, however, is that the availability of brownfield land does not map well onto housing affordability issues.'[3]

Some Brownfield land is of great environmental or amenity value: for example, it was planned to build 5,000 houses on former defence land at Lodge Hill, in Kent, but it turned out that the former shooting range, amongst its other environmental features of national significance, was the single most important nesting site in the UK for endangered Nightingales. After an enquiry costing £millions and huge outcry from nature conservation groups, the proposal was eventually scaled down to 2,000, then to 500 houses. Kent Wild Life Trust, however, still judge substantial damage will be done https://www.kentwildlifetrust.org.uk/lodge-hill.

The very strong focus on concentrating new housing development onto brownfield sites is over-rigid, therefore, and should be qualified both by considering the real resource and welfare costs involved and by the specific characteristics of the sites in question.

The problem associated with the too discretionary nature of our planning system arises from its treatment of all legal development as a one-off, essentially political decision. This greatly increases the costs of the system, systematically favours large developers over SME developers, and injects extra uncertainty (since no decision can be known in advance) into the process of all development. This uncertainty is translated into extra risk, so further increases the costs of all development since an additional risk premium is necessary for a given project to be viable. This is a factor explaining why all new building in the UK costs so much more than in continental European countries or the US. In these countries there

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[2] See https://www.centreforcities.org/wp-content/uploads/2019/09/Homes-on-the-Right-Tracks-Greening-the-Green-Belt.pdf

[3] https://committees.parliament.uk/publications/8354/documents/85292/default/. Para 152

are 'rule-based' planning systems. The planning White Paper published in August 2020 did propose moving towards a rule-based zoning system but this seems to have disappeared from the political agenda.

Challenge 2

With respect to successfully responding to challenge 2), increasing environmental degradation of the countryside via over intensive agriculture – again the fundamental issue is fixing problems of market failure; problems, in this case, amplified by policy rather than ameliorated by it. Agriculture is overwhelmingly the most significant use of land in England. The 2018 Land Use Statistics show 63 percent of land used for Agriculture with the next most important use being 21 percent in Forest, Open Land or Water. This means that generating an environmentally benign pattern of land use requires environmentally benign systems and practices in agriculture

Others have documented the growing and serious damage not just to nature and natural habitats but to soil and water quality, as well as wider issues of contamination and pollution caused by intensive agriculture. The national ecosystem assessment concluded modern agriculture had net environmental costs[4]. One study[5] that has had less attention than one might have expected was published in Nature in 2015. This concluded that in Northern Europe, including the UK, and other parts of the world where agriculture was more intensive, small particulate emissions from intensive agriculture killed more people than those from any other source:

> "…intensive agriculture is the number two cause of premature death from $PM_{2.5}$ worldwide and the most important in those parts of the world where agriculture is most intensive."

The source of these particulates is mainly ammonia (NH3) from fertilisers and, particularly, intensive livestock units. While such particulates may originate in the countryside, they kill people in cities because that is where the great majority of people live.

The focus of this evidence in the case of problems associated with agricultural land use is not, however, on the science: it is on their economic causes, especially as those causes are significantly the direct result of mistaken policy. For only a brief period in the last 300 years has farming been largely unsubsidised from public resources: this period lasted from the repeal of the Corn Laws in 1846 to the passing of the

[4] Firbank, L., R. Bradbury, D. McCracken, C. Stoate, K. Goulding, R. Harmer and P. Williams (2011) 'Enclosed Farmland' In: The UK National Ecosystem Assessment Technical Report. UK National Ecosystem Assessment'. Cambridge: UNEP-WCMC.

[5] Lelieveld, J., J. S. Evans, M. Fnais, D. Giannadaki and A. Pozzer (2015) 'The contribution of outdoor air pollution sources to premature mortality on a global scale', Nature, 525, 17 Sept., 367-371. doi:10.1038/nature15371

Agriculture Act of 1947. Public subsidy in all its phase and guises – whether direct payments or tax reliefs – has systematically increased the process of intensification of, and environmental damage arising from, agriculture.

The underlying and inescapable problem for all historic attempts to support food prices or farmers' incomes is that not just the current value, but the expected future value, of all support is capitalised into land prices. The introduction of guaranteed prices following 1947 or under the regime of the Common Agricultural Policy (CAP) meant, in a sense, that buying or renting farmland became the equivalent of acquiring a license to receive a stream of income from public funds. The price/rents of farmland immediately reflected this reality.

