



NHS England Carbon Footprint (published 2012)

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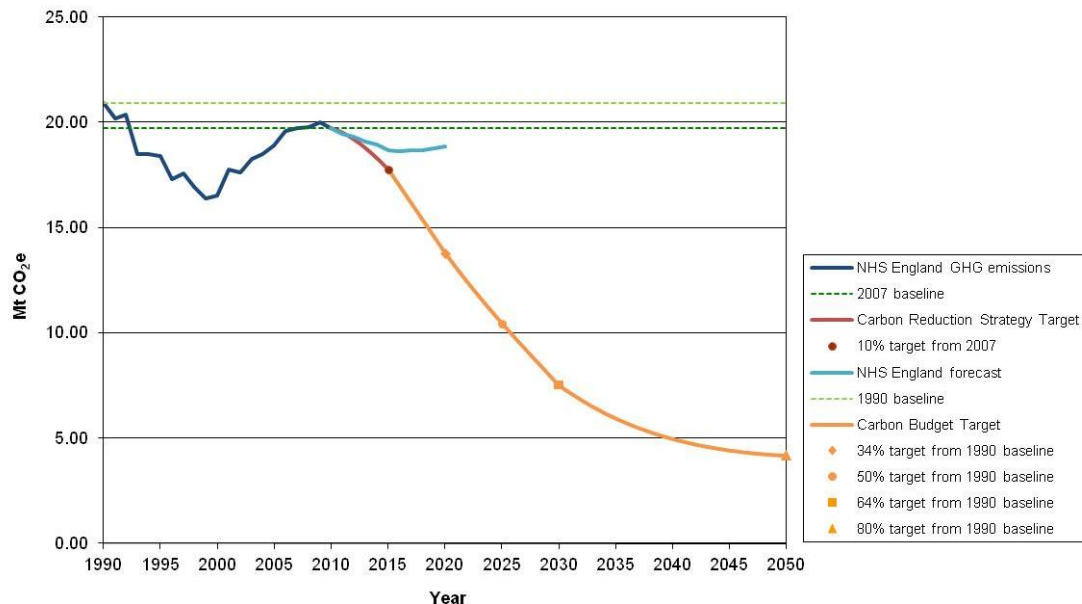
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Key messages

- Carbon emissions for NHS England have stopped rising and are levelling off
- Meeting the carbon reduction targets will still be a significant challenge
- Improvements shown in building energy efficiency during 2010/11
- Increased renewable energy from the national grid
- The carbon intensity in 2010 has dropped to around a third of the 1990 level
- Updated with the latest environmental reporting guidelines from Defra
- Procurement remains the largest category



Update to NHS England carbon footprint



In 2010 the NHS England carbon footprint stopped rising and are levelling off. The latest update establishes the carbon footprint at 20 million tonnes of CO₂e (MtCO₂e).

This latest graph projects a 5.4% (1 MtCO₂e) decrease in the NHS England carbon footprint by 2015. A further cut of 4.6% (0.9 MtCO₂e) will be needed if the NHS is to reduce its emissions by 10% by 2015 as proposed in the NHS Carbon Reduction Strategy¹.

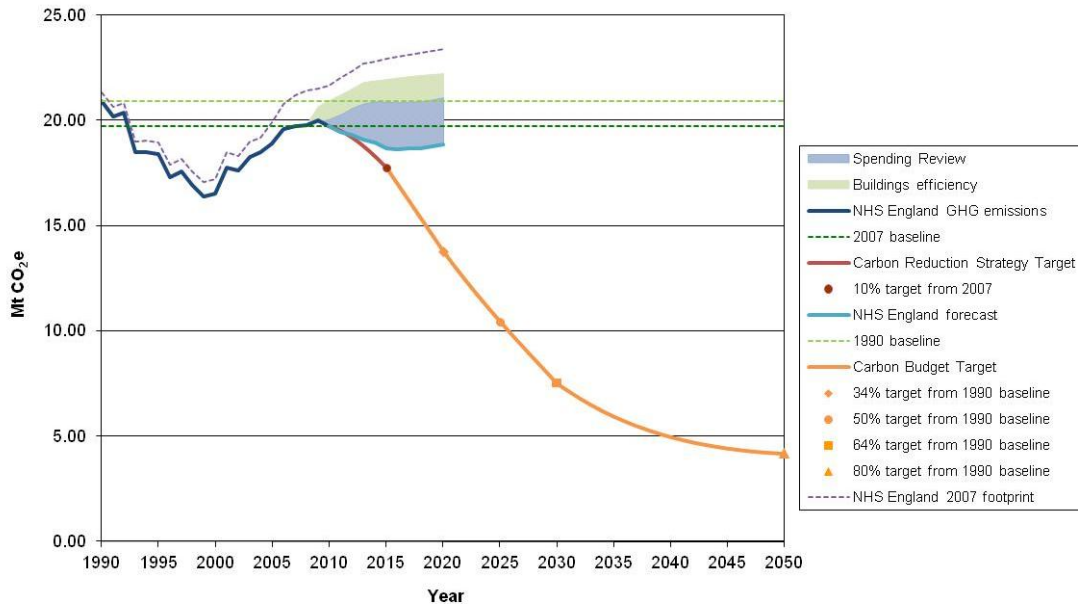
With the revised NHS budget from the 2010 spending review and improved projections of electricity from renewable the forecast for 2015 has also reduced. However there is still some way to go to reach a 10% reduction by 2015.

