

Measuring urban cooling



September 2020

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Office for National Statistics of the United Kingdom

History

2011

2012

2014

2018

2019

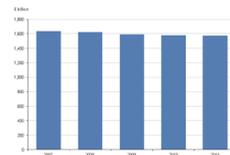
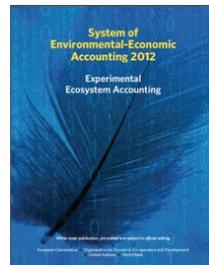
2020



Office for
National Statistics



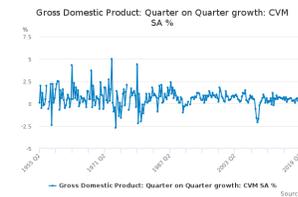
Department
for Environment
Food & Rural Affairs



UK Government
A Green Future: Our 25 Year Plan to
Improve the Environment

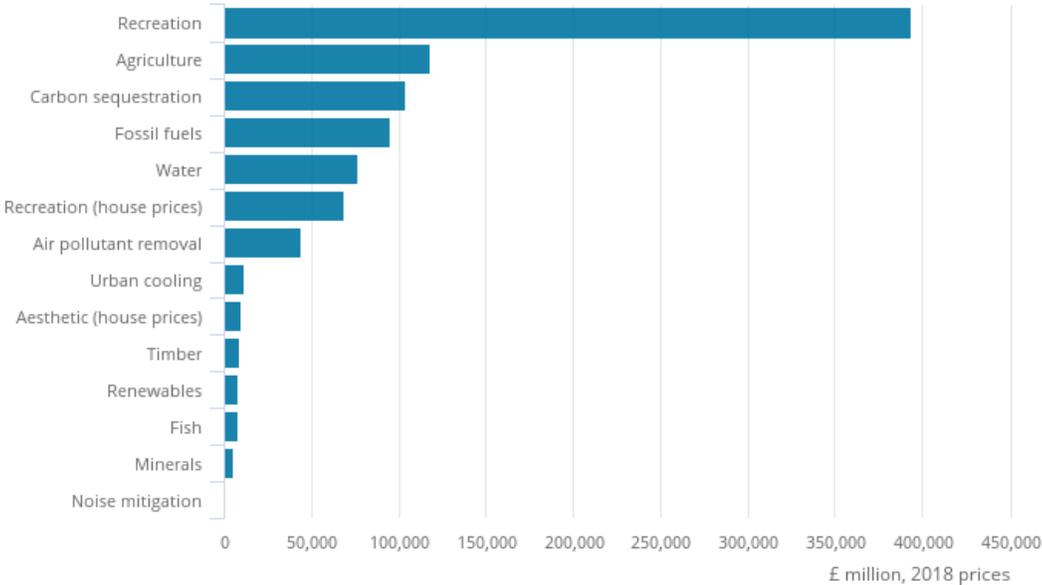


Scottish Government
Riaghaltas na h-Alba
gov.scot

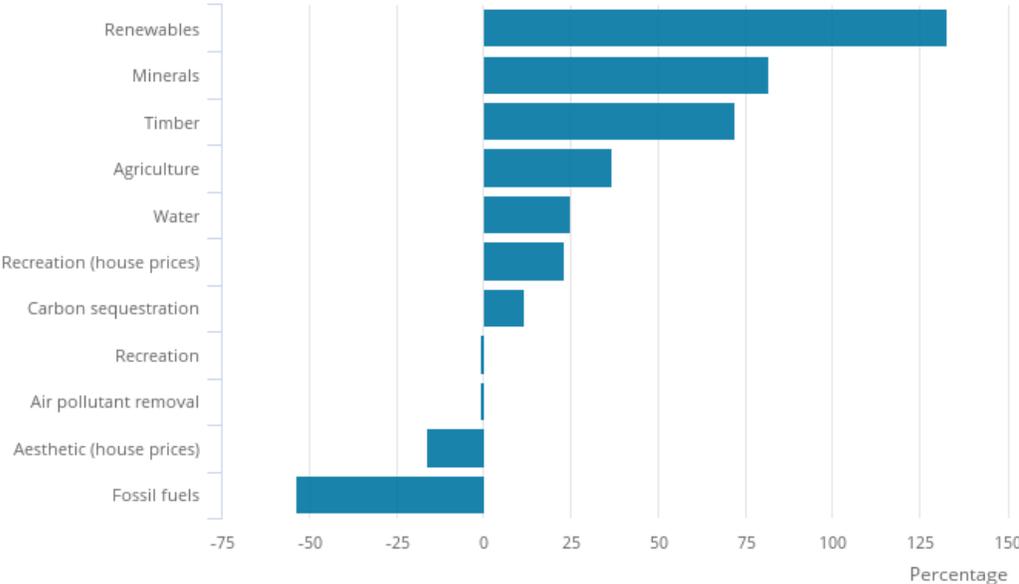


The Thirteen

UK Natural Capital Asset Values 2016



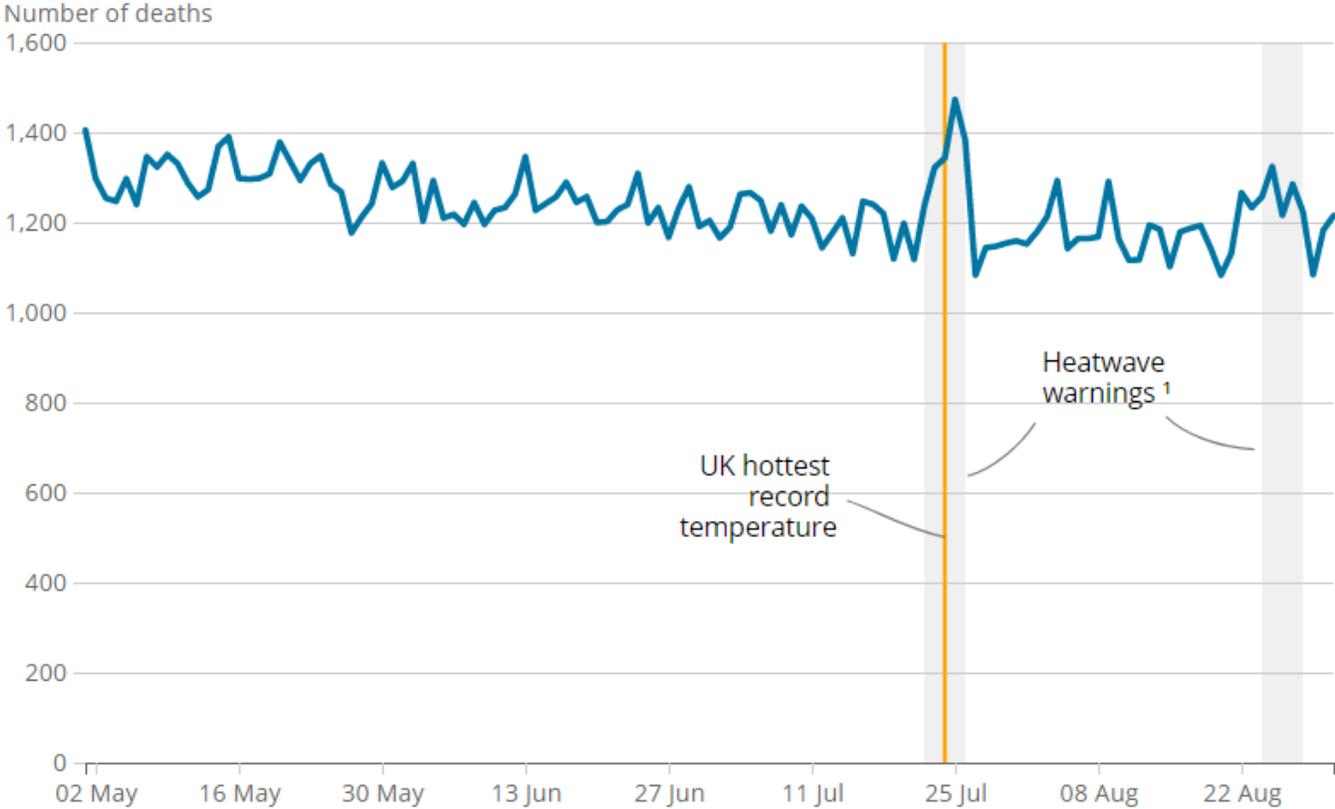
UK Natural Capital Asset Value changes 2009 - 2016