The first result was – since land is an input into agricultural production, so a 'cost'– farmers' incomes did not rise but, if they were land owners, the value of their assets rose. Thus policy created a new class of the impoverished rural wealthy.

The second consequence is that farming systems became more intensive. This is because, as the cost of the land rises, so more intensive use of it is made. The 'opportunity cost' of leaving it fallow or failing to maximise yields, increases. This is the same pattern as is found in any production process. Where labour is cheap, in low wage economies, more workers are employed often producing very little: in high wage economies. few workers are employed but those that are, are highly productive producing much more revenue.

In the 1950s this movement towards intensification promoted by supported food prices, was also explicitly fostered by policy with direct subsidies on hedgerow removal, ploughing permanent pasture and uplands, the costs of artificial fertiliser etc. The result was wholesale destruction of habitats. Historically farming has co-existed with natural systems and created wildlife habitats. Intensification destroys this symbiosis.

During the 1970s and 1980s European policy makers began to tackle the rising cost of the CAP to the EU budget. At the same time there was increasing public understanding of the detrimental impact of agricultural intensification on the environment and even, in some quarters, of the role price support played in exacerbating the problems.

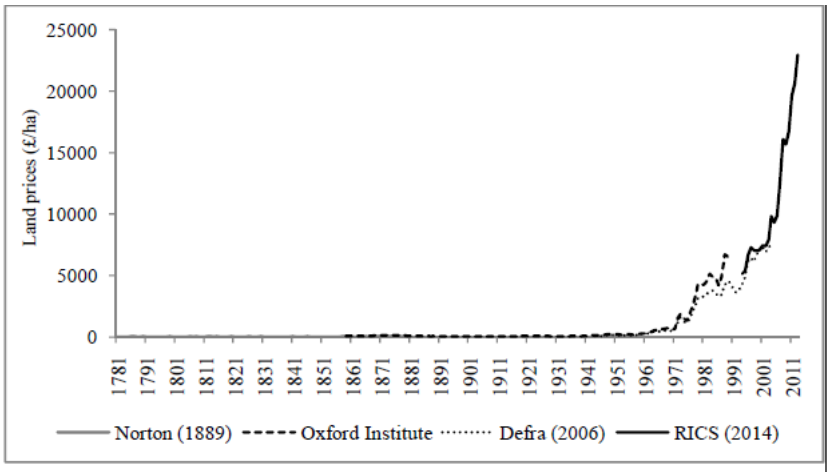
The outcome was a substantial reduction in price support and a decoupling of farm support from output. These changes, together with increased regulation of agricultural chemical use, provided some reduction in environmental harms in continental Europe although major harms continue.

In the UK, however, a new policy was introduced with the Inheritance Tax Act of 1984. This exempted farmland from inheritance tax. This may have been intended to assist the family farm passing on to the next generation

but, as with so many similar policies, it had entirely unforeseen consequences and has ended up increasing the environmental damage of agriculture while failing to assist multi-generational family farms.

This is because tax advisors quickly became aware of the opportunities for inheritance tax avoidance the 1984 Act generated for the seriously rich. The value of the new license to avoid inheritance tax – like subsidies on output – was quickly fully reflected in land prices. As Figure 1 shows these rocketed. According to the rural specialist estate agent Savills, agricultural land prices rose by 277% in the decade to 2015 – so extreme that all previous price rises in Figure 1 are largely masked**.**

Figure 1: Farmland Prices over 200 years in England



Source: Norton et al. (1889)*; Lloyd (1992); DEFRA (2006); RICS (2014)

**Norton et al. (ibid.) series were converted from acres to hectares dividing land values by 2.47*

Source: Jadevicius, A., S. Huston, A. Baum and A. Butler (2018) 'Two centuries of farmland prices in England', *J. Property Research*, 35:1, 72-94. DOI: 10.1080/09599916.2017.1393450

While this has benefitted the rich and their heirs, it has done very little for poor or family farmers and damaged the prospects of those who aspire to become genuine farmers. The increased cost of land further promotes intensification. Moreover the new absentee owners subcontract the management of the land to agri-companies. Such managers have no long term stake in the land and are motivated to work it at maximum intensity to maximise short term revenues. This exacerbates the damage to the rural environment, to nature and natural systems and to water quality because of increased use of agrochemicals and slurry run-off from intensive livestock units.

