

# Land Use Change Statistics

A consultation on proposed changes



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Ministry of Housing, Communities and Local Government Fry Building 2 Marsham Street London SW1P 4DF

Telephone: 030 3444 0000

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## Summary of consultation

This consultation presents a review of the Land Use Change statistics. This National Statistics release reports changes in land use including: the number of addresses changing from and to a residential use and the areas of land that have changed from one use to another. These changes are mapped against local authority, Green belt boundaries and areas of high flood risk. The land use change data are derived by comparing the land use stock in one year to the land use stock in the previous year. The statistics provide evidence on land usage and the location of development relating to the wider statistical output of the Ministry for Housing Communities and Local Government, which covers a broad range of housing and planning statistics.

Based on previous user engagement work, with external users such as local authorities, academics, campaign groups and other government departments, we believe that there is a role for broader Land Use statistics that quantify and categorise the developed environment and the split between developed and non-developed uses, not just the in-year changes between these uses.

This document outlines the purpose of the Land Use Change statistics, current limitations and future possibilities. This includes a proposal to publish additional statistics on land use stock data annually whilst decreasing the frequency of publication of hectarage change estimates. Throughout the document are questions for the reader to consider. Once you have finished reading the consultation we invite you to answer the consultation questions and share your thoughts to help us improve the statistics and better meet user needs.

## Scope of the consultation

Topic of this consultation:	This consultation seeks views on changes to the Land Use Change Statistic
Scope of this consultation: Geographical scope:	We are considering how best to meet the needs of users in a cost-effective way, while broadening the usefulness of the Land Use Change statistic.  These proposals relate to statistics for England only
Impact Assessment:	An impact assessment is not required as this is a technical consultation relating to the Department's statistical activity

# **Useful Information**

To:  Body/bodies	Any users of the Land Use Change Statistics or parties interested in Land Use in England namely: Government departments, Local Government, Planners, Developers, Industry, Academics, Media, Campaign groups, Community groups, Consultants and members of the public Housing and Planning Analysis Division of the Department of Housing,			
responsible for the consultation:	Communities and Local Government.			
Duration:	This consultation will last for 2 months from 31 May until 31 July.			
Enquiries:	For any enquiries about the consultation please contact:			
	Planning.Statistics@communities.gov.uk			
How to respond:	Please read through the document.			
	You may respond by completing an online survey:			
	https://www.surveymonkey.co.uk/r/land-use-change-consultation			
	Alternatively, you can email your response to the questions in			
	this consultation to <a href="mailto:Planning.Statistics@communities.gov.uk">Planning.Statistics@communities.gov.uk</a> ,			
	with the subject line LUCs CONSULTATION			
	If you wish to post a written response, then please send it to:			
	Land Use Change statistics Consultation,			
	Housing and Planning Analysis Division,			
	MHCLG,			
	4th Floor, Fry Building,			
	2 Marsham Street,			
	London,			
	SW1P 4DF			
	<ul> <li>When replying please let us know if you are responding as an individual or on behalf of an organisation and include:</li> <li>your name,</li> <li>your position (if applicable),</li> <li>the name of organisation (if applicable),</li> <li>an address (including post-code),</li> <li>an email address, and</li> <li>a contact telephone number</li> </ul>			

# Land Use Change Statistics

### Introduction

- This document invites comments on the Ministry of Housing Communities and Local Government [MHCLG] proposals for the future data collection and production of the Land Use Change Statistics [LUCs].
- 2. LUCs reports changes in England of residential address numbers addresses that change from or to a residential use [address-use changes] and their location. It also reports the area of land changing use [hectarage changes] and the location of these changes.
- 3. As it stands now, the hectarage component reports marginal changes and does not achieve the reach or utility it could. As only the *changes* in land use from one year to the next are reported, it does not provide a best available snapshot of current land use and is open to misleading overemphasis on statistics that touch on areas of policy concern.
- 4. Though great efforts are made to maintain a comparable time series of data, there are difficulties in capturing all changes between each year, as parts of the underlying data sources are only updated over longer time periods.
- 5. Data are provided by our data partners, Ordnance Survey [OS], from two Ordnance Survey products: AddressBase<sup>1</sup> and MasterMap Topography<sup>2</sup>. LUCs reports changes in address-use or hectarage that are calculated between two snapshots of total land use stock taken a year apart. The latest edition of the annual statistics is for Land Use Changes 2017-18. <sup>3</sup>
- 6. MHCLG see Land Use stock data as an exciting component of any future LUCs data offer making the published statistics broader in reach, more robust and with greater potential to satisfy department aims and user needs.
- 7. Users of the statistics come from across government, including local government, members of the public, media and those with an academic or policy interest such as campaign groups, and industry.
- 8. LUCs is badged as National Statistics and in accordance with the *Statistics and Registration Service Act* 2007, MHCLG has a statutory duty to comply with principles and practices set out in the *Code of Practice* for *Statistics*, stipulating that user's 'needs should be understood, their views sought and acted on, and their use of statistics supported.'4

