

Assessment of compliance with the Code of Practice for Official Statistics

Statistics on Energy and Climate Change

*(produced by the Department of Energy and Climate
Change)*

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About the UK Statistics Authority

The UK Statistics Authority is an independent body operating at arm's length from government as a non-ministerial department, directly accountable to Parliament. It was established on 1 April 2008 by the *Statistics and Registration Service Act 2007*.

The Authority's overall objective is to promote and safeguard the production and publication of official statistics that serve the public good. It is also required to promote and safeguard the quality and comprehensiveness of official statistics, and good practice in relation to official statistics.

The Statistics Authority has two main functions:

1. oversight of the Office for National Statistics (ONS) – the executive office of the Authority;
2. independent scrutiny (monitoring and assessment) of all official statistics produced in the UK.

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ASSESSMENT AND DESIGNATION

The *Statistics and Registration Service Act 2007* gives the UK Statistics Authority a statutory power to assess sets of statistics against the *Code of Practice for Official Statistics*.

Assessment will determine whether it is appropriate for the statistics to be designated as National Statistics.

Designation as National Statistics means that the statistics comply with the *Code of Practice*. The *Code* is wide-ranging. Designation can be interpreted to mean that the statistics: meet identified user needs; are produced, managed and disseminated to high standards; and are explained well.

Designation as National Statistics should not be interpreted to mean that the statistics are always correct. For example, whilst the *Code* requires statistics to be produced to a level of accuracy that meets users' needs, it also recognises that errors can occur – in which case it requires them to be corrected and publicised.

Assessment reports will not normally comment further on a set of statistics, for example on their validity as social or economic measures. However, reports may point to such questions if the Authority believes that further research would be desirable.

Assessment reports typically provide an overview of any noteworthy features of the methods used to produce the statistics, and will highlight substantial concerns about quality. Assessment reports also describe aspects of the ways in which the producer addresses the 'sound methods and assured quality' principle of the *Code*, but do not themselves constitute a review of the methods used to produce the statistics. However the *Code* requires producers to "seek to achieve continuous improvement in statistical processes by, for example, undertaking regular reviews".

The Authority may grant designation on condition that the producer body takes steps, within a stated timeframe, to fully meet the *Code's* requirements. This is to avoid public confusion and does not reduce the obligation to comply with the *Code*.

The Authority grants designation on the basis of three main sources of information:

- i. factual evidence and assurances by senior statisticians in the producer body;
- ii. the views of users who we contact, or who contact us, and;
- iii. our own review activity.

Should further information come to light subsequently which changes the Authority's analysis, it may withdraw the Assessment report and revise it as necessary.

It is a statutory requirement on the producer body to ensure that it continues to produce the set of statistics designated as National Statistics in compliance with the *Code of Practice*.

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1 Summary of findings

1.1 Introduction

1.1.1 This is one of a series of reports¹ prepared under the provisions of the *Statistics and Registration Service Act 2007*². The Act gives the Statistics Authority power to re-assess whether the *Code of Practice for Official Statistics*³ continues to be complied with in relation to official statistics already designated as National Statistics. The report covers the sets of statistics produced by the Department of Energy and Climate Change (DECC) reported in:

Energy statistics:

- *Digest of UK Energy Statistics*⁴ (DUKES)
- *UK Energy Sector Indicators*⁵
- *Energy Consumption in the UK*⁶
- *Energy Trends*⁷
- *Energy Flow Chart*⁸
- *UK Energy in Brief*⁹
- *Quarterly Energy Prices*¹⁰
- *Monthly Central Feed-in Tariff Register Statistics*¹¹

Sub-national energy consumption statistics:

- *Sub-national electricity consumption statistics*¹²
- *Sub-national gas consumption statistics*¹³
- *Sub-national road transport fuel consumption statistics*¹⁴

¹ <http://www.statisticsauthority.gov.uk/assessment/assessment-reports/index.html>

² http://www.opsi.gov.uk/Acts/acts2007/pdf/ukpga_20070018_en.pdf

³ <http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html>

⁴ <https://www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes>

⁵ <https://www.gov.uk/government/collections/uk-energy-sector-indicators>

⁶ <https://www.gov.uk/government/collections/energy-consumption-in-the-uk>

⁷ <https://www.gov.uk/government/collections/energy-trends>

⁸ <https://www.gov.uk/government/publications/energy-flow-chart-2012>

⁹ <https://www.gov.uk/government/organisations/department-of-energy-climate-change/series/uk-energy-in-brief>

¹⁰ <https://www.gov.uk/government/organisations/department-of-energy-climate-change/series/quarterly-energy-prices>

¹¹ <https://www.gov.uk/government/statistical-data-sets/monthly-central-feed-in-tariff-register-statistics>

¹² <https://www.gov.uk/government/organisations/department-of-energy-climate-change/series/sub-national-electricity-consumption-data>

¹³ <https://www.gov.uk/government/organisations/department-of-energy-climate-change/series/sub-national-gas-consumption-data>

¹⁴ <https://www.gov.uk/government/organisations/department-of-energy-climate-change/series/road-transport-consumption-at-regional-and-local-level>

- *Sub-national residual fuel consumption statistics*¹⁵
- *Sub-national total final energy consumption statistics*¹⁶
- *Sub-national electricity and gas consumption data below Local Authority Level*¹⁷

Emissions statistics:

- *Carbon Dioxide Emissions at Local Authority and Regional Levels*¹⁸
- *UK Greenhouse Gas Emissions – provisional*¹⁹
- *UK Greenhouse Gas Emissions – final*²⁰

Fuel poverty statistics:

- *Annual Report on Fuel Poverty Statistics*²¹

1.1.2 The previous assessments of these sets of statistics were reported in Assessment reports 5, 20, 31 and 53²². Annex 3 presents the Requirements from the previous assessments. The Statistics Authority has chosen to re-assess these statistics as part of its ongoing programme of re-assessment.

1.1.3 The Act allows an appropriate authority²³ to request an assessment of other official statistics in order for them to gain National Statistics status. In response to such a request, this report also covers the sets of statistics produced by DECC and reported in:

The National Energy Efficiency Data Framework (NEED):

- *Summary of Analysis using the National Energy Efficiency Data-Framework Part I: Domestic Energy Consumption*²⁴ (NEED Part 1)
- *Summary of Analysis using the National Energy Efficiency Data-Framework Part II: Impact of Energy Efficiency Measures in Homes*²⁵ (NEED Part 2)

¹⁵ <https://www.gov.uk/government/organisations/department-of-energy-climate-change/series/sub-national-consumption-of-other-fuels>

¹⁶ <https://www.gov.uk/government/organisations/department-of-energy-climate-change/series/total-final-energy-consumption-at-sub-national-level>

¹⁷ <https://www.gov.uk/government/publications/msoa-igz-and-lsoa-factsheet>

¹⁸ <https://www.gov.uk/government/publications/local-authority-emissions-estimates>

¹⁹ <https://www.gov.uk/government/publications/provisional-uk-emissions-estimates>

²⁰ <https://www.gov.uk/government/publications/final-uk-emissions-estimates>

²¹ <https://www.gov.uk/government/publications/fuel-poverty-report-updated-august-2013>

²² AR5 covered *UK Energy Sector Indicators*, AR 20 covered the energy and sub national statistics, AR31 covered the emissions statistics, and AR 53 covered *Annual Report on Fuel Poverty Statistics*

