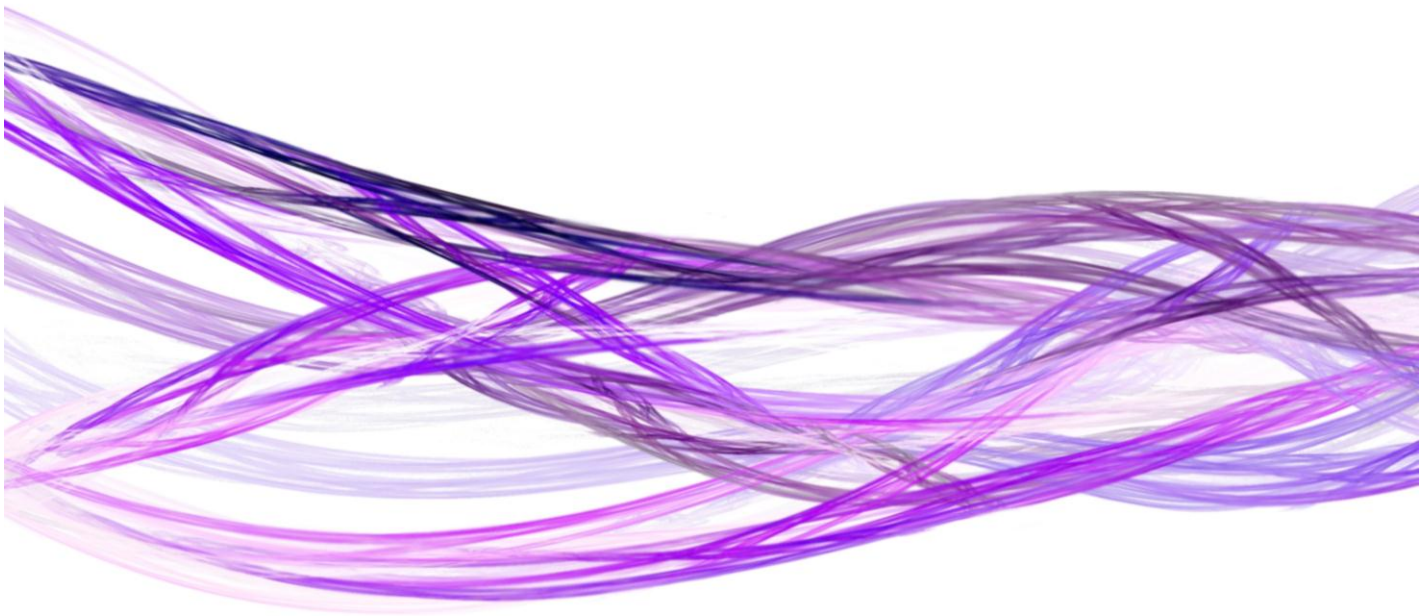
Department of Energy & Climate Change

Energy Efficiency Statistical Summary 2013



Energy Efficiency Deployment Office
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Chapter 1: Introduction

Introduction

1.1 This Statistical Summary sets out key indicators of energy efficiency that are used to monitor progress made by the UK to improve energy efficiency whilst enabling growth and continuing to provide households and businesses with the energy services they require. The indicators included monitor energy efficiency both at the macro economy level and in individual sectors.

1.2 The historic indicators in this Statistical Summary show the time period 1980-2012 where available. Different time periods are only used where the full time series is not available for this time period, for the headline measure. Indicators with future projections cover the time period 2010-2030[1] which covers all four of the carbon budgeting periods that have been covered in legislation.

Energy efficiency

1.3 As defined in the 2012 Energy Efficiency Strategy[2], on a technical level, energy efficiency is the relationship between the energy consumed and the output produced by that energy, often called “energy services”, for example the number of miles travelled for a gallon of fuel. Increasing energy efficiency means using either less energy to provide the same level of energy services, or using the same level of energy to provide a higher level of energy services.

1.4 The benefit of energy services can also be measured in terms of its economic value. At an economy-wide level this is the relationship between Gross Domestic Product (GDP) and energy consumption.

1.5 This analysis uses a range of publically available data sources to produce indicators which are used to measure progress with energy efficiency.

[1] With the exception of Chart 3.2 which covers 1980-2050.