Tackling these challenges

The first challenge requires reform of our planning system. Not only would a move to a 'rule-based' system – as in Continental Europe or the US – help by reducing both uncertainty and risk and greatly reducing the time and cost of navigating the planning process, but it would help increase

the weight given to wider benefits. The British planning system, as originally envisaged, was intended to be a technocratic system implementing the then belief in the effectiveness of State planning. Over time, however, more and more weight has been given to very local interests and to loud objectors. Because costs of development are very local, and are big for those immediately affected, the current system empowers NIMBYs and gives power to just a few objectors effectively to veto proposals. This problem was highlighted in the recent discussion of the government's energy strategy announced on 7 April 2022. On shore wind may be the technically fastest and cheapest method of increasing renewable energy production but problems getting proposals for wind farms through our planning system meant it was not given priority. A balanced planning system must be able to give proper weight to wider economic and social interests. De-politicising decisions by implementing a rule-based system would help give such a weight to longer term and wider interests.

In addition – a novel and welcome proposal associated with the energy strategy announcement – there needs to be a financial reward for permitting development to occur. The present system of local government finance, in effect, fines local communities which permit development. Existing roads and public services face greater pressure and there are statutory duties to provide services; but there are no matching funds. This point was analysed in Cheshire and Hilber (2008)[6] in the context of the introduction of the Uniform Business Rate. This eliminated any visible net increase in tax revenues for local government consequent on commercial development happening. This significantly increased the opposition to such development. It was estimated this effect, by reducing the medium term supply of new offices, over time increased the costs of office space by an order of magnitude more than any plausible Business Rate burden. So it is vital to get incentives aligned.

In resolving Challenge 2) this issue of perverse incentives is even more important. It is perverse government is introducing with one hand environmental land management schemes which cost public money – while providing, via Inheritance Tax Relief, a substantial incentive for intensification and environmental damage. So the answer is first to align incentives with objectives for environmental outcomes: and then, if further action is needed, add additional incentives to compensate farmers for loss of any income from food production if they have to adjust production methods/technology to generate natural or environmental goods. On the polluter pays principle, however, there is also a need for strong regulation of agricultural practices, particular chemical use and intensive livestock units. It makes no sense that a small housing development can be stopped for lack of sewage capacity while intensive

[6] Cheshire, P. and C. Hilber (2008) 'Office Space Supply Restrictions in Britain: The Political Economy of Market Revenge', *Economic Journal* **118** (June): F185-F221.

livestock units have only the most modest regulations governing the treatment of slurry.

How land use in England will change in the long term depends on how policy changes. With current policy, current problems will get worse not better. This is particularly true for housing costs because of the long term, incremental effect on housing supply of freezing land supply. The second key factor is, of course, climate change. The prospects for effective world-wide action to substantially limit global warming look bleak. If this judgement is correct the impact will be extremely damaging in all the ways science has been predicting. All other forces for change to land use will be swamped.

The best – perhaps least bad – way to manage competing claims on land is through well regulated markets. Government needs to intervene to ensure that the incentives and prices faced by those controlling land, reflect social priorities. Land markets have endemic problems of market failure, primarily because of public goods – such as natural ecosystems, water supply, landscape or recreational use – and externalities –such as the impact on water quality of agricultural chemicals. Land use planning is one system of regulating which, when done well, generates a public good and reduces externalities.

2. What are the key drivers of land use change which need to be planned for, and how should they be planned for? What is the role of multifunctional land use strategies in implementing these plans?

As indicated above the first priority should be to generate appropriate incentives. Planning is significant in the context of development but not appropriate at the wider level of countryside or environmental management beyond existing tools such as National Parks, Areas of Outstanding Natural Beauty or Sites of Special Scientific Interest designation.

Multifunctional land use was a natural product of traditional farming and travel methods before cars came to dominate. That is how the countryside became such a biodiverse and rich semi-natural habitat and access was secured via public rights of way. In principle incentives under the influence of government should be designed to maximise the total social return from land and this would include incentivising multifunctional land use.

Policy for urban and transport development should maximise the use of existing rail infrastructure because this is the most cost effective form of servicing transport demand in a densely urbanised country and is by far the most energy efficient form of mechanised transport for large urban areas.

3. How might we achieve greater and more effective coordination, integration and delivery of land use policy and management at a central, regional, local and landscape level?