²³ Subsection 12(7) of the Act defines ‘appropriate authority’ as Ministers of the Crown, Scottish Ministers, Welsh Ministers, Northern Ireland departments or the National Statistician

²⁴ <https://www.gov.uk/government/publications/national-energy-efficiency-data-framework-need-report-summary-of-analysis-2013-part-1>

²⁵ <https://www.gov.uk/government/publications/national-energy-efficiency-data-need-report-summary-of-analysis>

Green Deal and Energy Company Obligation (ECO) statistics:

- *Green Deal and Energy Company Obligation monthly*²⁶ (GDS monthly)
- *Green Deal, ECO and insulation levels – quarterly*²⁷ (GDS quarterly)

Home Insulation statistics:

- *Estimates of Home Insulation Levels in Great Britain*²⁸

1.1.4 Section 3 of this report adopts an ‘exception reporting’ approach – it includes text only to support the Requirements made to strengthen compliance with the *Code* and Suggestions made to improve confidence in the production, management and dissemination of these statistics. This abbreviated style of report reflects the Head of Assessment’s consideration of aspects of risk and materiality²⁹. The Assessment team nonetheless assessed compliance with all parts of the *Code of Practice* and has commented on all those in respect of which some remedial action is recommended.

1.1.5 *UK Energy Sector Indicators, Energy Consumption in the UK* and *UK Energy In Brief* are compendium publications. Assessments of compendium publications against the *Code of Practice* relate to the processes involved in preparing the publication, rather than in producing the statistics that are included. The National Statistics designation relating to the compendium is not automatically conferred on any of the constituent series. Those sets of statistics will normally be subject to separate assessment to attain National Statistics status, but in some cases a compendium publication may include other statistics where this is helpful context. Designation of a compendium publication as National Statistics therefore means that the producer body has, for example: identified and met user needs in terms of the content of the publication; considered the appropriateness of each series for inclusion; and written appropriate commentary.

1.1.6 This report was prepared by the Authority’s Assessment team, and approved by the Assessment Committee on behalf of the Board of the Statistics Authority, based on the advice of the Head of Assessment.

1.2 Decision concerning designation as National Statistics

1.2.1 The Statistics Authority judges that the statistics covered by this report are readily accessible, produced according to sound methods and managed impartially and objectively in the public interest, subject to any points for action

²⁶ <https://www.gov.uk/government/collections/green-deal-and-energy-company-obligation-eco-statistics>

²⁷ <https://www.gov.uk/government/publications/green-deal-energy-company-obligation-eco-and-insulation-levels-in-great-britain-quarterly-report-to-december-2013>

²⁸ <https://www.gov.uk/government/statistical-data-sets/estimates-of-home-insulation-levels-in-great-britain>

²⁹ <http://www.statisticsauthority.gov.uk/assessment/assessment/guidance-about-assessment/criteria-for-deciding-upon-the-format-of-an-assessment-report.pdf>

in this report. The Statistics Authority confirms that the statistics listed in paragraph 1.1.1 are designated as National Statistics, and has determined that the statistics listed in paragraph 1.1.3 can be designated as new National Statistics products subject to DECC implementing the Requirements listed in section 1.5 and reporting them to the Authority by September 2014.

- 1.2.2 The Assessment Committee was impressed by the wide range and comprehensiveness of DECC's statistics, which are based on data from an unusually wide range of sources, presenting an overview of stocks and flows within the energy system. It considered that DECC's statisticians should be congratulated for their ambition in putting together this range of statistics, and their responsiveness to a constantly changing policy environment.
- 1.2.3 DECC has informed the Assessment team that it has started to implement the Requirements listed in section 1.5. The Statistics Authority welcomes this.

1.3 Summary

- 1.3.1 DECC produces a comprehensive set of statistics on a wide range of topics relating to energy and climate change. DECC compiles the statistics from an unusually wide range of sources, and gives an overview of stocks and flows within the energy system. The statistics therefore provide an excellent overview of energy in the UK, with the possibility of a user decomposing the overview into a series of sub-analyses of different aspects. DECC publishes these statistics in a wide range of statistical outputs to suit a range of users, from summary outputs for non-expert users, to detailed supplementary spreadsheets for advanced users. These reports provide an extremely rich source of information. DECC engages with users and collects their feedback through a number of channels, including its biennial user survey and themed user groups, which are well received by users. The statistics are based on a wide variety of sources (statistical, administrative, scientific, commercial), supplemented by a significant amount of modelling. This presents a variety of challenges to DECC statisticians, which the Authority considers that they have handled well.
- 1.3.2 DECC has been proactive in adding to its range of published material, partly in response to emerging legislation and targets, partly to reflect new definitions (for example fuel poverty), but also in response to user needs. Since the Authority's previous assessments, DECC has introduced a range of additional methods guides to increase the level of detailed information available, and has continued to develop the statistics with the introduction of new experimental series to address users needs, such as the Green Deal and Home Insulation Level statistics. The Authority welcomes these developments. However, DECC has expanded its range of statistics in a way that has led to a further fragmented set of statistical reports. There would be value in DECC undertaking a systematic review of the way that it publishes its suite of statistics, and how it guides users to find those most appropriate to their needs.
- 1.3.3 DECC's 2012 user survey demonstrated a high level of user satisfaction with the statistical reports. The Assessment team collected further comments from a small sample of users and, among largely positive feedback about the statistical reports, some users reported that the complexity of the range of

outputs can make it difficult for them to identify the most appropriate source for their intended purpose. Users may need to refer between publications, supplementary files and methods guides to identify key information. DECC provides a user guide, but in some cases does not provide sufficiently clear linkages and sign-posting between the main statistical reports and supplementary information. DECC’s presentation of the statistics and supporting documents lacks an intuitive interface for inexperienced users. In 2011, the Authority’s Monitoring Review: *The Accessibility and Coherence of Statistics About Climate Change* also recommended that users would benefit from ‘a portal that brought together statistics about climate change, with links to available data sources and to the information documented and collected in response to the government’s current climate change risk assessment’³⁰.

1.4 Detailed recommendations

1.4.1 The Assessment team identified some areas where it felt that DECC should improve the production and presentation of the energy and climate change statistics. Those which are essential for DECC to address in order to strengthen its compliance with the *Code* and to enable designation as National Statistics are listed – as Requirements – in section 1.5, alongside a short summary of the key findings that led to each Requirement being made. Other recommended changes, which the Assessment team considers would improve the statistics and the service provided to users but which are not formally required for their designation as National Statistics, are listed – as Suggestions – in section 1.6.

1.5 Requirements for designation as National Statistics

1.5.1 This section includes those improvements that DECC is required to make in respect of its statistics on energy and climate change in order to fully comply with the *Code of Practice for Official Statistics*, and to enable designation as National Statistics.