[2] DECC (2012) The Energy Efficiency Strategy: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/65602/6927-energy-efficiency-strategy--the-energy-efficiency.pdf

Summary of indicators

Ref	Indicators	Summary of findings
2.1a	Primary Energy Consumption	Increased by 17 per cent between 1980 and 2005 but following the contribution of energy efficiency, impact of the recession and de-industrialisation the level in 2012 is equivalent to the 1980 level.
2.1b	Final Energy Consumption	Final energy consumption has fallen in seven of the last eight years and by an average of 2 per cent per annum on a temperature corrected basis between 2004 and 2012.
2.2	Primary Energy Consumption per unit of GDP	Between 1980 and 2012, primary energy intensity has fallen by 54 per cent.
2.3	Primary Energy Consumption per unit of GDP, G8	Since 2006, the UK has had the least energy intensive economy in the G8 and in 2012; the UK's energy intensity was 39 per cent below the G8 average, 41 per cent below the United States, 28 per cent below France and 14 per cent below Germany.
3.1	Final energy consumption	Existing policy is due to deliver energy savings of 9 per cent in 2020 and 12 per cent in 2030 relative to business as usual[3].
3.2	Energy consumption to 2050	The Carbon Plan scenarios for 2050 for energy efficiency translate to final energy consumption savings of between broadly stable from 2011 and 32 per cent savings between 2011 and 2050.
3.3	Projected UK greenhouse gas emissions with policy saving	The existing policy package is due to deliver savings in Greenhouse gas emissions of 122 $MtCO_2e$[4] (21%) in 2020 and 143 $MtCO_2e$ (24%) in 2030 relative to business as usual. For 2020, 29 per cent of these savings are from energy efficiency.
3.4	Projected UK policy savings for final energy consumption	Based on current policies, the residential sector is expected to contribute 38 per cent of final energy consumption savings by 2020 with a further 30 per cent from the transport sector.
4.1a	Energy use per household	Domestic energy consumption per household rose by 9 per cent between 1990 and 2004 but has since fallen such that consumption per household in 2012 was 12 per cent below 1990 levels.
4.1b	Specific household	After adjusting for the level of energy service received, UK

[3] Business as usual refers projections accounting for savings from baseline policies (i.e policies introduced before the low carbon transition plan) but does not take into account policies introduced in the carbon plan or after.

[4] Million tonnes of carbon dioxide equivalent ($MtCO_2e$)

	consumption	households have reduced their energy consumption on average by 2 per cent per annum since 1990 and specific energy consumption is now a third lower than in 1990.
4.2	Domestic Standard Assessment Protocol (SAP) rating	Between 1996 and 2011, the energy efficiency of homes has improved such that the theoretical energy savings equate to a reduction in energy use of about 20 per cent.
4.3	Industrial energy intensity	Between 1980 and 2012, industrial energy intensity has fallen by 57 per cent, measured as energy consumption per unit of production.
4.4	Service sector intensity	Between 1980 and 2012, energy intensity in the services sector as measured by energy consumption per unit of Gross Value Added (GVA) has fallen by 49 per cent.
4.5	Car efficiency	Between 1995 and 2012, car energy consumption per vehicle kilometre has fallen by 19 per cent.
4.6	Road freight efficiency	Energy consumption per tonne-kilometre in 2011 is currently 10 per cent below 1995 levels.

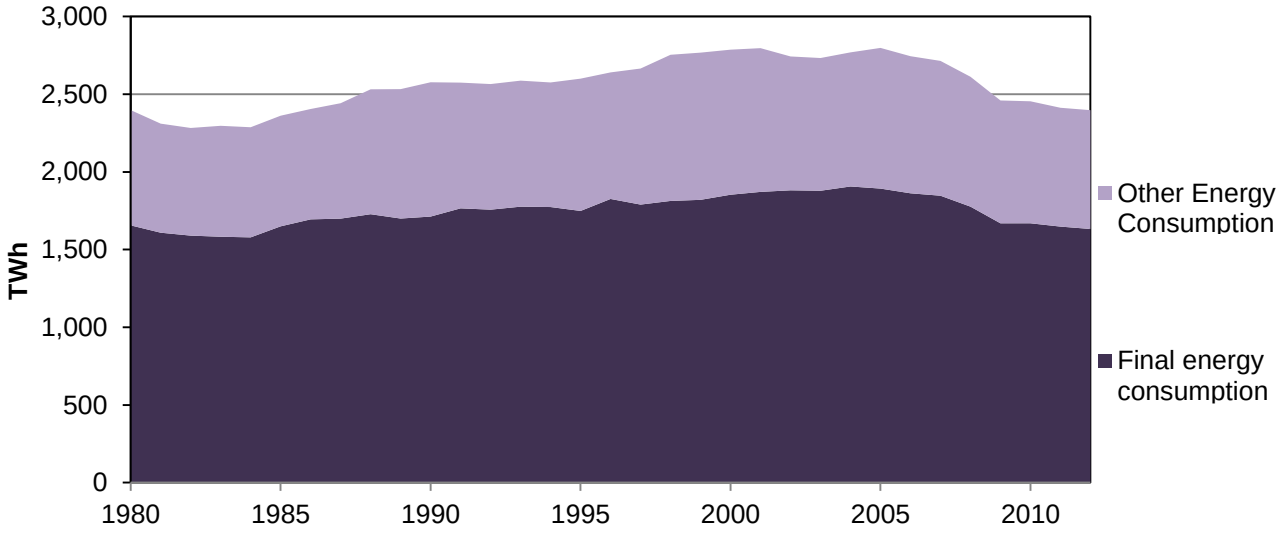
Chapter 2: Macro indicators

2.1. Macro indicators provide a good measure of the direction of travel in energy efficiency over the long term and also enable high level comparisons to be made internationally. They also provide a measure of whether the UK is on track to achieve the level of ambition set for energy efficiency to meet 2050 emissions targets.