All calculations in this publication have been made with the latest available data and the most widely accepted and tested methodology. There will inevitably be changes in both data (and to some extent methodology) in years to come.

¹ NHS Carbon Reduction Strategy for England: Saving Carbon, Improving Health, 2009. Cambridge:NHS Sustainable Development Unit. Available at: <http://www.sdu.nhs.uk/publications-resources/3/NHS-Carbon-Reduction-Strategy/>



Update to 2015 forecast



The forecast to 2020 has been updated with the most recent data including the following changes:

	Change	Reduction to 2015
1	Spending Review ² – growth in expenditure between 2011 and 2015 is around 1% rather than 4.5% as previously forecast.	2.2 MtCO ₂ e
2	Building energy use – actual building energy use since 2008 is lower than forecast. For example between 2009/10 and 2010/11 building energy has decreased by 1.8% compared with a forecast increase of 4.5% per annum. In addition the DECC targets now include 35% of electricity coming from renewable or Carbon Capture and Storage (CCS) ³ by 2020.	0.9 MtCO ₂ e
3	Carbon Intensities update – improvements to the methodology in line with Defra guidance ⁴ .	

The Climate Change Act target has been included on this chart with a 50% reduction by 2025 from a 1990 baseline.

² HM Treasury spending review. Available at:

http://www.hm-treasury.gov.uk/spend_index.htm

³ DECC electricity generation forecasts. Available at:

http://www.decc.gov.uk/en/content/cms/about/ec_social_res/analytic_projs/en_emis_projs/en_emis_projs.aspx

⁴ Defra measuring and reporting environmental impacts. Guidelines to Defra/DECC's Greenhouse Gas Conversion factors for Company Reporting. Available at:

<http://www.defra.gov.uk/environment/economy/business-efficiency/reporting/>



Carbon intensity update

Defra have improved the methodology and guidance for using carbon intensities. Updates have included some improvements and standardised the calculation of emissions as follows:

	Change	Reduction in 2007 emissions
1	Fossil fuel factors now include scope 3 in published figures. Previously NHS England scope 3 emissions for gas were included using expenditure data.	0.8 MtCO ₂ e
2	Electricity factors were updated by Defra and the electricity use has been revised following later submission of ERIC returns.	0.3 MtCO ₂ e
3	Travel intensity factors are now available from Defra.	0.3 MtCO ₂ e

Figures from all years have been updated so that trends over time are representative of changes within the NHS rather than in the methods of monitoring.