Finding	Requirement	
The Green Deal and Emissions statistical reports do not provide any examples of uses outside of DECC, or how the statistics meet these needs. DECC should:	1	Document the needs of users outside of DECC for the Green Deal and Emissions sets of statistics (para 3.2).
The detailed methods guides	2	Include information for users about the methods used to estimate values for any

³⁰ <http://www.statisticsauthority.gov.uk/assessment/monitoring/monitoring-reviews/monitoring-brief-7-2011---accessibility-and-coherence-of-statistics-about-climate-change.pdf>

<p>provide good information, but DECC does not provide sufficient detail about the methods that it uses to estimate for missing data in relation to energy production. DECC should:</p>		<p>missing data across the suite of energy reports (para 3.5).</p>
<p>The experimental Green Deal and Home Insulation Levels statistics are based on a large number of assumptions, but DECC has not adequately explained the foundation for these assumptions. DECC should:</p>	<p>3</p>	<p>Provide users with clear guidance about the origin of assumptions used to produce the experimental Green Deal and Home Insulation Levels statistics, and any implications for users' interpretation of the results (para 3.7).</p>
<p>DECC does not publish full details of the arrangements that it has in place to assure itself of the quality of the administrative data used to produce the statistics. DECC should:</p>	<p>4</p>	<p>Publish details about how DECC has evaluated the risk associated with administrative data used to produce its energy and climate change suite of statistics, and how it has reassured itself that this approach is adequate to ensure their suitability (para 3.8).</p>
<p>The statistical reports do not make full use of the available local authority data, providing only limited commentary at local authority level to meet local users' needs. Some charts can be difficult for non-experts to interpret due to the labelling and presentation.</p>	<p>5</p>	<p>Continue to improve the commentary in the energy and climate change suite of reports by</p> <ul style="list-style-type: none"> a) clarifying the linkages between national and regional data and explain the consequences of disparity for user interpretation b) providing further analysis of local authority trends c) ensuring that all of the charts are clearly presented to enhance interpretability of the statistics <p>(para 3.9)</p> <p>As part of meeting this Requirement, DECC</p>

DECC should:		should consider the points detailed in annex 1 and annex 2.
The energy and climate change reports provide an extremely rich data source, but it is not sufficiently clear how the reports, factsheets or data files are linked to each other, and the intended uses for each. DECC should:	6	Present the statistics in ways that enable users to identify and access information relevant to their needs (para 3.10).
The energy and climate change statistics are not consistently available in an open, non-proprietary format. DECC should:	7	Review, and update where necessary, the formats in which it publishes the data associated with its energy and climate change statistics in order to balance the needs of users and the government's open data policy (para 3.11).

1.6 Suggestions for extracting maximum value from the statistics

1.6.1 This section includes some suggestions for improvement to DECC's energy and climate change statistics, in the interest of the public good. These are not formally required for designation, but the Assessment team considers that their implementation will improve public confidence in the production, management and dissemination of official statistics.

We suggest that DECC:

1	Provide a clear statement of user need in each statistical report, or a clear link to the specific user sections within the supplementary documents where the detailed information is presented in order to aid user interpretation (para 3.1).
2	Include a direct link to the appropriate revisions policy in <i>Energy Trends</i> , <i>Quarterly Energy Prices</i> , <i>Monthly Central Feed-In-Tariff Register</i> and the sub-national reports (para 3.3).
3	Provide clearer signposting to (or improved linkages between) the energy and climate change statistics reports and the underlying methods guidance documents to support users (para 3.4).
4	Include a prominent summary of any methods changes which affect a statistical report within the report itself, to ensure that users are well informed about issues that may affect their interpretation (para 3.6).

5	Publish a short user guide to the energy and climate change reports to help users identify the best report for any intended use (para 3.10).
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2 Subject of the assessment

Energy statistics

- 2.1 DECC publishes energy statistics in the following annual statistical reports: *The Digest of UK Energy Statistics (DUKES)*, *The Energy Flow Chart* and the compendium reports: *UK Energy Sector Indicators*, *Energy Consumption in the UK* and *UK Energy in Brief*; and quarterly statistical reports: *Energy Trends* and *Quarterly Energy Prices*; and in the monthly statistical reports: *Monthly Central Feed-in Tariff Register Statistics*, *Monthly Energy Statistics on the Internet* and *Monthly Petrol & Diesel Prices*. *Monthly Energy Statistics on the Internet* and *Monthly Petrol and Diesel Prices* are presented in Excel format only, as DECC considers these to be supplementary statistics to the main statistical reports.
- 2.2 Energy companies provide DECC with UK-level returns on metered electricity and gas consumption: the monthly and quarterly statistics are based on small sample surveys, while the annual statistics are based on a comprehensive year-end survey of energy companies. Small energy companies tend to be surveyed annually, while larger energy companies are surveyed more frequently for the monthly and quarterly reports. Supplementary sources include: data from the combined heat and power quality assurance programme, which is collected by Ricardo-AEA (a commercial contractor); administrative data from Ofgem's Central Feed-In Tariff Register and Energy Company Obligation (ECO) returns, together with monitoring data from the various renewable incentive schemes they deliver; and DECC's in-house petroleum producing and reporting system. DECC estimates the cost of statistical surveys was £128,500 in 2012/13³¹.
- 2.3 DECC uses the energy statistics to monitor the performance of its policy initiatives. Users outside DECC include devolved administrations, local authorities, energy providers and technology companies, climate change consultancies and academics, for the purposes of energy market analysis and forecasting, policy development, price modelling and performance monitoring.

Sub-national energy consumption statistics

- 2.4 DECC started producing sub-national energy consumption statistics in 2004 in response to the 2003 Energy White Paper: *Our Energy Future – Creating A Low Carbon Economy*³², which encouraged regional and local bodies to have greater engagement in improving energy efficiency. DECC publishes data annually for Great Britain on energy consumption by four main fuel categories: gas (in *Sub-National Gas Consumption Statistics*), electricity (in *Sub-National Electricity Consumption Statistics*), road transport fuels (in *Road Transport Fuel Consumption*) and residual fuels not counted in the former releases (in *Residual Fuel Consumption Statistics*). The four datasets are aggregated to produce the *Total Final Energy Consumption* dataset. Since 2005, DECC has also published annual domestic and non-domestic gas and electricity consumption at Middle Layer Super Output Area (MSOA) and domestic

³¹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/244738/7_survey_control_in_decc_2012_13.pdf

³² <http://webarchive.nationalarchives.gov.uk/http://www.berr.gov.uk/energy/whitepaper/2003/page21223.html>

consumption at Lower Layer Super Output Area (LSOA) for England and Wales and Intermediate Geography Zone (IGZ) for Scotland in the *MSOA, IGZ and LSOA factsheet*, which DECC considers to be supplementary data to the main reports.

- 2.5 The source for *Sub-National Gas Consumption Statistics* and *Sub-National Electricity Consumption Statistics* is meter point reference number (MPRN) data, which are collected annually by Xoserve from the energy companies, and meter point administration numbers (MPAN) from third party suppliers. The data for individual meter points captures all properties in Great Britain, compared to the aggregated data which are used in *DUKES*. The statistics presented in *Road Transport Fuel Consumption and Residual Fuel Consumption Statistics* are modelled based on the results of the National Atmospheric Emissions Inventory and Greenhouse Gas Inventory study undertaken by Ricardo-AEA.
- 2.6 Local authorities and devolved administrations use the sub-national consumption statistics for targeting and monitoring energy efficiency policies. Local authorities specifically use the statistics to: identify areas with high energy consumption in order to enable more effective deployment of renewable energy schemes; estimate the proportion of energy reduced or replaced through local sustainable energy projects; and to establish a baseline figure to inform targets for reduction. In addition, the data are used by academics (for example UCL housing energy analysis) and by DECC policy officials to monitor initiatives such as Low Carbon Communities and Smart Meters³³.