<sup>&</sup>lt;sup>1</sup> https://www.ordnancesurvey.co.uk/business-and-government/products/addressbase-products.html

<sup>&</sup>lt;sup>2</sup> https://www.ordnancesurvey.co.uk/business-and-government/products/topography-layer.html

<sup>&</sup>lt;sup>3</sup> https://www.gov.uk/government/collections/land-use-change-statistics

<sup>&</sup>lt;sup>4</sup> https://www.statisticsauthority.gov.uk/code-of-practice/

### Address-use changes

- 9. Address-use changes are the result of newly created addresses by the building of a new property, or the conversion of buildings to a residential use from a previously non-residential use, such as offices or retail. The number of address-use changes also includes any deleted address records, a consequence of the demolition of residential property or when residential property is converted to a commercial or other non-residential use.
- 10. Address-use changes are captured by OS's AddressBase product within 6 months of the change occurring at most, as Local Authorities routinely update an online land gazetteer from council tax, electoral registration and/or planning or building control records.
- 11. The Address-use data show where new residential addresses are being created and what the previous land use was. The density of residential addresses within a hectare is also calculated by OS, based on the point location of the address-use change. The number of address-use changes are calculated per Local Authority. The data can be used to assess an annual rate of residential address creations or conversions and the locations of these developments: rates of commercial conversion, whether on developed or not previously developed land, brownfield land, in the Green Belt, areas of High Flood Risk or any other type of land constraint.

# Hectarage changes

- 12. The hectarage data component is produced by calculating the difference between the most recent year's snapshot of land use to that of the previous year. The land use snapshot is derived from AddressBase and the OS MasterMap Topography layer.
- 13. The hectarage changes show where land is changing use and how much land is changing use (measured in hectares). The data can be used to assess how changes to or from different land uses differ between locations and in different years, whether on developed or not previously developed land, brownfield land, in the Green Belt, areas of High Flood Risk or any other type of land constraint. The hectarage change is calculated per Local Authority and the total land area that has changed use is apportioned between 14 land use groups (Table 1).
- 14. Approximately 60% of hectarage changes are between non-developed use classes and are more appropriately described as changes in land cover.

- 15. Topographical changes are recorded by a 4-step process of remote sensing, field surveying, aerial image capture (c.80,000 km aerial imagery per year) and data enhancement/cartography of boundaries or descriptive terms. Major developments and landscape changes are monitored every 6 months. Rural areas, urban improvement and minor changes are monitored by aerial photography, with sites revisited for image capture on a 3-year cycle.
- 16. Over the last four years there have been approximately 1.5 million instances of Hectarage Change totalling approximately 1 % of the land area of England per year.

# Land use categories

17. For both the address-use and hectarage data, changes are calculated between 28 land use categories grouped into 14 land use groups, classed as either developed or non-developed land use types (Table 1).

Table 1: Land Use categories, groups and divisions used by Ordnance Survey to classify land uses for the Land Use Change Statistics

Previously developed land		Non-previously developed land			
Group	Category (codes)		Group	Category (codes)	
Residential	Residential	(R)	Agriculture	Agricultural land	(A)
	Institutional and communal Accommodation	(Q)		Agricultural buildings	(B)
			Forestry, open	Forestry and woodland	(F)
Transport and	Highways and road transport	: (H)	land and water	Rough grassland and	(G)
Utilities	Transport (other)	(T)		Bracken	
	Utilities	(U)		Natural and semi-natural Land	(N)
Industry and	Industry	(1)		Water	(W)
Commerce	Offices	(J)			
	Retailing	(K)	Outdoor	Outdoor recreation	(O)
	Storage and warehousing	(S)	recreation		
Community	Community buildings	(C)	Vacant	Vacant land not previously	(V - NPDL)
Services	Leisure and recreational Buildings	(L)		developed	
			Residential	Residential	(RG)
Vacant	Vacant land previously Developed	(V - PDL)	Gardens	Gardens	
Minerals and	Minerals	(M)	Undeveloped	Undeveloped land	(X)
landfill	Landfill waste disposal	(Y)	land	in urban areas	· /
Defence	Defence	(D)			
Other	Unidentified building	(~B)			
developed use	Unidentified general manmade surface	(~M)			
	Unidentified structure	(~S)			