2.2. Chart 2.1 shows that UK primary energy consumption increased on a temperature corrected basis by 17 per cent between 1980 and 2005. However, since 2005 the combined impact of energy efficiency and the recession has reduced consumption in 2012 back to the 1980 level. UK primary energy consumption is at its lowest level since 1985.

2.3. Over the whole period since 1980, final energy consumption has consistently accounted for approximately two thirds of primary energy consumption. Final energy consumption has fallen in seven of the last eight years and by an average of 2 per cent per annum over that period on a temperature corrected basis. Non-final energy consumption accounts for energy used in transformation of fuels (for example in electricity generation) and energy used within the energy sector (for example in the extraction of oil and gas).

Chart 2.1 UK Primary and Final energy consumption, temperature corrected: 1980-2012[5,6]



Source: Energy Consumption in the UK, tables 1.01, 1.05 & 1.10[7,8]

[5] Excludes energy used for non-energy purposes.

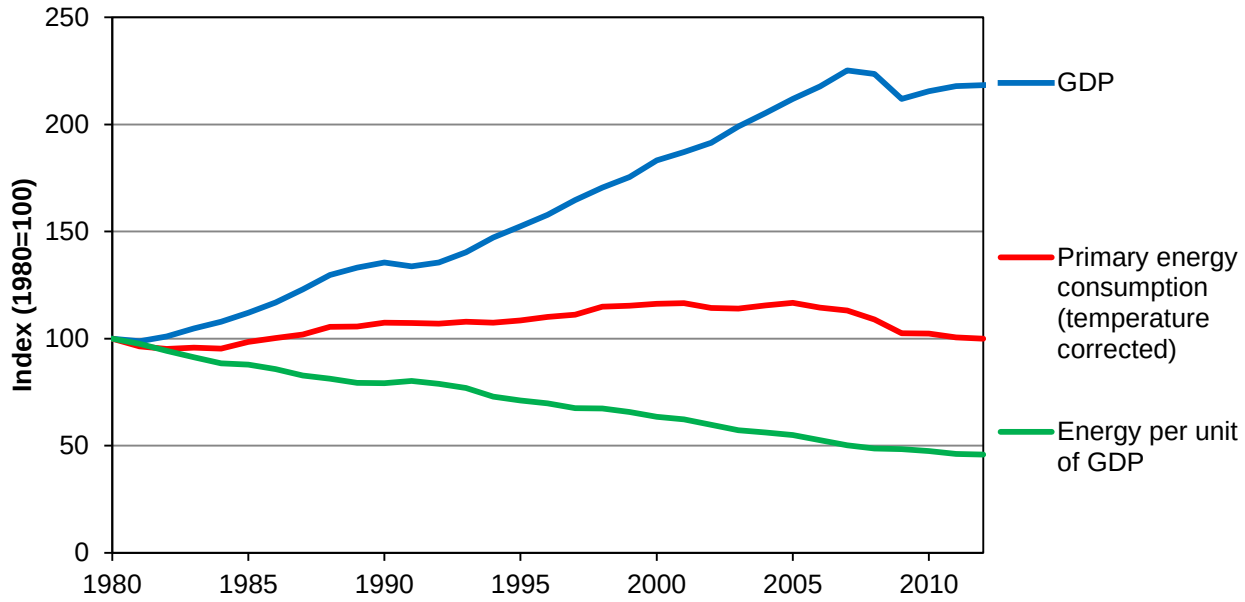
[6] Terawatt Hours (TWh)

[7] DECC Energy Consumption in the UK - a National Statistics publication produced by DECC. http://www.decc.gov.uk/en/content/cms/statistics/publications/ecuk/ecuk.aspx

[8] Primary energy consumption is temperature corrected for 1980 to 2012. Final energy consumption and other energy consumption are temperature corrected for 2002 to 2012. Therefore the split between the two may be slightly different from shown pre 2002.

2.4. Chart 2.2 shows that since 1980, UK GDP has more than doubled. Over the same period primary energy consumption has risen and fallen back to 1980 levels. UK energy intensity, a measure of energy consumption per unit of GDP, has fallen by 54 per cent over this period. Energy intensity fell on average by 3 per cent per annum between 1991 and 2012.