Emissions statistics

- 2.7 DECC publishes emissions statistics in *UK Greenhouse Gas Emissions and Carbon Dioxide Emissions at local authority and regional level* to measure progress towards meeting the international target set by the Kyoto Protocol³⁴ and the domestic UK Carbon Budget target³⁵. DECC publishes *UK Greenhouse Gas Emissions* in provisional form at the beginning of February based on data for the previous calendar year, followed by final statistics 13 months later.
- 2.8 The provisional greenhouse gas estimates are calculated by DECC's in-house Greenhouse Gas Statistics and Inventory team, using data published in *Energy Trends*. DECC contracts Ricardo-AEA to produce the final statistics. *Carbon Dioxide Emissions at local authority and regional level* is also produced by Ricardo-AEA and uses three underlying datasets: sub-national gas and electricity consumption statistics, which are used to estimate emissions from the commercial and domestic sectors; the Environment Agency's Pollution Inventory, which is used to estimate emissions from big emitters³⁶; and Department for Transport road traffic data.

³³ <https://www.gov.uk/government/policies/helping-households-to-cut-their-energy-bills>

³⁴ http://unfccc.int/kyoto_protocol/items/3145.php

³⁵ The UK has to reduce its greenhouse gas emissions by 80% by 2050, compared to a baseline figure.

³⁶ These are publicly available in the 'what's in your backyard' section of the Environment Agency's website: http://maps.environment-agency.gov.uk/wiyby/wiybyController?x=357683.0&y=355134.0&scale=1&layerGroups=default&ep=map&textonly=off&lang=_e&topic=airpollution

2.9 *UK Greenhouse Gas Emissions – provisional and UK Greenhouse Gas Emissions – final* present emissions allocated to sources (the energy suppliers) and to end users (homes and businesses). The United Nations Framework Convention on Climate Change (UNFCCC)³⁷ and the EU require reporting at a source level to monitor emissions targets, while end-user estimates are required for the UK's National Inventory Report (NIR). DECC previously used *Carbon Dioxide Emissions at local authority and regional level* to measure performance against National Indicator 186 (a per capita emissions reduction), which has since been discontinued. DECC told the Assessment team that some local authorities are still monitoring their emissions reductions using this national indicator.

Fuel poverty statistics

2.10 The *Warm Homes and Energy Conservation Act (2000)*³⁸ requires DECC to report annually on the level of fuel poverty. DECC publishes the *Annual Report on Fuel Poverty Statistics* to monitor progress against the UK Governments' statutory target: to ensure that no person lives in fuel poverty by 2016³⁹. DECC also publishes supplementary *Fuel Poverty Sub-Regional Data* in Excel format.

2.11 In September 2012 the UK Government published a consultation document setting out its proposals to adopt an alternative fuel poverty measure based on the Low Income High Costs (LIHC) indicator that was recommended by the *Getting the measure of fuel poverty: final report of the fuel poverty review* (Hills Review)⁴⁰. The UK Government was still considering the consultation responses when DECC published the *Annual Report on Fuel Poverty statistics* in May 2013⁴¹, so the existing measure of fuel poverty was retained, together with an overview of Hill's proposed alternative; DECC subsequently republished the *Annual Report on Fuel Poverty statistics* in August 2013 to focus on the new LIHC indicator⁴². The new LIHC measure is available only for England, but DECC still produces a UK estimate of fuel poverty under the original indicator. The Royal Statistical Society presented DECC its award for excellence in Official Statistics in 2012 in recognition of the statisticians' work in support of the Hills Review.

2.12 DECC uses the statistics to identify trends in fuel poverty, and to target policy towards those most in need. Local authorities use the sub-regional statistics for identifying and targeting fuel poor areas and for monitoring a range of fuel poverty policies. The cost of producing *AFPS* equates to approximately £300,000 in staff and contract costs for the fuel poverty modelling; a contribution of £300,000 to the English Housing Survey; and approximately £10,000 a year towards the Living Cost and Food Survey (LCFS).

³⁷ <https://unfccc.int/2860.php>

³⁸ <http://www.legislation.gov.uk/ukpga/2000/31/contents>

³⁹ Similar targets exist for Scotland and Northern Ireland, with a target of 2018 for Wales

⁴⁰ <https://www.gov.uk/government/publications/final-report-of-the-fuel-poverty-review>

⁴¹ <https://www.gov.uk/government/publications/fuel-poverty-report-annual-report-on-statistics-2013>

⁴² <https://www.gov.uk/government/publications/fuel-poverty-report-updated-august-2013>

National Energy Efficiency Data-Framework statistics (NEED)

- 2.13 DECC set up the National Energy Efficiency Data-Framework (NEED) in 2009 to monitor performance against the Heat and Energy Saving Strategy. In 2013, DECC presented analysis based on the NEED framework across two reports: *Summary of Analysis using the National Energy Efficiency Data-Framework Part I: Domestic Energy Consumption (NEED Part 1)* presented analysis of average domestic consumption for different property types and household characteristics; *Summary of Analysis using the National Energy Efficiency Data-Framework Part II: Impact of Energy Efficiency Measures in Homes (NEED Part 2)* demonstrated the impact of installing energy efficiency measures⁴³ on total consumption. DECC intends to return to publishing future NEED statistics as one report annually from June 2014 in a single statistical report.
- 2.14 The statistics in *NEED Part 1* and *NEED Part 2* are based on a large, representative sample of households for England and Wales. DECC matches gas and electricity consumption data, collected for the sub-national energy consumption statistics, with information on energy efficiency measures installed in homes, from the Homes Energy Efficiency Database (HEED). DECC then matches these data with Valuation Office Agency data on property size, type and age to ensure a representative sample.
- 2.15 DECC uses the NEED statistics to: develop, monitor and evaluate key policies including the ‘in use factors’ for the Green Deal and the likely payment levels under the Renewable Heat Incentive; to understand the drivers of energy consumption; identify efficiency potential; and to inform Fuel Poverty analysis and the impact of policy options on different households. NEED is also used by local authorities, academics and energy suppliers to develop a range of tools for households to benchmark and improve their energy efficiency.

Green Deal and home insulation levels statistics

- 2.16 The Green Deal⁴⁴ was launched in January 2013 in England and Wales (and February 2013 in Scotland) to tackle barriers to the take-up of energy efficiency measures. Through the scheme, households can apply for a Green Deal Assessment to receive support installing efficiency measures. DECC publishes *GDS monthly* and *GDS quarterly* to monitor the performance of the programme and to help the market establish the likely demand for specific technologies. *GDS monthly* presents statistics on the characteristics of those completing Green Deal Assessments and Plans. *GDS quarterly* then presents statistics on the energy efficiency measures installed and the types of properties benefitting from them.
- 2.17 All the data used to produce *GDS monthly* and *GDS quarterly* are sourced from the administrative systems set up to support delivery of the Green Deal and Energy Company Obligation⁴⁵ (ECO) programmes. A range of organisations supply DECC with data: Landmark and the Energy Savings Trust, which

⁴³ NEED has looked at savings from a number of measures, including cavity wall insulation, loft insulation, installation of condensing boilers and solid wall insulation

⁴⁴ <https://www.gov.uk/green-deal-energy-saving-measures>

⁴⁵ <https://www.gov.uk/government/policies/helping-households-to-cut-their-energy-bills/supporting-pages/energy-companies-obligation-eco>

delivers the Green Deal scheme; Gemserv, which manages the recording of plans via the Central Charge Database⁴⁶; Capita, the appointed administrator for the Cashback Scheme; the Oversight and Registration Body⁴⁷, which administers the certification of Green Deal organisations; and Ofgem, which administers the ECO programme. The Government Procurement Service also collates and publishes information on ECO brokerage⁴⁸.