Q2. Do these land use classifications meet your needs?

Q3. What land use would you like to see included that is not currently represented?

## Reviewing the statistic

### **Hectarage changes**

- 18. From the LUCs hectarage data we can see that an average of 1% of the land area of England changes use from one year to the next. This means that identifying and calculating hectarage changes from one year to the next is computationally intensive.
- 19. Ordnance Survey is a world leader in geographical mapping. This status is maintained by continual product improvement both in terms of data capture and reporting. Great care is therefore also needed to ensure reported hectarage changes from one year to the next reflect real-world changes on the ground rather than differences between-years in the refinement of area measurements or descriptive terms. This can mean multiple iterations are required to produce each year's hectarage change data provision.
- 20. A review of LUCs was carried out in 2012 and a more cost-effective method of data delivery based on OS products and remote sensing of data was initiated in 2013. The hectarage data therefore consist of two time series: from 1985 2011 and from 2013 to now. To enable a time series of interannual comparison from 2013, each year's hectarage changes are currently calculated against the 2013 Local Authority boundary lines irrespective of how Local Authority boundaries may have changed since that time. This methodology will be reviewed going forward as from 1st April 2019 there were a number of mergers of Local Authorities in England.
- 21. Approximately 60% of the hectarage change is between non-developed uses, changes in land cover data. Natural land changes continue overtime as coasts erode, rivers change course and vegetation cover grows or changes with storms. Land cover classifications are the product of remote sensing, captured by the 3-yearly cycle of aerial photography, rather than on the ground ecological surveys. Calculating changes between adjacent natural land cover is therefore difficult to quantify at an annual update and annual comparisons of natural land use change are more volatile as a result.
- 22. In summary, calculations of hectarage change data may be reverse engineered to account for improvements in data capture and reporting, and Local Authority attribution may not be consistent with concurrent geography.
- 23. Data on land use stock has never been part of the statistic. LUCs only reports changes in use. It is no indicator of current land use and this context of scale is often missed in the reporting of the statistic. For

example: of the total area of land changing to residential use in 2016-17, 15% was on previously agricultural land. To place this in context however, when viewed from a total land use perspective, only 1% of England is of a residential use compared to 63% used for Agriculture.

### Address-use changes

- 24. There are many benefits of the address-use changes component: the location of the residential use change is known and for each change to a residential use, the previous use of the land is identified. The data are continually updated within the AddressBase product as Local Authorities update Building Control and Council Tax records. One issue, however, is that the data do not match Housing supply: net additional dwellings data, collated and published by the department from the annual returns of Local Authorities<sup>5</sup>. This is due to differences between the statistics in definitions used and timing differences in when the data are obtained and for what time-period.
- 25. While each address-use change is mapped, in some cases they have been sited at an approximate geolocation resulting in a large data 'dump' of address-use changes. This can lead to an inflated residential address density which needs to be checked and corrected.
- 26. Overall the address-use data are a robust dataset that can be reliably used for analysis on the specific geo-location and previous land use of new residential development.

## Meeting user needs

- 27. There are in excess of one thousand downloads of the statistical release each year. Both the land use change tables and residential address change tables had approximately 500 unique views for the latest publication.
- 28. The statistics are important for monitoring several of the Department's policy areas and the Government's manifesto commitments. MHCLG aims to deliver the homes the country needs, support local government and create socially and economically stronger communities. The current Land Use Change statistics aim to publish data covering the following:
  - The locations of residential address creations and conversions, with regards to the previous land use of the data, areas of Green Belt and flood risk;
  - Flows in land use between and within developed and non-developed uses.