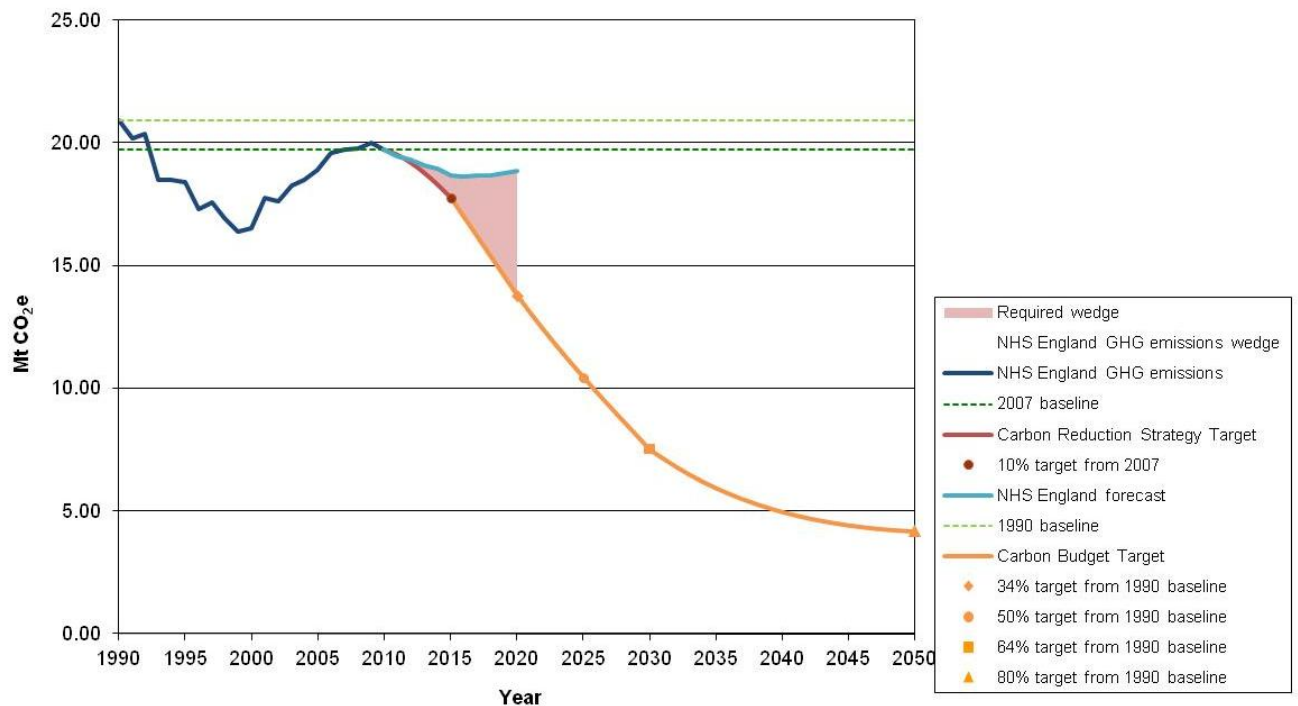
We have considered moving to a two region model for scope 3 carbon intensities which would align with the latest footprint for central government commissioned by Defra⁵. Initial analysis suggests an increase in the estimate of total emissions of around 30%. The sector classifications for expenditure are different in the two region model making sector comparisons flawed. However there is one striking difference in the estimate of carbon emissions from pharmaceuticals which is more than double the single region estimate. In particular the pharmaceuticals “rest of world” carbon intensity is around three times the estimate for the UK. The NHS SDU will continue to explore the different methodologies and work with partners to ensure the most pragmatic approach is adopted and translated for the NHS.

⁵ Defra Research and Development: Measuring the pan-government carbon footprint - EV0464, 2010. Available here:

<http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=17486>



Reductions to 2015 and 2020



The current forecast predicts a 5.4% (1 MtCO₂e) decrease by 2015 on a 2007 baseline. A further 4.6% (0.9 MtCO₂e) would be required in addition to the current forecast in order to meet a 10% reduction by 2015.

The Climate Change Act and subsequent legislation⁶ sets a target of 34% reduction by 2020 from a 1990 baseline followed by a 50% reduction by 2025. The Carbon Plan published in December 2011 sets out the scale of action required to achieve these reductions.