- 2.18 In November 2010 DECC published experimental quarterly statistics on *Home Insulation Levels in Great Britain* for the first time, estimating the number of homes with loft or cavity wall insulation. The report was extended to include solid wall insulation in June 2011. DECC uses *Home Insulation Levels in Great Britain* to monitor progress against the key impact indicator for insulation in its Departmental Business Plan 2011-2015⁴⁹. DECC uses administrative data from the Green Deal, Cashback and ECO programmes, combined with DCLG's Housing Survey and new build data to compile *Home Insulation Levels in Great Britain*.

Report formats

- 2.19 DECC publishes the energy and climate change statistics in a range of formats. For example, *DUKES* is available as single pdf, or as web pages for individual chapters with accompanying Excel tables. *UK Energy In Brief* is available in PDF with supplementary data presented in Excel tables. *Monthly Central Feed-In-Tariff Register* is only available in Excel. This equates to a level of between one and three stars under the Five Star Scheme that forms part of the Open Standards Principles proposed in the *Open Data White Paper: Unleashing the Potential*⁵⁰ and adopted as government policy in November 2012⁵¹. Five stars represent the highest star rating within the Scheme.

⁴⁶ <http://www.gemserv.com/industry-initiatives/green-deal/green-deal-central-charge-database>

⁴⁷ <http://gdorb.decc.gov.uk/>

⁴⁸ <https://www.gov.uk/government/statistical-data-sets/eco-brokerage-results>

⁴⁹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/47961/decc-business-plan-2011-2015.pdf

⁵⁰ http://data.gov.uk/sites/default/files/Open_data_White_Paper.pdf

⁵¹ <https://www.gov.uk/government/publications/open-standards-principles/open-standards-principles>

3 Assessment findings

- 3.1 DECC runs a range of user engagement surveys for its statistics as a whole, and hosts technical groups for individual outputs and themes. The Authority noted in the previous Assessment reports covering these statistics that DECC had good relationships with users in government, local authorities and across the energy industry and these have been maintained. DECC's biennial user survey⁵² includes a good range of respondents from all user groups and demonstrates generally high user approval ratings for the statistics. DECC tends to present information about the uses of the statistics and user experiences in supplementary methods guides, documents about the quality of the reports, minutes from technical groups, or in the biennial user survey results, but this information is not always clearly linked from the corresponding statistical reports, or summarised in the reports themselves. For example, the sub-national statistical reports do not contain any reference to the specific uses of the statistics, but examples are given in the methodology and guidance booklet for energy consumption. We suggest that DECC provide a clear statement of user need in each statistical report, or a clear link to the specific user sections within the supplementary documents where the detailed information is presented in order to aid user interpretation.
- 3.2 *GDS monthly* and *GDS quarterly* include information about DECC's use of the statistics to monitor the Green Deal programme, but do not contain any examples of uses outside DECC, or how well the statistics meet identified needs. DECC told the Assessment team that the statistics are used by suppliers of energy efficiency measures to determine demand, but this information is not included within the statistical report or supporting documentation. Similarly, *UK Greenhouse Gas Emissions – provisional* and *UK Greenhouse Gas Emissions – final* include a list of detailed emissions targets, and report that the statistics are used to monitor progress against the objectives set out in the *UK Climate Change Act 2008*⁵³, but do not include information about further uses of the statistics outside DECC. As part of the designation as National Statistics, DECC should document the needs of users outside the department for the Green Deal and Emissions sets of statistics⁵⁴ (Requirement 1).
- 3.3 DECC has published separate revisions policies for energy statistics⁵⁵, emissions statistics⁵⁶, NEED statistics⁵⁷ and sub-regional statistics⁵⁸. The statistical reports include detailed information about individual revisions that have taken place, including revisions analysis in *DUKES* and revisions triangles in *Energy Trends*. *Energy Trends* also includes articles which update users about changes to methods and large-scale revisions anticipated in future

⁵² https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/239316/decc_statistics_user_survey_2012.pdf

⁵³ <http://www.legislation.gov.uk/ukpga/2008/27/contents>

⁵⁴ In relation to Principle 1, Practice 2 of the *Code of Practice*

⁵⁵ <https://www.gov.uk/government/publications/energy-statistics-revisions-policy>

⁵⁶ <https://www.gov.uk/government/publications/uk-greenhouse-gas-emissions-statistics-revisions-policy>

⁵⁷ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/260041/Annex_A_-_Domestic_NEED_Methodology.pdf

⁵⁸ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/267603/Sub-national_methodology_and_guidance_booklet.pdf

reports. Some of the statistical reports include a link to the appropriate revisions policy, while others do not, or provide a link to a methods document, which in turn includes the revisions policy. We suggest that DECC include a direct link to the appropriate revisions policy in *Energy Trends*, *Quarterly Energy Prices*, *Monthly Central Feed-In-Tariff Register* and the sub-national reports.

- 3.4 DECC has produced a series of detailed methods guidance documents following a Requirement in the Authority's previous assessment report (AR20) to improve published information about methods. For example, DECC has published separate methods documents for electricity statistics, renewable energy statistics, domestic energy prices, industrial energy prices and feed-in tariff statistics. The individual documents each cover the statistics that are presented in multiple statistical reports: for example, DECC has published a single document covering the methods used to produce its electricity statistics – *Electricity Statistics: data sources and methodologies*⁵⁹ – and statistics about electricity are included in *Energy Trends*, *Sub-National Electricity Consumption Statistics* and *NEED* amongst others. Conversely, users of individual statistics will need to draw upon multiple methods documents: for example, the statistics presented in *DUKES* are explained and supported in separate methods guide for each chapter. The statistical reports themselves include varying degrees of information about methods, but do not consistently link to the detailed methods guides, or are not sufficiently clear about where the relevant information is located within the guide. Annex 1 of this Assessment report provides specific examples of this issue. We suggest that DECC provide clearer signposting to (or improved linkages between) the energy and climate change statistical reports and the underlying methods guidance documents to support users.
- 3.5 The detailed methods guides include helpful information about the collection and processing of data, but do not always present sufficient detail when describing the methods of estimation for missing data. For example, *DUKES* presents production totals for surface mining including estimated slurry-based production figures, but the methods used to estimate these figures are not discussed in *DUKES* or within the supplementary Data Sources and Methodologies document for solid fuels and derived gases⁶⁰, which simply states that companies have challenged these estimates and that DECC will investigate the methodology for their derivation. To date, DECC has not responded to this challenge and clarified the derivation process. As part of the designation as National Statistics, DECC should include information for users about the methods used to estimate values for any missing data across the suite of energy reports⁶¹ (Requirement 2).
- 3.6 DECC has made some recent updates to methods across the energy and climate change statistics. For example, in 2013 the definition of fuel poverty was changed, the methodology was changed for the sub-regional statistics, and a new measurement indicator was introduced; in 2012 the method for producing the experimental insulation statistics changed; and a methods review was completed for *NEED* statistics in advance of the 2013 edition of *NEED Part*

⁵⁹ <https://www.gov.uk/government/publications/electricity-statistics-data-sources-and-methodologies>

⁶⁰ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/65735/373-solid-fuels-statistics-methodology.pdf