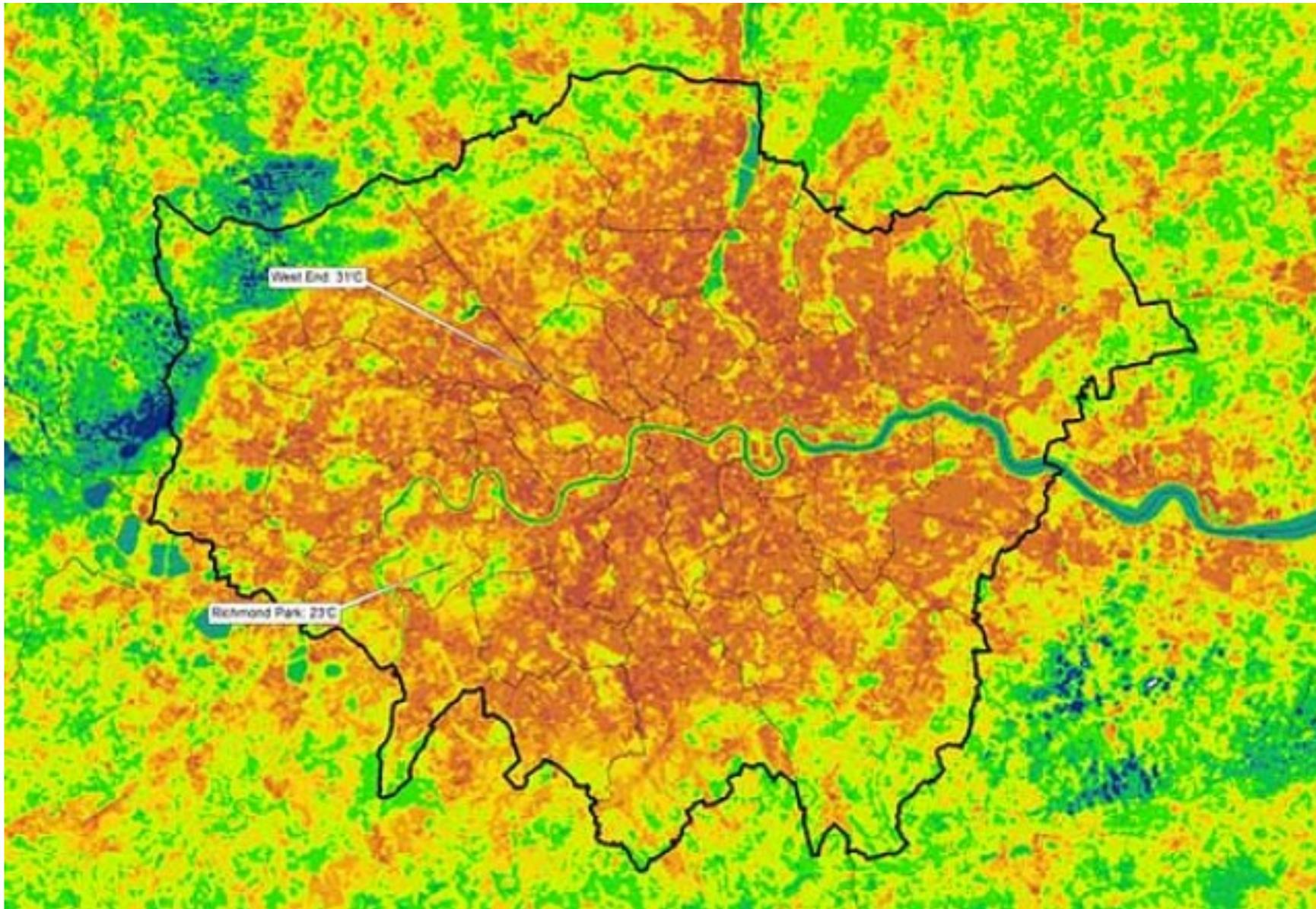


Impacts

- *Health and Mortality*
- Productivity
- Energy Demand

Deaths registered and recorded temperatures, England and Wales, May to August 2019





Credit: ARUP (2013)

Average annual cooling effect of green space and blue space in each of 11 city regions (degrees Celsius) 2013 to 2017

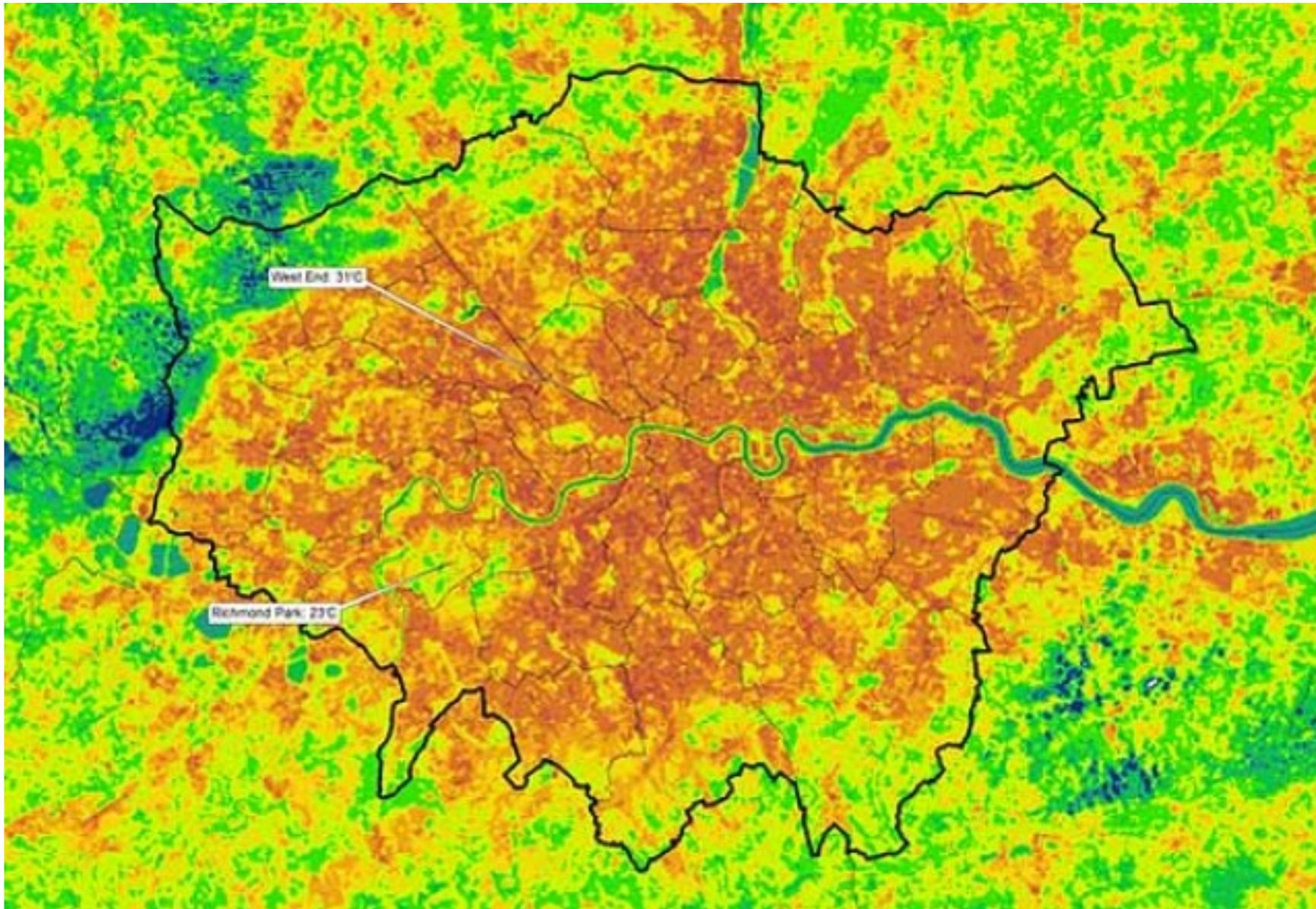
	Combined	Woodland	Parks/grass	Gardens	Rivers/canals
Cardiff City Region	-0.71	-0.23	-0.2	-0.26	-0.01
Edinburgh City Region	-0.88	-0.39	-0.24	-0.24	-0.01
Glasgow City Region	-0.8	-0.32	-0.22	-0.24	-0.02
Greater Manchester City Region	-0.75	-0.24	-0.27	-0.22	-0.01
Liverpool City Region	-0.63	-0.15	-0.19	-0.28	-0.01
London City Region	-0.72	-0.25	-0.21	-0.24	-0.02
North East City Region	-0.65	-0.17	-0.22	-0.25	-0.02
Sheffield City Region	-0.73	-0.23	-0.2	-0.29	-0.01
West Midlands City Region	-0.72	-0.21	-0.21	-0.28	-0.01
West of England City Region	-0.69	-0.19	-0.19	-0.29	-0.01
West Yorkshire City Region	-0.83	-0.28	-0.32	-0.22	-0.01