Currently, and for two generations, there has been an absence of strategic oversight of powerful incentives influencing land use that are created by government itself. Government urges farmers to be energy efficient but largely exempts the red diesel they use from fuel taxes; it urges farmers to protect the environment but, by converting the purchase of farmland into a license to avoid inheritance tax, both encourages intensification and the substitution of traditional farmers, with a stake in their land, for impersonal managers who have the sole object of maximising revenue; it urges local authorities to accept development but, in effect, via our system of local government finance, fines them if they do; it urges developers to build houses not dependent on car use but prevents building on derelict land around train stations because of Green Belt designation.

Government for two generations has been paying those who control land to do things they are urging them not to do. This inevitably creates the impression government does not mean what it is saying or does not know what it is doing. I suspect the latter is the explanation and this arises from a lack of strategic oversight. So the first essential is to urge government to establish a body, with teeth, to review all publically generated incentives influencing land use and give that body the power to make recommendations for reform with the expectation recommendations will be implemented. Many essential reforms would increase public revenues not reduce them. There has to be a political willingness to grapple with politically difficult issues where the *status quo* is defended by vested interests.

In addition, there should be a strategic level of planning and planning decisions have to reflect wider societal interests not give such undue weight to the purely local. There is, of course, room for local input into decisions reflecting land use but there are regional and national interests that present institutions inadequately – hardly at all – reflect.

Farming and land management

4. What impacts are changes to farming and agricultural practices, including food production, likely to have on land use in England? What is the role of new technology and changing standards of land management?

Intensive agriculture is incompatible with biodiversity and creates some of the most impoverished habitats in existence. There are strong environmental, social and economic reasons for policy to encourage biodiversity. Land owners should not receive public funds for producing more of what creates an income via the market, notably food, but for

creating external benefits and public goods from which they derive little or no income from markets.

5. What impact are the forthcoming environmental land management schemes likely to have on agriculture, biodiversity and wellbeing? What do you see as their merits and disadvantages?

In my judgement current schemes will have little effect and almost no short term effect. In comparison to the destructive incentives discussed above, the proposed schemes offer very little.

Nature, landscape and biodiversity

6. What do you see as the key threats to nature and biodiversity in England in the short and longer term, and what role should land use policy have in tackling these?

These have been discussed above: 1) the long term intensification of agriculture; and 2) even more threatening, climate change.

7. What are the merits and challenges of emerging policies such as nature-based solutions (including eco-system and carbon markets), local nature recovery strategies and the biodiversity net gain requirement? Are these policies compatible, and how can we ensure they support one another, and that they deliver effective benefits for nature?

Some of these policies/changes are potentially of considerable value – such as carbon markets – others have very limited impact. Complex regulation which aims to protect eco-systems, tends to be ineffective or very costly: or both. Simple and clear regulations are very useful, even vital. An example of useful regulation might be independent monitoring chemicals used in farming and ensuring all chemicals used, and the practices employed in applying them, are safe. SSSI designation is useful although, as too many cases have shown, not always successful. Designation also suffers from the problem that it is purely negative: it can (try to) prevent the active destruction of a habitat but cannot ensure that the maintenance essential for the habitat to thrive in the long term, happens. Voluntary schemes and charities can be very effective but only in very small areas. On the other hand the structure of incentives – largely within the control of policy – influences the behaviour of all relevant agents. Getting carbon markets working effectively is thus vital, as is aligning policies to ensure they support each other. A first simple step would be to revoke the substantial tax advantages of red diesel in agriculture[7]. The Spring Budget of 2021 put in train the removal of cheap

red diesel from most sectors but agriculture was exempt from this obvious reform. Apart from subsidising the energy intensity of farming, the availability of red diesel creates costs of compliance.

Environment, climate change, energy and infrastructure

8. How will commitments such as the 25-year environment plan and the net zero target require changes to land use in England, and what other impacts might these changes have?

The net zero target requires major changes, for example, in on shore wind and sun electricity generation; in encouraging new residential building, in locations that are close to major job concentrations and maximising the use of rail infrastructure.

9. How should land use pressures around energy and infrastructure be managed?

No comments.

Land use planning

10. What do you see as the advantages and disadvantages of the existing land use planning system and associated frameworks in England? How effectively does the system manage competing demands on land, including the Government's housing and development objectives? What would be the merits of introducing a formal spatial planning framework or frameworks, and how might it be implemented?