<sup>5</sup> https://www.gov.uk/government/statistics/housing-supply-net-additional-dwellings-england-2017-to-2018

- 29. In 2012 MHCLG ran a consultation on how to produce LUCs more cost effectively<sup>6</sup>. It highlighted the importance of the statistics for monitoring the outcomes of planning policy, with 48% of respondents coming from Local Government. Specific uses outlined by respondents included providing evidence for Local Plans, monitoring protection of the countryside and impacts on urban and rural environments.
- 30. Users who took part in the 2012 consultation suggested/requested MHCLG consider:
  - a stock-take approach to land use,
  - less frequent collection of land use changes that occur more slowly and
  - provide more data at Local Authority level.
- 31. Following this consultation, in 2013-14 the department changed to the current methodology used to produce the land use change statistics. The methodology enabled more granular land use change data to be produced on a continuing annual basis, at a reduced cost. The new statistics did not include an estimate of the land use stock.

Q.4 What do you use the land use change statistics for?

Q.5 Which of the Departments current products do you engage with?

### Alternative data sources

#### Land use stock data

- 32. There is a role for a Land Use statistics that quantifies and categorises the developed environment and the split between developed and non-developed uses.
- 33. OS previously provided land use data as part of the Generalised Land Use Database [GLUD] in 2001, 2005 and 2010. MHCLG receives regular interest in GLUD which categorised land use into 9 categories as no equivalent statistics have been produced since, at Output Area to Local Authority District and Government Office Region.
- 34. As part of the 2017-18 delivery of land use change data, OS also compiled land use stock data, available as part of the Public Sector Mapping Agreement [PSMA]. Based on the AddressBase and Topography

<sup>6</sup> <a href="https://www.gov.uk/government/consultations/rationalising-statistics-land-use-change-and-housing-and-regional-data">https://www.gov.uk/government/consultations/rationalising-statistics-land-use-change-and-housing-and-regional-data</a>

- Mastermap products, these fine scale data are suited to the built-up environment providing summary statistics of land use per Local Authority.
- 35. The Public Sector Mapping Agreement is an agreement between OS and government whereby PSMA member organisations can access and share OS digital mapping. The Geospatial Commission is in the process of negotiating the replacement for the PSMA, that will meet both the public sector's current and future needs for geospatial data from Ordnance Survey, including to support the effective and efficient delivery of public services. MHCLG is currently liaising with the Geospatial Commission and exploring the utility of land use data as part of any new contract.
- 36. Land use data, compiled originally for MHCLG, have already been used by a number of Local Authorities in the assessment of Local Plans and other Government departments and their agencies to assess the impact of infrastructure developments and monitor the Natural Environment. Users include: Defra, Department for Transport, Highways England, Natural England and Forestry Commission.
- 37. An experimental statistic, Land Use in England 2017, has been published using this data, showing how Local Authorities differ in their proportions of different land use classifications, illustrated using interactive maps. An example is given in Figure 1. Through this, users can see what proportion of England is of a developed compared to a non-developed use and how land is split between developed and non-developed uses within the Green Belt and in areas of high flood risk. Going forward there is the potential to map land uses year to year in other areas of land constraint, such as National Parks or Areas of Outstanding Natural Beauty.

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<sup>&</sup>lt;sup>7</sup> https://www.gov.uk/government/collections/land-use-in-england-experimental-statistics

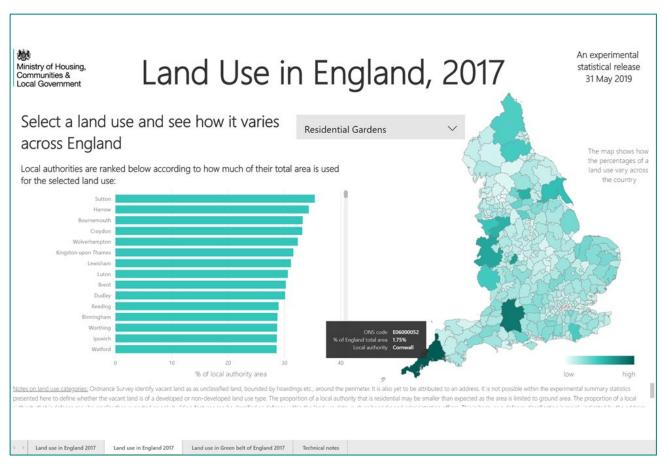


Figure 1: An infographic from the experimental statistics Land Use in England, 2017