⁶¹ In relation to Principle 4, Practice 1 of the *Code of Practice*

2. DECC provides explanations of these methods changes in various locations, for example: the landing page for an output, articles in *Energy Trends* or in methods guides, but not necessarily within the report itself. We suggest that DECC include a prominent summary of any methods changes which affect the statistics within the reports, to ensure that users are well informed about issues that may affect their interpretation.
- 3.7 The experimental Green Deal and Home Insulation Levels statistics are based on very broad assumptions. For example, DECC assumes that since 2008 “insulation measures have not been installed through non-government schemes in any significant numbers during the period of the schemes”. The methods guide does not explain the basis for this assumption. DECC publishes information about the number of Green Deal assessment records that do not have a tenure attached, and unknowns in the ECO data with regards to location, property type and tenure, but it is not sufficiently clear whether the missing data affect the overall quality of the Green Deal or Home Insulation Levels sets of statistics, which could impact on users’ interpretation of the results. DECC told the Assessment team that it plans to undertake a comprehensive data quality review of sources for these statistics during 2014. As part of the designation as National Statistics, DECC should provide users with clear guidance about the origin of assumptions used to produce the experimental Green Deal and Home Insulation Levels statistics, and any implications for users’ interpretation of the results⁶² (Requirement 3).
- 3.8 As noted in section 2, DECC draws upon administrative data provided by the appointed government contractors which deliver various energy policy initiatives. In each case, the Government's approved contractor is bound by a contractual statement which includes the obligation to complete appropriate assurance of the administrative data. Thus, the data will have been subjected to a quality assurance process before they are submitted to DECC. DECC told us that it considers this approach to be sufficient to ensure that the data are suitable for use in their energy and climate change publications. As one exception, DECC told the Assessment team that it considered that the main limitation of the NEED statistics is its lack of control over the administrative data that are provided, specifically the inability to stipulate variables and classifications to ensure harmonisation with the English Housing Survey. DECC has published a Statement of Administrative Sources which includes a comprehensive list of sources, but it does not include full information about the arrangements in place for auditing the quality of the sources. As part of the designation as National Statistics, DECC should publish details about how it has evaluated the risk associated with administrative data used to produce its energy and climate change suite of statistics, and how it has reassured itself that this approach is adequate to ensure their suitability⁶³ (Requirement 4).
- 3.9 The level of commentary in the energy and climate change statistical reports is generally proportionate to the frequency of each report. The annual reports include detailed commentary, which is sometimes quite technical, though definitions are provided. By comparison, monthly reports such as *Monthly Energy Statistics on the Internet* and *Monthly Central Feed-In-Tariff Register* include key points on the latest trend, but no detailed commentary on longer

⁶² In relation to Principle 4, Practice 2 of the *Code of Practice*

⁶³ In relation to Protocol 3, Practice 5 of the *Code of Practice*

terms trends, drivers, users or methods. The assessment team identified some examples of charts which were not numbered, or presented in grey-scale with multiple layers of results, which can be difficult for users to interpret. The sub-national energy consumption statistical reports include results at national and regional level, but contain only brief references to the disaggregated information available for local authorities. The UK-level annual and quarterly statistical reports include some regional data, but nothing at local authority level. The sub-national reports include a different total consumption figure for Great Britain than the annual and national reports. DECC has included some explanatory text explaining this difference in the sub-national reports, but the implications for users of the local data are not clear: for example, should they compare themselves with the GB average presented in the sub-regional reports, or the average presented in *DUKES* to benchmark their performance? Local authority users (detailed in Annex 2) reported to the Assessment team that they would welcome more detailed commentary in the sub-national reports to aid analysis of local trends, their performance against targets and how they can improve. DECC has built a series of analytical tools to aid local authorities with this type of analysis⁶⁴. However, DECC does not currently provide any commentary to aid users understanding of local trends. As part of the designation as National Statistics, DECC should continue to improve the commentary in the energy and climate change suite of reports by a) clarifying the linkages between national and regional data and explain the consequences of disparity for user interpretation, b) providing further analysis of local authority trends, and c) ensuring that all the charts are clearly presented to enhance interpretability of the statistics⁶⁵ (Requirement 5). As part of meeting this Requirement, DECC should consider the points detailed in annex 1 and annex 2.

- 3.10 DECC's 2012 user survey demonstrated a high level of user satisfaction with the statistical reports, but the survey was completed before the reports were migrated to the GOV.UK website. Some users told the Assessment team that they had experienced difficulties identifying the information that they require. The energy and climate change group of statistical reports provide an extremely rich data source, but DECC does not make it sufficiently clear how the statistical reports, factsheets or data files are linked to each other, and the intended uses for which each report is most appropriate. Inexperienced users may find it difficult to identify the most appropriate statistics or dataset to meet their needs. For example, a user may access a spreadsheet which contains the data they need, but be unaware of the detailed commentary included in another report or methods document. In some cases, users will need to open different files to review the data, read the interpretation of the results and review any methods notes on weaknesses in the corresponding data. In 2011, the Authority's Monitoring Review: *The Accessibility and Coherence of Statistics About Climate Change* also recommended that users would benefit from "a portal that brought together statistics about climate change, with links to available data sources and to the information documented and collected in response to the government's current climate change risk assessment"⁶⁶. As

⁶⁴ <https://www.gov.uk/government/collections/analytical-tools>

⁶⁵ In relation to Principle 8, Practices 2 and 3 of the *Code of Practice*

⁶⁶ <http://www.statisticsauthority.gov.uk/assessment/monitoring/monitoring-reviews/monitoring-brief-7-2011---accessibility-and-coherence-of-statistics-about-climate-change.pdf>

part of the designation as National Statistics, DECC should present the statistics in ways that enable users to identify and access information relevant to their needs⁶⁷ (Requirement 6). We suggest that DECC publish a short user guide to the energy and climate change group of statistics to help users identify the best statistics for any intended use.

- 3.11 The publication formats across the energy and climate change statistics range from one to three stars under the Five Star Scheme that forms part of the Open Standards Principles proposed in the *Open Data White Paper: Unleashing the Potential*⁶⁸ and adopted as government policy in November 2012⁶⁹. For example: *DUKES* is either available as a single PDF or on the website chapter by chapter with accompanying Excel tables; *Energy Consumption UK* is available as web pages for individual chapters with accompanying Excel tables, but the chapters are not available in a single document for ease of printing. *Monthly Central Feed-In Tariff Register* is available only as Excel files. The Fuel Poverty, Emissions and sub-national energy consumption statistics include a range of report formats, for example factsheets, summary and supplementary documents and Excel files. As part of the designation as *National Statistics*, DECC should review, and update where necessary, the formats in which it publishes the data associated with its energy and climate change statistics in order to balance the needs of users and the government's open data policy⁷⁰ (Requirement 7).

⁶⁷ In relation to Principle 8, Practice 4 of the *Code of Practice*

⁶⁸ http://data.gov.uk/sites/default/files/Open_data_White_Paper.pdf

⁶⁹ <https://www.gov.uk/government/publications/open-standards-principles/open-standards-principles>

⁷⁰ In relation to Principle 8, Practice 6 of the *Code of Practice*

Annex 1: Compliance with Standards for Statistical Reports

- A1.1 In November 2012, the Statistics Authority issued a statement on *Standards for Statistical Reports*⁷¹. While this is not part of the Code of Practice for Official Statistics, the Authority regards it as advice that will promote both understanding and compliance with the *Code*. In relation to the statistical reports associated with energy and climate change statistics, this annex comments on compliance with the statement on standards.
- A1.2 In implementing any Requirements of this report (at paragraph 1.5) which relate to the content of statistical reports, we encourage the producer body to apply the standards as fully as possible.