Avoided costs from Cooling & Hot Days

	2016		2017	
	Total avoided costs £ 1,000	Number of hot days	Total avoided costs £ 1,000	Number of hot days
Cardiff city region	3,311	1.28	5,174	3.14
Edinburgh city region	229	0.21	-	0
Glasgow city region	320	0.24	-	0
Greater Manchester city region	7,686	0.98	1,410	0.86
Liverpool city region	4,154	1	847	2.17
London city region	232,993	8.2	204,275	7.42
North East city region	346	0.35	35	0.02
Sheffield city region	3,401	2.42	3,129	1.91
West Midlands city region	12,425	2.81	15,804	4.57
West of England city region	4,572	1.62	11,170	4.63
West Yorkshire city region	4,633	1.1	1,743	1
Total	274,070	20.22	243,587	25.71

Impact of increasing urban greenspace

	2016 productivity saving £ 1,000	Increase from a 1% increase in forest cover £ 1,000	% improvement
Cardiff city region	3,311	113	3.4%
Edinburgh city region	229	4	1.7%
Glasgow city region	320	5	1.6%
Greater Manchester city region	7,686	193	2.5%
Liverpool city region	4,154	90	2.2%
London city region	232,993	7,639	3.3%
North East city region	346	8	2.3%
Sheffield city region	3,401	128	3.8%
West Midlands city region	12,425	578	4.7%
West of England city region	4,572	256	5.6%
West Yorkshire city region	4,633	134	2.9%
Total	274,070	9,152	3.3%



Credit: ARUP (2013)

THANKYOU



UK Centre for
Ecology & Hydrology

eftec economics for
the environment

Wider Thanks



Llywodraeth Cymru
Welsh Government



Marine
Management
Organisation



Department for
Business, Energy
& Industrial Strategy



Oil & Gas
Authority



Department
for Environment
Food & Rural Affairs



HM Treasury