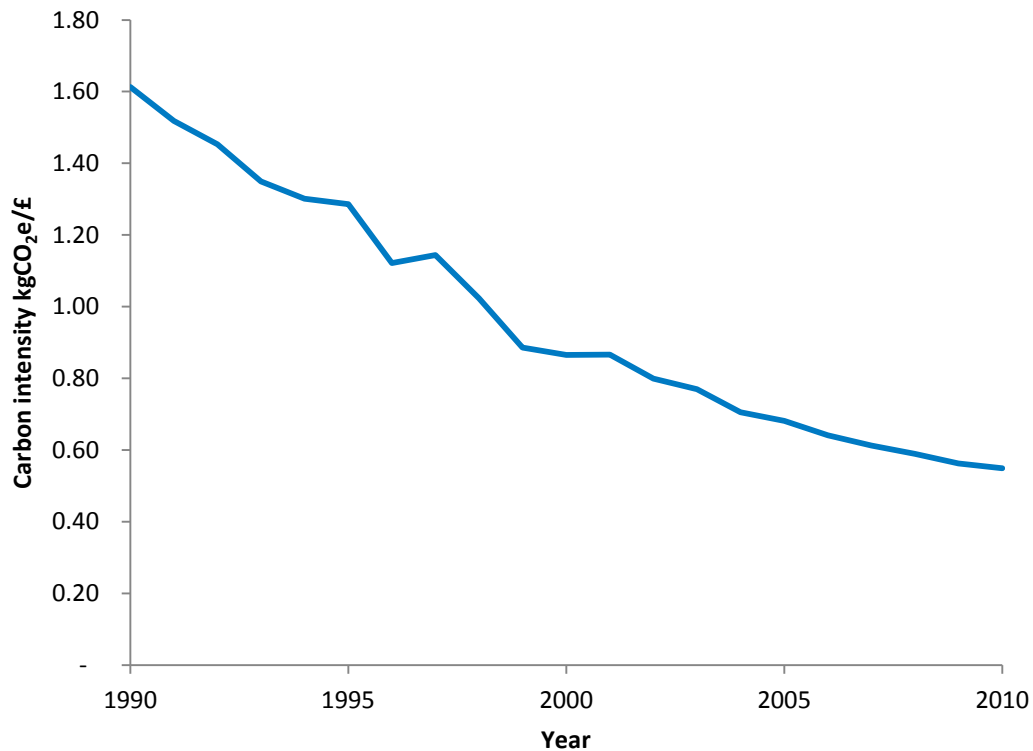
Overall by 2020 the current forecast predicts a 9.8% (2.1 MtCO₂e) reduction on a 1990 baseline. A further 24.2% (5.06 MtCO₂e) reduction is required to achieve a 34% reduction in 2020.

⁶ DECC, Climate Change Act targets. Available at:

http://www.decc.gov.uk/en/content/cms/emissions/carbon_budgets/carbon_budgets.aspx



NHS England carbon intensity



As this chart shows the carbon intensity of the NHS has decreased steadily since 1990. Increasing activity has outpaced this improvement in efficiency so that overall the carbon footprint has increased.

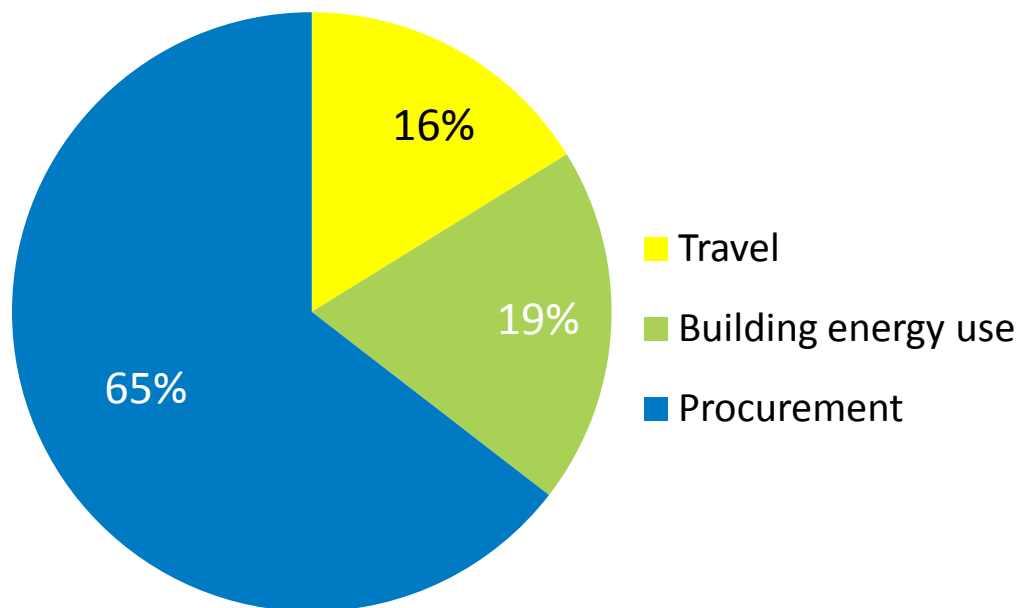
The updated figures are as follows (using 2004 prices):

Year	Emissions (MtCO ₂ e)	Expenditure (£m)	Intensity (kgCO ₂ e/£)
1990	20.9	12,958	1613
2010	19.7	35,898	549

Although the carbon footprint has remained at around 20MtCO₂e the carbon intensity of the NHS has reduced to around a third of the 1990 level.