Users can select a land use of their choosing, for example residential gardens. The greatest area of residential garden for the country as a whole is in Cornwall, the darkest area on the map. Local authorities are also ranked in the stacked bar plot next to the map, according to what percentage of their land area is classed as being of that land use. In the above example, Sutton can be seen as having the greatest share of its total area that is used for residential gardens, at over 30%. Users can also select local authorities and see how the total land area is split between different land uses. Summary statistics on land use within the Green belt, areas of high flood risk and user-selected local authorities, are also presented. Please see for yourself at:

https://www.gov.uk/government/collections/land-use-in-england-experimental-statistics

#### Land cover data

- 38. Land cover describes the physical land type for example forest or water, as opposed to land use, which describes how the land is being used. Though land may be 'used' as woodland, a woodland by the nature of its physical material would be described as a land cover type.
- 39. There are two land cover data sets which are readily available to members of the public. Corine and the Centre for Ecology and Hydrology [CEH] land cover map. Both are produced from satellite data.
- 40. Due to the satellite source data and a lack of ground truthing by administrative or survey information, land use categories in the Corine dataset are limited to: discontinuous urban fabric, sport and leisure

- facilities, industrial or commercial units, mineral extraction sites, green urban areas, airports, continuous urban fabric, port areas, road and rail networks, construction sites and dump sites.
- 41. In contrast to LUCs the CEH Land Cover maps specialise in the natural environment. The Land Cover map illustrates 21 land cover types with land uses limited to the catch-all 'urban' and 'suburban' land covers.
- 42. A comparison of land use and land cover datasets is given in Table 4 of Annex B.

### Going forward

- 43. Having considered the existing data components and alternative data sources, we suggest here how the land use change statistics could be updated to better meet user needs now and in the future.
- 44. MHCLG propose to adapt the Land Use Change statistics in the following way:

Publish land use stock data on the distribution and proportion of different land uses and the split between developed and non-developed land uses for England and each Local Authority within England, following the example of the Land Use in England 2017 experimental statistic. Summary statistics and local authority level maps to be updated annually and compared to up to date updates of Local Authority, Green Belt and High Flood Risk boundaries. The data would be published annually.

Publish address-use change data and the location of these changes, on exactly the same basis as is done currently. Summary statistics would continue to be updated annually and compared to up to date Local Authority, Green Belt and high flood risk boundaries. The methodology would remain unchanged.

Publish hectarage change data at 3-yearly intervals and compare to up to date Local Authority, Green Belt and high flood risk boundaries. Comparing hectarage change over longer periods of time would be more appropriate given the long collection cycle of changes in natural land use data. The methodology used to calculate the hectarage change may also be updated, based on comparisons of Land Use stock data snapshots.

In each year, a companion piece could focus on a specific element of land use interest for example Land Use in National Parks or trends in Vacant Land Use.

Q6. Do you agree with the proposal to improve the Land Use Change Statistics outlined at point 44?

### Specifically:

- a. To publish land use stock data on an annual basis.
- b. To continue to publish the address-use change data on the same basis as is done currently.
- c. To publish hectarage change data every three years to better match the cycle of changes in underlying sources.

- 45. An outline of a publication schedule in given in Table 2 in Annex B. The data delivery proposed is compared to that currently delivered in Table 3 in Annex B.
- 46. MHCLG is currently liaising with the Geospatial Commission and exploring the utility of land use data as part of any new contract for a PSMA. While summary statistics on land use would be readily available from MHCLG to all users, inclusion of land use data in the PSMA, would give public sector organisations access to the underlying data.
- 47. We look forward to receiving the views of users and invite them to respond to the consultation questions using the online survey: <a href="https://www.surveymonkey.co.uk/r/land-use-change-consultation">https://www.surveymonkey.co.uk/r/land-use-change-consultation</a>

### Consultation questions

- Q1. Which user group do you fit into?
- Q2. Do the current land use classifications meet your needs?
- Q3. What land use would you like to see included that is not currently represented?
- Q4. What do you use the Land Use Change Statistics for?
- Q5. Which of the Departments current products do you engage with?
- Q6. Do you agree with the proposal to improve the Land Use Change Statistics outlined at point 44? Specifically:
  - a. To publish land use stock data on an annual basis.
  - b. To continue to publish the address-use change data on the same basis as is done currently.
  - c. To publish hectarage change data every three years to better match the cycle of changes in underlying sources.

