

### N3 Visual influence of built development

Scotland's rich and varied landscapes are continually changing. Our ability to influence the extent and pace of change is now greater than it has ever been, with built development having an impact on the landscape. This indicator shows how our landscapes are changing in terms of the extent of Scotland from which built development can, theoretically, be seen.



Wind turbines and power lines near Huntly  
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#### Evidence

The theoretical visibility of built development<sup>1</sup> on land and at sea between January 2008 and December 2013 was mapped from 14 spatial datasets. For wind turbines, tall structures, major bridges and offshore structures the feature's assumed or actual height and the modifying influence of topography was taken into account (but not vegetation cover that can screen features). The other types of development assumed visibility within pre-defined distances (SNH, 2014).

#### Visual influence of built development

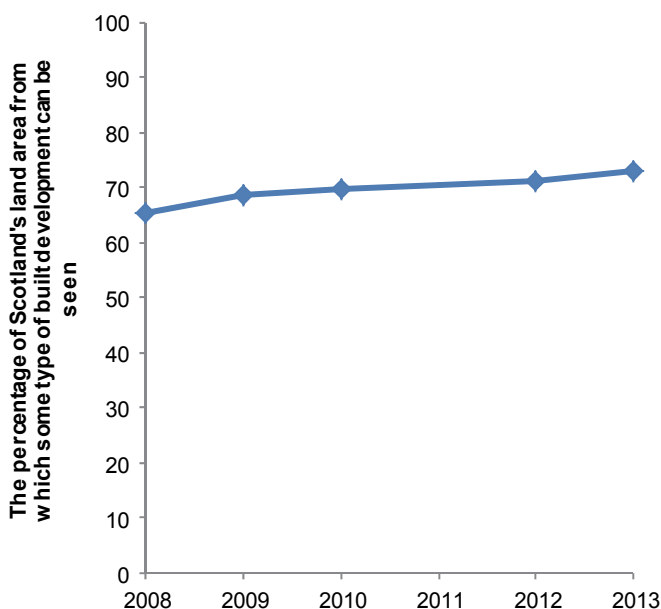
The map shows the extent of visual influence in 2013 (click to see a [larger map](#)).



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NOTE: The darker colour indicates more overlapping components contributing to the indicator.

**The percentage of Scotland's land area from which some type of built development can be seen, Jan 2008 – Dec 2013.**



#### Assessment

- As of 2013, one or more types of built development could be seen from 73% (5,750,855ha) of Scotland's land area (7,880,880ha). This was an increase from 71.4% in 2012, and from 65.4% in 2008.

<b>TREND</b>	<b>Increase</b>
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<b>DATA CONFIDENCE</b>	<b>High</b>
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<sup>1</sup> The components that make up the indicator are – Airfields; Major bridges; Extraction industries; Offshore surface structures; Wind Turbines; Tall structures without wind turbines; Building density (low and high); Motorways; Trunk roads; Non trunk A roads; B Roads; Minor roads and tracks (all); Railways; Overhead lines



## Commentary

For this updated indicator, data from 2008 to 2013 (excluding 2011)<sup>2</sup> have been used. The results show a continuation of the overall trend identified in previous years.

The area of Scotland from which one or more types of built development can be seen increased to 73% in 2013, an 11.6% increase from 2008. Examined individually, most of the different types of development showed no change (Table 1). The largest change in visual influence comes from wind turbines; increasing from 41.7% (2012) to 45.9% in 2013; this is more than double the 2008 baseline of 19.9%. Minor roads showed a further 0.2 percentage point increase, mainly in areas of forestry or associated with wind turbine construction. Overhead lines showed a 0.6 percentage point increase, which appears to be mostly related to more complete mapping of networks on Skye and Shetland.

**Table 1. The visual influence of the individual indicator features from 2008 to 2013 (excluding 2011) based on the percentage of the area of Scotland they can potentially be seen from.**

Note 1: Building density is split into low and high – the data are from the same dataset.

Note 2: As a result of overlapping indicator features the individual values do not add up to the total value in each year.

	2008	2009	2010	2012	2013
Airfields	7.1	7.1	7.1	6.9	6.9
Major bridges	0.7	0.9	0.9	0.9	0.9
Extraction industries	7.6	7.6	7.6	7.6	7.6
Offshore surface structures	0.1	0.1	0.1	0.1	0.1
Wind turbines (operational)	19.9	31.6	35.6	41.7	45.9
Tall structures without wind turbines	46.3	46.2	46.3	46.1	46.1
Building density (low)	34.2	34.4	34.4	34.5	34.5
Building density (high)	2.7	2.7	2.8	2.8	2.8
Motorways	0.5	0.5	0.5	0.5	0.5
Trunk roads	2.6	2.7	2.7	2.7	2.7
Non trunk A roads	5.4	5.3	5.3	5.3	5.3
B roads	4.5	4.5	4.5	4.5	4.5
Minor roads	12.7	12.9	13.1	13.3	13.5
Railways	1.7	1.7	1.7	1.7	1.7
Overhead lines	7.1	7.1	7.1	7.1	7.7
<b>Overall visual influence</b>	<b>65.4</b>	<b>68.6</b>	<b>70.6</b>	<b>71.4</b>	<b>73</b>

Calculating the visual influence of built development involved mapping the different components using pre-defined values for the potential maximum extent of their visual influence, called buffers. These buffer values were determined using expert judgement and may be subject to review as knowledge improves in future iterations of the indicator. The approach applies larger buffers to tall structures (e.g. wind turbines, pylons and masts), that can be seen from a greater distance, whereas low or flat structures such as roads have smaller buffers. The results for each of the components are then added together. Importantly, the rules are transparent and the method is repeatable (SNH, 2014).

## Source data and updates

Data are obtained from Ordnance Survey (used under licence); SNH; Scottish Government; and RenewableUK.<sup>3</sup> Dataset versions are from sources as close as possible to December 2013. This is a nationwide analysis and the indicator can be updated annually.

## UK indicator

No equivalent.

## References

SNH. 2014. Visual influence of built development indicator – 2013 data update - Technical note. Scottish Natural Heritage, Inverness.

<sup>2</sup> Due to technical issues a separate analysis of 2011 data was not prepared.

<sup>3</sup> <http://www.renewableuk.com/>