Breakdown of the NHS England carbon footprint 2010



Travel	3.19	MtCO ₂ e	16%
Building energy use	3.80	MtCO ₂ e	19%
Procurement	12.72	MtCO ₂ e	65%

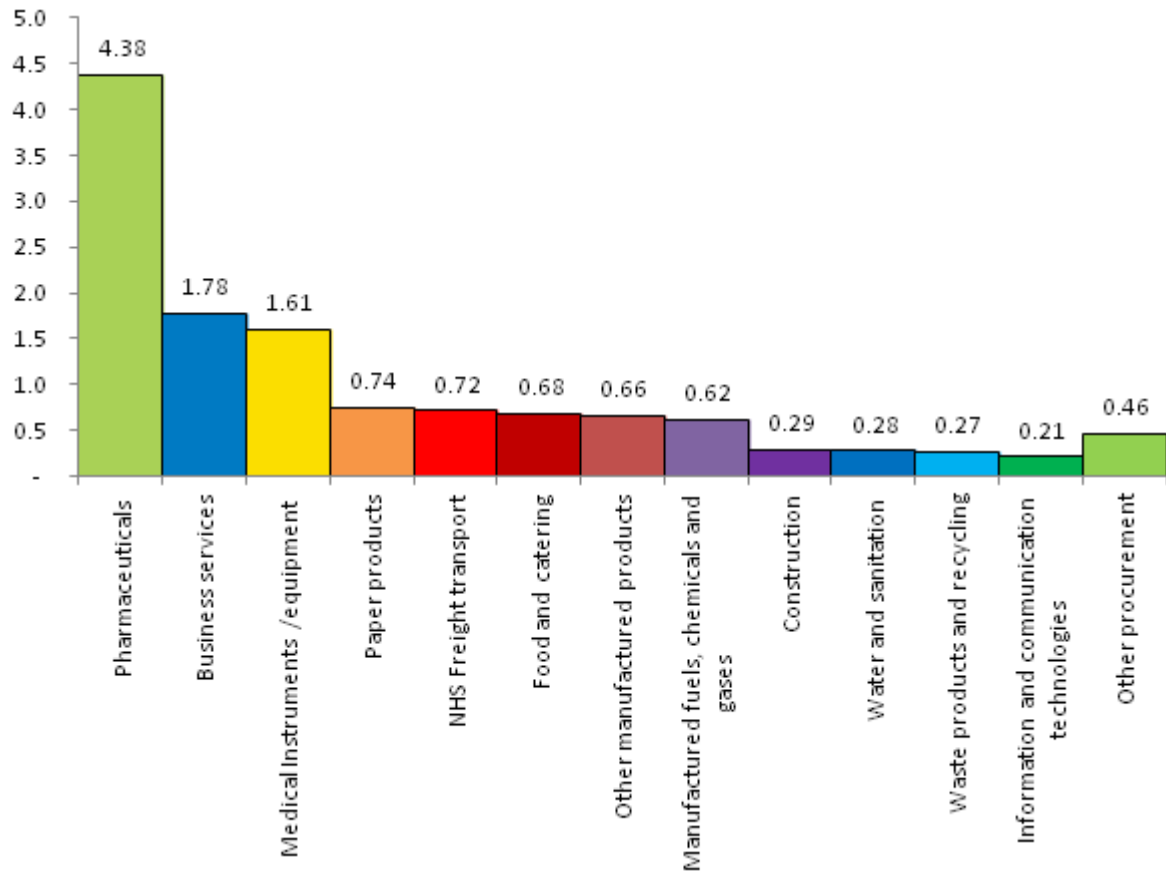
Procurement remains the largest of the three primary sectors. Both the steady growth in procurement emissions and decreases in the other sectors have increased the proportion from 60% in 2004 to 65% in 2010.

Building energy use emissions have decreased, with the move from coal and oil to a greater reliance on gas. The decrease in emissions takes the proportion from 22% in 2004 to 19% in 2010.

Travel emissions have remained fairly constant and now represent 16% of emissions in 2010.



Procurement breakdown by category



The pharmaceuticals sector remains the largest economic sector contributing to the NHS England carbon footprint. Improvements in the ONS classification of economic sectors has revealed that business services is now a higher proportion of the procurement footprint.

Next steps

A more detailed study of the breakdown of the procurement carbon footprint will be available in spring 2012.