I have addressed this point above. Land use planning potentially plays a very important and constructive role. England, in particular, but the UK in general, has, however, a planning system unfit for purpose. Three points are worth making:

1. We could learn much from Continental European planning systems – Germany does planning well by international standards.
2. We need a strategic level of planning – a point which has been in discussion for 75 years; planning in Britain is too local and, because of its discretionary nature and political control, too easily gamed by vested interests or a small number of motivated objectors;
3. Planning to be successful has to work with the market not ignore it. By ignoring market forces the result is that actions taken by planners often create perverse incentives and serious price

[7] It may sound paradoxical to non-economists, and certainly farming interests would ignore it, but eliminating tax relief on red diesel would not, in the medium term, reduce farmers' incomes. This is because of the 'capitalisation effect' discussed above. Rents and the price of farmland – both costs to farmers – would fall, fully reflecting the value of the tax relief that had been lost.

distortions leading to resource misallocation: but at the same time fail to correct for serious problems of market failure.

11. What lessons may be learned from land use planning frameworks in the devolved nations and abroad, and how might these lessons apply to England?

See above: adopt a planning system using the German model. Britain has excellent planners but most of them work abroad!

Conclusion

12. Which organisations would be best placed to plan and decide on the allocation of land for the various competing agendas for land use in England, and how should they set about doing so?

Markets have many disadvantages but are – if intelligently and strategically regulated – the most democratic and effective mechanism for allocating resource humanity has yet come up with. The overall pattern of land use – like running a whole economy – is completely beyond the capacity of any planning system. What works best is well informed and closely monitored, regulated markets, with regulation both firm enough and flexible enough to ensure markets serve the welfare of society at large.

Appendix: Some Supporting Evidence

Table 1: How is land used? Developed, Green and Green Belt Land: %, England, Regions

Region	Domestic Buildings	Other Buildings	Roads & Paths	Rail	All Built	Domestic Gardens	Green Space	Water	All 'Green'	Other & Unclass.
North East	0.899	0.510	2.101	0.143	3.653	2.412	91.188	1.708	95.308	1.040
North West	1.356	0.809	2.842	0.169	5.175	4.171	82.894	6.189	93.254	1.571
Yorks & Humb.	1.000	0.640	2.158	0.167	3.965	3.301	89.678	1.756	94.735	1.299
East Midlands	0.917	0.548	1.919	0.118	3.502	3.469	89.746	2.079	95.294	1.204
West Midlands	1.242	0.813	2.597	0.127	4.780	4.859	87.797	1.043	93.698	1.522
East of England	0.948	0.529	1.877	0.095	3.449	4.126	88.102	3.009	95.236	1.315
G.L.A.	8.706	4.719	13.049	1.073	27.546	23.847	38.225	2.837	64.909	7.545
South East	1.319	0.653	2.571	0.144	4.688	6.202	84.813	2.723	93.738	1.574
South West	0.781	0.449	1.835	0.072	3.137	3.075	90.746	1.972	95.793	1.069
England	1.139	0.657	2.337	0.136	4.267	4.266	87.469	2.597	94.332	1.399

Source: Generalised Land Use Data 2005

Table 2: Where is new residential land coming from?

Region	All changes to residential land use: Ha.	From Previous Residential Land (% of all change to Residential)		From Previously Undeveloped Land (% of all change to Residential)		From Previously Undeveloped Land (% of all Region Land)
		1990-2011	2015-18	1990-2011	2015-18	
East Midlands	13,535	13.76	9.95	57.78	55.85	0.050041528
East of England	18,388	21.32	10.06	49.31	46.29	0.047407832
London	5,063	27.91	21.55	12.79	17.38	0.041150372
North East	5,287	8.86	7.39	52.62	54.18	0.032376422
North West	14,364	12.03	12.48	40.85	44.30	0.041436104
South East	21,780	27.46	12.39	44.38	48.26	0.050643086
South West	13,252	18.68	14.54	60.05	51.21	0.039227222
Wales	2,070	17.39	…	66.28	…	0.019173388
West Midlands	11,440	15.23	8.24	47.94	53.91	0.042176727
Yorkshire & The Humber	12,149	14.97	11.77	46.83	48.71	0.036915072

Note: Changes in Land Use obtained from the *Land Use Change Survey*: Period 1990-2011 and MHCLG Land Use Change Statistics Table P302**.**

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