### How to respond

Now you have read through this document, we would be grateful for your views. You may respond by completing an <u>online survey</u>:

https://www.surveymonkey.co.uk/r/land-use-change-consultation

Alternatively you can email your responses and comments to Planning. Statistics@communities.gov.uk

If you wish to post a written response then please send it to:
Land Use Change statistics Consultation,
Housing and Planning Analysis Division,
MHCLG,
4th Floor, Fry Building,
2 Marsham Street,
London,
SW1P 4DF

When replying please let us know if you are responding as an individual or on behalf of an organisation and include:

- your name,
- your position and the name of organisation (if applicable),
- an address (including post-code),
- an email address, and
- a contact telephone number

A user engagement session will talk through the proposal and invite discussion of the future of the Land Use Change statistic. If you would like to find out more, please get in touch by emailing <a href="mailto:Planning.Statistics@communities.gov.uk">Planning.Statistics@communities.gov.uk</a>, with the subject LUCS CONSULTATION EVENT.

### About this consultation

This consultation document and consultation process have been planned to adhere to the Consultation Principles issued by the Cabinet Office.

Representative groups are asked to give a summary of the people and organisations they represent, and where relevant who else they have consulted in reaching their conclusions when they respond.

Information provided in response to this consultation, including personal data, may be published or disclosed in accordance with the access to information regimes (these are primarily the Freedom of Information Act 2000 (FOIA), the Data Protection Act 2018 (DPA), the EU General Data Protection Regulation, and the Environmental Information Regulations 2004.

If you want the information that you provide to be treated as confidential, please be aware that, as a public authority, the Department is bound by the Freedom of Information Act and may therefore be obliged to disclose all or some of the information you provide. In view of this it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Department.

The Department of Housing, Communities and Local Government will process your personal data in accordance with the law and in the majority of circumstances this will mean that your personal data will not be disclosed to third parties. A full privacy notice is included at Annex A.

Individual responses will not be acknowledged unless specifically requested.

Your opinions are valuable to us. Thank you for taking the time to read this document and respond.

Are you satisfied that this consultation has followed the Consultation Principles? If not or you have any other observations about how we can improve the process please contact us via the complaints procedure.

#### Annex A

#### Personal data

The following is to explain your rights and give you the information you are be entitled to under the Data Protection Act 2018.

Note that this section only refers to your personal data (your name address and anything that could be used to identify you personally) not the content of your response to the consultation.

#### 1. The identity of the data controller and contact details of our Data Protection Officer

The Ministry of Housing, Communities and Local Government (MHCLG) is the data controller. The Data Protection Officer can be contacted at dataprotection@communities.gov.uk

### 2. Why we are collecting your personal data

Your personal data is being collected as an essential part of the consultation process, so that we can contact you regarding your response and for statistical purposes. We may also use it to contact you about related matters.

#### 3. Our legal basis for processing your personal data

The Data Protection Act 2018 states that, as a government department, MHCLG may process personal data as necessary for the effective performance of a task carried out in the public interest. i.e. a consultation.

### 3. With whom we will be sharing your personal data

We will not be sharing your data with any organisations outside MHCLG.

#### 4. For how long we will keep your personal data, or criteria used to determine the retention period.

Your personal data will be held for two years from the closure of the consultation.

#### 5. Your rights, e.g. access, rectification, erasure

The data we are collecting is your personal data, and you have considerable say over what happens to it. You have the right:

- a. to see what data we have about you
- b. to ask us to stop using your data, but keep it on record
- c. to ask to have all or some of your data deleted or corrected
- d. to lodge a complaint with the independent Information Commissioner (ICO) if you think we are not handling your data fairly or in accordance with the law. You can contact the ICO at <a href="https://ico.org.uk/">https://ico.org.uk/</a>, or telephone 0303 123 1113.
- 6. If using Survey Monkey to respond to the consultation the data you provide directly will be stored by Survey Monkey on their servers in the United States. We have taken all necessary precautions to ensure that your rights in terms of data protection will not be compromised by this.
- 7. Your personal data will not be used for any automated decision making.
- 8. Your personal data will be stored in a secure government IT system. Data will be moved from Survey Monkey to our internal systems at the close of the consultation period.

