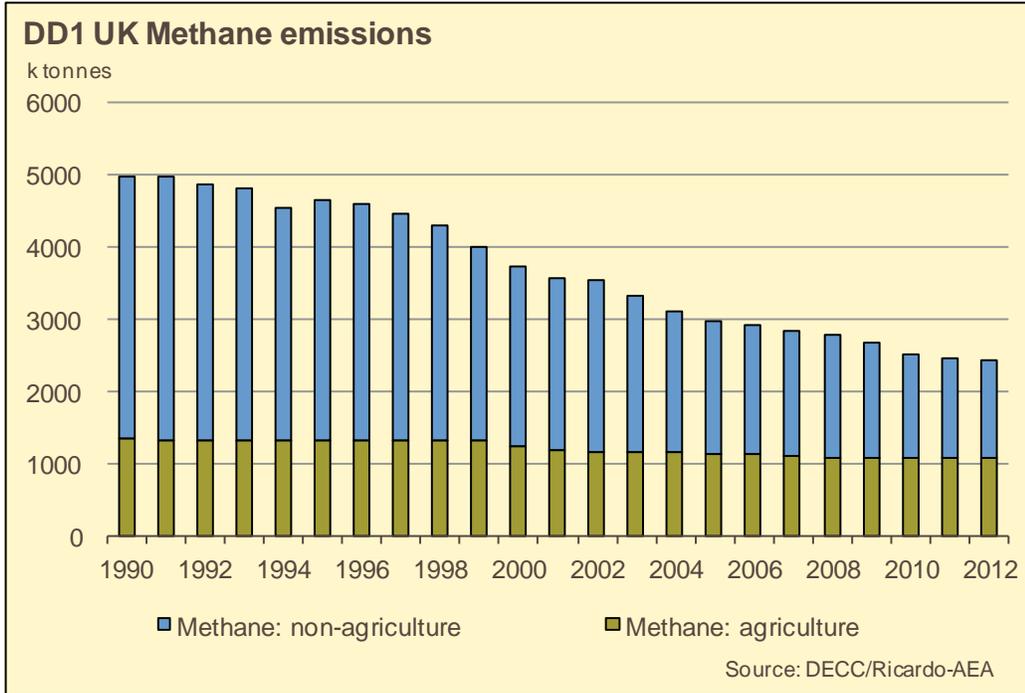


Observatory monitoring framework – indicator data sheet

Environmental impact: Climate change

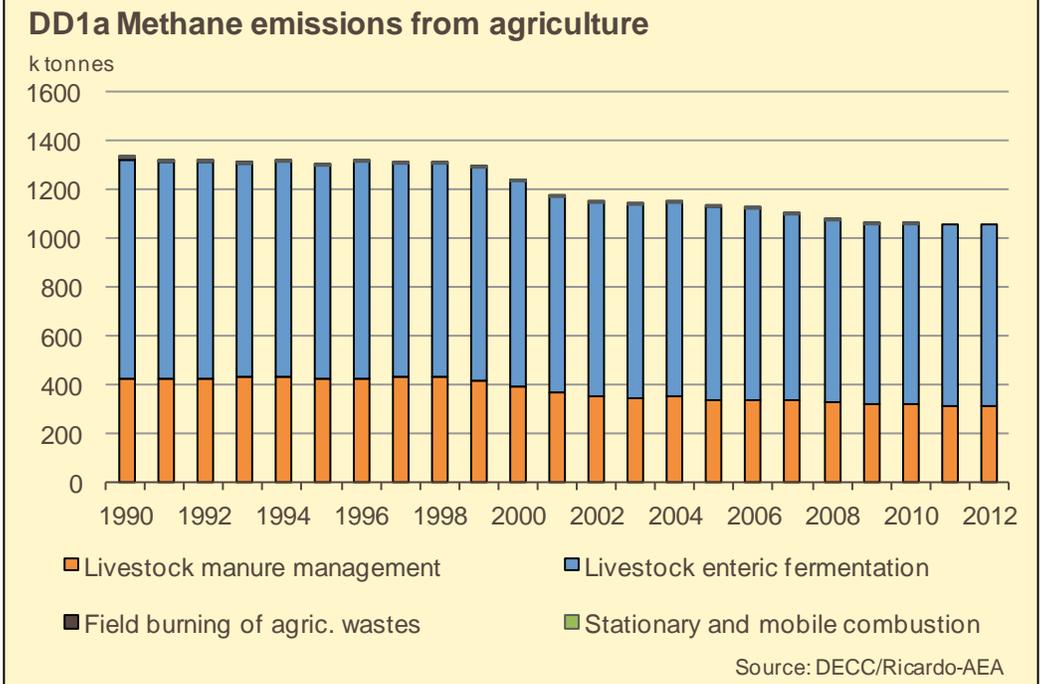
Indicator DD1: Methane emissions

This indicator shows agriculture’s contribution to total UK methane emissions. In 2012, the main sources of methane were agriculture (44% of the total) and landfill sites (37%).



In 2012, UK methane emissions, excluding those from natural sources, were 2% below 2011 and 51% below 1990 levels.

The major agricultural sources of methane are enteric fermentation (digestive processes) and manure management.