Include an impartial narrative in plain English that draws out the main messages from the statistics

- A1.3 *DUKES*, *UK Energy In Brief* and *Energy Trends* provide a comprehensive and impartial overview of the energy statistics. DECC provides key points at the start of each themed chapter, and the commentary provides analysis of the drivers behind any changes in trend. The language in *DUKES* and *UK Energy In Brief* is sometimes quite technical, though terms are described at the end of each chapter. By comparison, the commentary in *Energy Consumption UK*, *UK Energy Sector Indicators* and *Quarterly Energy Prices* is brief and more limited to describing increases or decreases across the main indicators, without offering a narrative or further analysis. *Quarterly Energy Prices* includes a large number of detailed tables⁷² without commentary: DECC provides general commentary at the front of the chapters, but not all tables are referenced. Monthly reports such as *Monthly Energy Statistics on the Internet* and *Monthly Central Feed-In-Tariff Register* include key points on the latest trend, but no detailed commentary on longer term trends, drivers, users or methods, which is presented in the quarterly and annual reports: this is appropriate given the frequency and nature of the releases.
- A1.4 The emissions, fuel poverty, Green Deal and NEED suites of statistical reports are impartial and contain detailed commentary based on the headline indicators used to monitor the success of specific government initiatives. Each report contains key points or an executive summary highlighting the main policy conclusions and trends in monitored indicators. The experimental reports *GDS monthly*, *GDS quarterly* and *Home Insulation Levels* clearly explain why these statistics are considered experimental and provide updates on methods development. In 2013 NEED was released as two separate reports, each with detailed commentary on the reasons for publishing in both provisional and final form: DECC plans to combine these into a single report in 2014.

⁷¹ <http://www.statisticsauthority.gov.uk/news/standards-for-statistical-reports.html>

⁷² For example on pages 15 to 24, 35 to 40 and 57 to 70 in the December 2013 report

Include information about the context and likely uses of the statistics

- A1.5 Some of DECC's statistics are based on administrative data gathered to monitor specific government initiatives (for example *Green Deal Statistics* and *Home Insulation Levels*) or longer-term DECC objectives such as the NEED framework. In each case, DECC describes the policy context in the report and provides links to the website of the appointed contractor delivering the scheme for more detailed information. *DUKES* includes a chapter on major events in the industry which describes new policy initiatives and changes in the energy infrastructure which spans the range of energy reports. The individual energy reports also include strong examples of contextual commentary to explain large movements in the statistics: for example, *UK Energy In Brief* includes commentary about a new Netherlands interconnector that was developed to boost energy imports to explain an unusual peak in the import statistics.
- A1.6 DECC tends to present information about the uses of the statistics and user experiences in supplementary methods guides, documents about the quality of the reports, minutes from technical groups, or in the biennial user survey results. However, this information is not always clearly linked from the corresponding statistical reports, or summarised within the reports themselves. For example:
- The sub-national statistical reports do not contain any reference to the specific uses of the statistics – users are advised to familiarise themselves with the corresponding sub-national method and guidance booklet which does contain detailed examples;
 - *UK Energy Sector Indicators* presents a list of relevant objectives from DECC's business plan, but does not refer to these objectives in the commentary for specific tables.
 - *UK Energy In Brief* includes some policy context commentary, but does not contain direct references to uses or users.
 - *Energy Trends* presents a list of general users, but does not describe the types of uses made of the statistics, or the decisions that they inform.
- A1.7 *Green Deal Statistics – monthly* and *Green Deal Statistics – quarterly* include information about DECC's use of these statistics to monitor the implementation of the Green Deal programme, but do not contain any examples of wider uses outside DECC, or how well the statistics meet these needs. Similarly, the Emissions statistical reports include a list of detailed emissions targets, and report that the statistics are used to monitor progress against the targets set out in the *UK Climate Change Act 2008*, but do not include any reference to other uses of the statistics outside DECC.

Include information about the strengths and limitations of the statistics in relation to their potential use

- A1.8 DECC has produced a series of detailed methods guidance documents following a Requirement in the Authority's previous assessment report (AR20) to improve methods information. For example, in relation to the energy statistical reports, DECC has published separate methods documents for electricity statistics, renewable energy statistics, domestic energy prices, industrial energy prices and feed-in tariff statistics. The reports do not

consistently link to the detailed methods guides, or are not sufficiently clear about where in the guide the relevant information is located.

- A1.9 Users may have to go through multiple steps to find the methods information relevant to a specific table or group of statistics. For example: *UK Energy In Brief* contains little methods information as it is a summary document, and refers users to *DUKES* for more detailed explanation. However, *UK Energy In Brief* does not refer users to specific sections of *DUKES*, and *DUKES* in turn often refers users to the supporting methodology guides. The three emissions statistical reports include very little information about sources and methods used, but the FAQ section and 2011 methods summary technical report includes detailed information. The emissions statistical reports do not include references or links to FAQs or technical report. Updated methods for sub-regional fuel poverty figures are explained in a section in the annual report but not summarised or linked to from the sub-regional spreadsheet.
- A1.10 *GDS monthly*, *GDS quarterly* and *Home Insulation Levels* are generally of high quality. DECC uses a number of administrative data sources to produce these statistics, but does not include sufficient information about the quality assurance process in place for scrutinising these data sets. Similarly, DECC suggested in its written evidence for this assessment that the main weakness of the NEED statistics is its own lack of control over the administrative data that are provided, and the inability to get the exact breakdowns and variables to ensure harmonisation with the English Housing Survey. This limits the range of statistics that DECC can produce.

Be professionally sound

- A1.11 Across the energy reports there are a number of charts presented in grey-scale, or including multiple layers of indicators in similar colours. These charts are complicated and the levels for specific indicators are often unclear. For example, the Assessment team found it difficult to distinguish between the four different levels presented in chart 2.5 in *DUKES*, or the indicators in the chart on p28 of *UK Energy In Brief*⁷³. The charts and tables in *UK Energy In Brief* are not numbered to support user referencing, though DECC does provide an index page. The charts in *Energy Trends* and *Quarterly Energy Prices* are all resized to fit a half page column and so the titles and axes are often small and unclear. The supporting Excel files for the energy reports do include the detailed figures presented in the tables and charts, but they are not specifically linked to from each individual chart, so the user has to search through the large Excel files to identify the corresponding data.
- A1.12 The commentary in *Energy Consumption UK* typically discusses results in terms of million tons of oil equivalent (mtoe), while the charts and tables are often presented in thousand tons of oil equivalent (ktoe). While this is a straightforward conversion, it could confuse users about the order of magnitude of the results if they don't notice the scale presented in the charts.
- A1.13 There are some examples of inconsistencies between the commentary and charts across the energy reports. For example, the commentary in *UK Energy Sector Indicators* states that "labour productivity in the other sectors comprising of coal mining and manufacture of coke and refined petroleum has remained

⁷³ References are taken from the 2013 editions of *DUKES* and *UKEiB*

relatively constant since 1996”⁷⁴. The productivity level presented in chart 1.6 looks to be relatively consistent because of the small scale of the axes, and the fact that the far larger oil extraction sector results are presented in the same chart. However, the productivity level for “other sectors” varies between £150,000 and 250,000 per head during this period. The y-axis labels in chart 3.5 in *UK Energy Sector Indicators* could be confusing for inexperienced users – the axis suggests that results >1.3 on the Shannon-Wiener index represent greater diversity of fuel supply, and <1.3 less diversity. However, the supporting technical notes presented at the back of the report state that 1.61 on the scale represents total equality in supply over time. The intention of the axis labels is simply to demonstrate that an increasing trend represents an increase in diversity, regardless of the actual index level. The scale of the index (without presenting the level of absolute equality) could also be confusing for non-expert users as it is unclear if a jump (for example from 1.32 to 1.45 on the Shannon-Wiener index between 2011 and 2012⁷⁵) is significant. The axes for charts relating to the Herfindahl-Hirschman index include similar labelling⁷⁶.