### Annex B

Table 2: Outline of update schedule for proposal for future delivery of Land Use Change Statistic.

2020	2021	2022	2023
Land Use	Land Use	Land Use	Land Use
Address-use changes	Address-use changes	Address-use changes	Address-use changes
		Hectarage changes	
Companion-piece	Companion-piece	Companion-piece	Companion-piece
focusing on a specific			
element of land use			

Table 3: Comparison of current data delivery to the proposal for future delivery of Land Use Change Statistics.

Statistics (for Engla Belt and flood risk	nd, local authority, Green areas)	Now	Proposed
Land use change	Address-use changes	Published annually	Publish annually
statistics	Hectarage changes	Published annually	Publish every three years
Land use		Not published	Publish annually – including local authority maps, and
			possibly with a different
			topic report each year

Table 4: Tables summarising land use / cover datasets

Data	Scale of Measurement (hectares)	Data Source	Publisher	Frequency of Updates	Last Updated
Land Use	0.1	Ordnance Survey, AddressBase and MasterMap Topography	MHCLG, Experimental Statistic	Under consultation	2019
Land Use Change	0.1	Ordnance Survey, AddressBase and MasterMap Topography	MHCLG, National Statistic <sup>1</sup>	Annual	2019
Corine	25	Copernicus, satellite data	Corine Land Cover <sup>2</sup>	6-yearly	2012
LUCAS	> 270,000 points across 28 E.U. member states	Ground survey	Eurostat <sup>3</sup>	3-yearly	2015
Land Cover Map	0.5	Satellite images and digital cartography	Centre for Ecology and hydrology <sup>4</sup>	7-yearly	2015
National Land Use Database	0.001	Local Authority Surveys	Homes and Communities Agency <sup>5</sup>	Discontinued	2012
Generalised Land Use Database	0.001	Ordnance Survey	MHCLG, via ONS Neighbourhood Statistics	Discontinued	2010
Green Belt Statistics	0.1	Local Authorities	MHCLG <sup>6</sup>	Annual	2018
Greenspace Mapping project	-	Ordnance Survey	BEIS <sup>7</sup>	Not known	2017
Brownfield Registers	0.25	Local Authorities	Local Authorities	Continuous	2018
Forestry Statistics		Forestry Commission, National Forest Inventory	Forestry Commission <sup>8</sup>	Annual	2018
Open data: ancient woodlands, Nature reserves, Agricultural land classification	various	Natural England	Natural England <sup>9</sup>	Continuous	2019
MAGIC: geographic information from across government	Various	Across government	Defra <sup>10</sup>	Continuous	2019

<sup>1,2,3,4,5,6,7,8,9,10</sup> Hyperlinks are given in the next section which will direct users to the published data.

#### Web links for data sources in Table 4:

- 1. <a href="https://www.gov.uk/government/collections/land-use-change-statistics">https://www.gov.uk/government/collections/land-use-change-statistics</a>
- 2. <a href="https://land.copernicus.eu/pan-european/corine-land-cover">https://land.copernicus.eu/pan-european/corine-land-cover</a>
- 3. <a href="https://ec.europa.eu/eurostat/web/lucas">https://ec.europa.eu/eurostat/web/lucas</a>
- 4. <a href="https://eip.ceh.ac.uk/lcm">https://eip.ceh.ac.uk/lcm</a>
- 5. <a href="https://www.gov.uk/government/collections/national-land-use-database-of-previously-developed-land-nlud-pdl">https://www.gov.uk/government/collections/national-land-use-database-of-previously-developed-land-nlud-pdl</a>
- 6. <a href="https://www.gov.uk/government/collections/green-belt-statistics">https://www.gov.uk/government/collections/green-belt-statistics</a>
- 7. <a href="https://getoutside.ordnancesurvey.co.uk/greenspaces/">https://getoutside.ordnancesurvey.co.uk/greenspaces/</a>
- 8. <a href="https://www.forestresearch.gov.uk/tools-and-resources/statistics/forestry-statistics/">https://www.forestresearch.gov.uk/tools-and-resources/statistics/forestry-statistics/</a>
- 9. <a href="http://naturalengland-defra.opendata.arcgis.com/">http://naturalengland-defra.opendata.arcgis.com/</a>
- 10. <a href="https://magic.defra.gov.uk/Dataset">https://magic.defra.gov.uk/Dataset</a> Download Summary.htm