- Since 1990 emissions of all three greenhouse gases from agriculture (Methane, Nitrous Oxide, Carbon Dioxide), have shown a steady decline; by 2012, methane emissions from agriculture had fallen by 21% from 1990.
- Between 2011 and 2012 there was very little change in emissions from the agriculture sector (a fall of 0.2%).

This indicator was updated in February 2014. It will next be updated in February 2015.

Further information and contact

Background information can be found in the accompanying fact sheet.

For further queries or information on this indicator contact Defra's Observatory team on +44 (0) 1904 455823 or email Observatory@defra.gsi.gov.uk

Observatory monitoring framework – indicator fact sheet

Environmental impact: Climate change

Indicator DD1: Methane emissions

<i>Indicator</i>	Methane emissions from agriculture.
<i>Data</i>	Emissions of methane from agriculture.
<i>Geographic coverage</i>	UK
<i>Years</i>	1990 – 2012
<i>Source</i>	Department of Energy and Climate Change (DECC)
<i>Origin of data</i>	UK greenhouse gas inventory, Ricardo-AEA
<i>Updates</i>	This indicator will be updated annually. The next update is due in February 2015.
<i>Background</i>	<p>Methane (CH₄) is a greenhouse gas which contributes to global warming and climate change. In 2012, methane accounted for about 9% of the UK's greenhouse gas emissions. It is one of the basket of six greenhouse gases for which emission reduction targets were agreed internationally under the Kyoto Protocol. Agriculture is the largest source of methane in the UK followed by landfill sites.</p> <p>The UK target under the Kyoto Protocol was to reduce greenhouse gas emissions to 12.5% less than 1990 baseline levels by 2008 to 2012 (averaged over 5 years).</p> <p>The Climate Change Act 2008 sets a legally binding commitment of at least an 80% cut in Greenhouse Gas (GHG) emissions by 2050 measured against a 1990 baseline. To support progress towards achieving this ambition, a carbon budgeting system which caps GHG emissions over five year periods, has been established with the first three carbon budgets running from 2008 – 2012, 2013 – 2017 and 2018 – 2022. Carbon budgets cap GHG emissions from the overall 'carbon' economy but do not set targets for sectors as action to reduce GHG emissions is focused on areas where cost effective savings may be achieved. The level of savings between sectors of the carbon economy will therefore vary to reflect the unique challenges and circumstances each face.</p> <p>In England, the approach for reducing GHG emissions from agriculture includes a range of actions led by industry and government. The Greenhouse Gas Action Plan (GHGAP) is an industry led voluntary initiative being taken forward by an Industry Partnership consisting of 14 organisations. It outlines how GHG emission reductions could be delivered between now and the third carbon budget (2018 – 2022) through wider uptake of more resource efficient practices. Its ambition is to:</p> <ul style="list-style-type: none">• Reduce annual GHG emissions from English agricultural production by 3 MtCO₂e by the third carbon budget period (2018 – 2022), compared to a 2007 baseline.
<i>Statistical & methodological information</i>	<p>The UK greenhouse gas inventory is compiled for the UK governments by Ricardo-AEA.</p> <p>The major agricultural sources of methane are enteric fermentation (digestive processes) and manure management. Estimates for both types of emissions are calculated from animal population data collected in the June Survey, combined with</p>

the appropriate emission factors. In 2004, categories used to report emissions of air pollutants to the UNECE changed to become more consistent with reporting categories used to report greenhouse gas emissions to the International Panel on Climate Change (IPCC). The main changes regarding methane concern the emission factors used for enteric fermentation and manure management from dairy cattle. Further information on calculation of estimates is available on the National Atmospheric Emissions Inventory website (see below).

Emissions from animal wastes depend on the method of storage or management. When stored as slurry, much of the decomposition is anaerobic and methane is produced in significant quantities. However, faeces deposited whilst grazing, or stored as farmyard manure decompose aerobically and produce little methane.

An analysis of uncertainty in emission estimates for 1999 and 2000 versions of the NAEI suggests that the level of uncertainty for methane emissions is +/-20%. Although for any given year considerable uncertainties can surround the emission estimates for a given pollutant, trends over time are likely to be more reliable. UK national emission estimates are updated annually and any developments in methodology are applied retrospectively to earlier years. Adjustments in the methodology are made to accommodate new technical information and to improve international comparability.

*Further
information*

Data and information on greenhouse gas emissions can be found at:

<https://www.gov.uk/government/collections/uk-greenhouse-gas-emissions>

Further information about the Kyoto protocol can be found at:

http://unfccc.int/files/national_reports/initial_reports_under_the_kyoto_protocol/application/pdf/report_final.pdf

Further information on the 2008 Climate Change Act can be found at:

<https://www.gov.uk/government/policies/reducing-the-uk-s-greenhouse-gas-emissions-by-80-by-2050>

The 2012 review of progress in reducing greenhouse gas emissions from agriculture can be found at:

<https://www.gov.uk/government/publications/2012-review-of-progress-in-reducing-greenhouse-gas-emissions-from-english-agriculture>

The National Atmospheric Emissions Inventory web site can be found at:

<http://www.naei.org.uk/>

The Agricultural statistics and climate change publication can be found at:

<https://www.gov.uk/government/publications/agricultural-statistics-and-climate-change>