Include, or link to, appropriate metadata

- A1.14 The metadata for the energy and climate change reports are often included in supplementary methods guidance documents, or DECC corporate documents. For example, DECC publish a number of revisions policies specific to each group of statistics, but *Energy Trends*, *Quarterly Energy Prices*, *Monthly Central Feed-In-Tariff Register* do not include direct links to the corresponding policy. *NEED Part 1*, *NEED Part 2* and the sub-national reports include a link to a methods guide, which in turn includes the revisions policy.
- A1.15 The titles of some of the reports are not sufficiently clear for users to immediately distinguish which are for different types or use of levels of expertise. For example, an inexperienced user may not know whether *UK Energy Sector Indicators* or *DUKES* is the best report to meet their needs without reviewing both.

⁷⁴ Commentary and chart on page 12 of *UKESI* 2013:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/254261/ukesi_2013.pdf

⁷⁵ Shannon-Wiener measure is included in chart 3.5 of the 2013 edition of *UKESI*

⁷⁶ The Herfindahl-Hirschman index is discussed in chapter 7 of the 2013 edition of *UKESI* and all of the charts in this section include the axis labelling issue

Annex 2: Summary of assessment process and users' views

- A2.1 This assessment was conducted from September 2013 to May 2014.
- A2.2 The Assessment team – Catherine Barham and Russell Whyte – agreed the scope of and timetable for this assessment with representatives of DECC in September 2013. The Written Evidence for Assessment was provided on 27 October 2013. The Assessment team subsequently met DECC during January 2014 to review compliance with the *Code of Practice*, taking account of the written evidence provided and other relevant sources of evidence.

Summary of users contacted, and issues raised

- A2.3 Part of the assessment process involves our consideration of the views of users. We approach some known and potential users of the set of statistics, and we invite comments via an open note on the Authority's website. This process is not a statistical survey, but it enables us to gain some insights about the extent to which the statistics meet users' needs and the extent to which users feel that the producers of those statistics engage with them. We are aware that responses from users may not be representative of wider views, and we take account of this in the way that we prepare Assessment reports.
- A2.4 The Assessment team received 15 responses from the user consultation. The respondents were grouped as follows:

Local authority sustainability/climate change officers	14
Energy organisation	1

- A2.5 Most respondents were from local authorities; they use the full range of energy and climate change outputs to inform local policy making, and particularly the data presented at local authority level to make comparisons with other local authorities. Generally users were happy with the availability and content of the outputs, although some said that they would like more detailed commentary to help in analysing local trends, and understanding how local authorities can improve their performance against existing targets. Similarly, a few users commented that they would like more disaggregated data for local authorities and noted the time lag in publishing the data.
- A2.6 Some users noted problems navigating the DECC part of the GOV.UK website, due either to the volume of reports, or the number of clicks required to reach specific datasets. Two users also said they would like shorter summaries of key points to help digest the volume of information available, and simplified commentary which is easier for the lay person to understand. One user noted the generally high quality of the *NEED* statistics, but raised concerns over systematic biases in the underlying datasets and the need for further advice on their quality.

Key documents/links provided

Written Evidence for Assessment document

Annex 3: Summary of Requirements from Assessment Reports 5, 20, 31 and 53

A3.1 A number of the statistical reports covered in this assessment have been previously assessed by the Authority as follows:

- *UK Energy Sector Indicators* was first assessed in Assessment report 5, published in July 2009⁷⁷. The Statistics Authority confirmed the National Statistics designation of these statistics in a letter to DECC on 30 September 2010⁷⁸.
- The energy and sub national statistics listed in para 1.1.1 were first reviewed in Assessment report 20, published in November 2009⁷⁹. The Statistics Authority confirmed the National Statistics designation of these statistics in a letter to DECC on 30 September 2010⁸⁰.
- The emissions statistics listed in paragraph 1.1.1 were first assessed in Assessment report 31, published in March 2010⁸¹. The Statistics Authority confirmed the National Statistics designation of these statistics in a letter to DECC on 2 August 2010⁸².
- Fuel poverty statistics were first assessed in Assessment report 53, published in July 2010⁸³. The Statistics Authority confirmed the National Statistics designation of these statistics in a letter to DECC on 7 February 2011⁸⁴.

The Statistics Authority has chosen to re-assess these statistics as part of its ongoing programme of re-assessment.

A3.2 Two Requirements within this report relate to aspects of Code compliance that resulted in Requirements in the previous Assessment reports. These are:

Requirement 2	Include information for users about the estimation techniques used to impute values for any missing data across the suite of energy reports (para 3.5).
Requirement 6	Present the statistics in ways that enable users to identify and access information relevant to their needs (para 3.10).

⁷⁷ <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/assessment-report-5---uk-energy-sector-indicators--27-july-2009.pdf>

⁷⁸ <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/confirmation-of-designation-letters/letter-of-confirmation-as-national-statistics---assessment-report-5.pdf>

⁷⁹ <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/assessment-report-20---energy-statistics.pdf>

⁸⁰ <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/confirmation-of-designation-letters/letter-of-confirmation-as-national-statistics---assessment-report-20.pdf>

⁸¹ <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/assessment-report-31---emissions-statistics.pdf>

⁸² <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/confirmation-of-designation-letters/letter-of-confirmation-as-national-statistics---assessment-report-31.pdf>

⁸³ <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/assessment-report-53---fuel-poverty.pdf>

⁸⁴ <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/confirmation-of-designation-letters/letter-of-confirmation-as-national-statistics---assessment-report-53.pdf>

- A3.3 Requirement 4 in Assessment report 20 required DECC to provide improved methods information for users. This Requirement resulted from a general lack of methodological information relating to the surveys and modelling techniques used to produce the energy statistics. DECC addressed the Requirement by publishing a series of methods guides (described in paragraph 3.5 of this report), which was welcomed by the Authority. However, during this assessment, the Assessment team has identified a gap in the guides relating to a specific individual estimation technique. Requirement 2 in this Assessment requires DECC to provide further information for users about the methods used to estimate values for missing data across the energy reports. This represents a clarification of information presented in one of the existing guides. As such, although the Requirement is founded in the same principle of the *Code*, it is not a direct repetition of the previous issue.
- A3.4 Requirement 2 in Assessment report 20 required DECC to review the suite of energy statistical reports and the specific user need for each. This Requirement resulted from user feedback about the complexity of the range of statistical reports and the number of individual reports published in the energy suite. DECC addressed this Requirement by adding specific questions to its user survey to clarify the range of user needs. However, in response to this assessment, users told the Assessment team that they were still having difficulties identifying the correct reports for their needs. The difficulties users report to the assessment team for this assessment related to the presentation of the report on the GOV.UK website, which DECC has just migrated to, and was not the same user interface that users reported difficulties with during Assessment Report 20. Requirement 6 in this Assessment report requires DECC to review the user interface for the range of statistics, as users again reported difficulties identifying the correct information for their needs.