Chart 2.2 UK Primary energy consumption per unit of GDP (real terms): 1980-2012

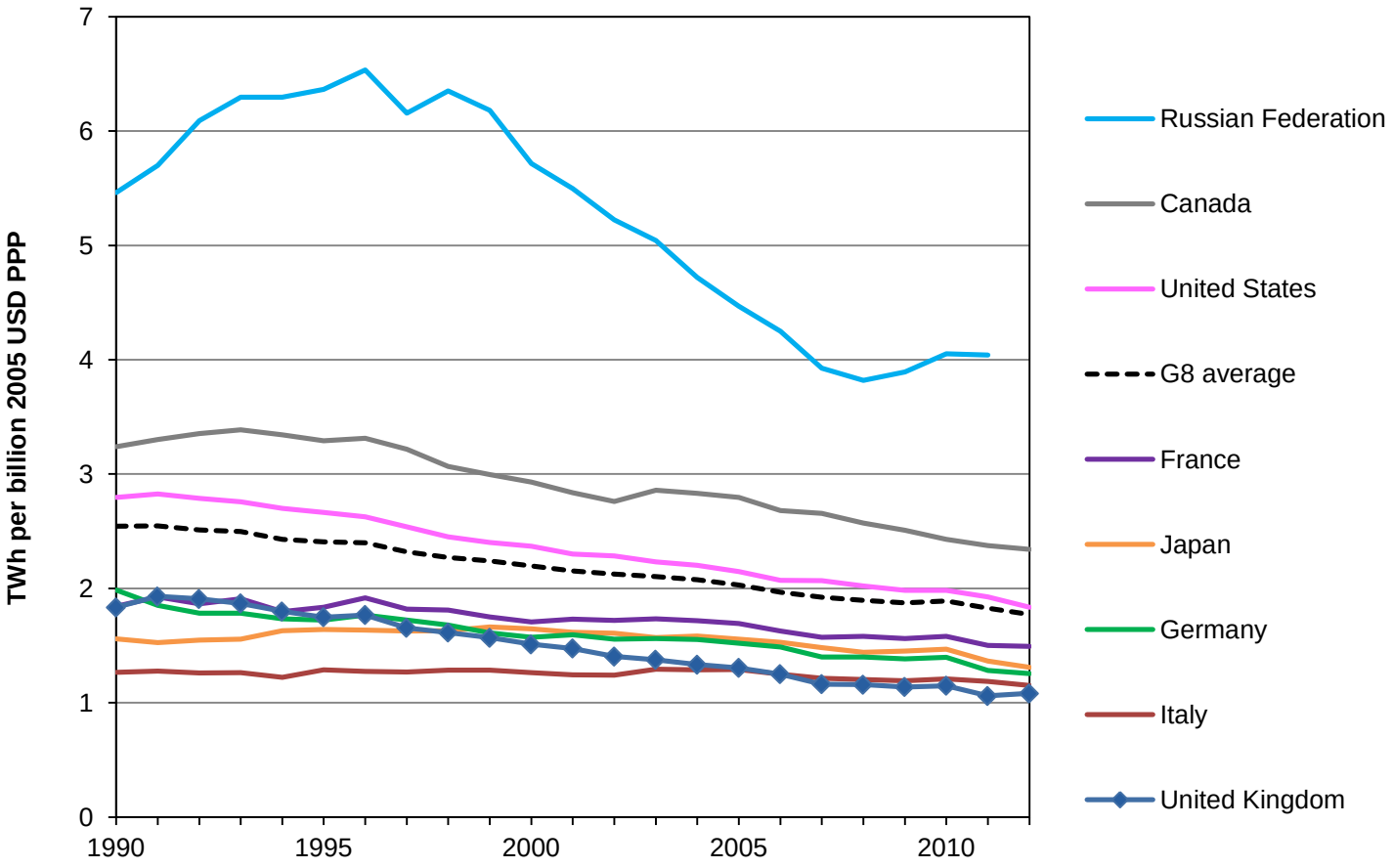


Source: Energy Consumption in the UK, table 1.1 & The Office for National Statistics (ONS) Blue Book 2013[9]

2.5. The UK has already made significant reductions to the energy intensity of its economy and is now one of the least energy intensive major economies in the world. Chart 2.3 shows that since 2006, the UK has had the least energy intensive economy in the G8. In 2012, the UK's energy intensity was 39 per cent below the G8 average, 41 per cent below the United States, 28 per cent below France and 14 per cent below Germany.

[9] Indicator ABMI: 'Gross Domestic Product: chained volume measures: Seasonally adjusted'.

Chart 2.3 Primary energy consumption per unit of GDP, G8: 1990-2012



Source: International Energy Agency

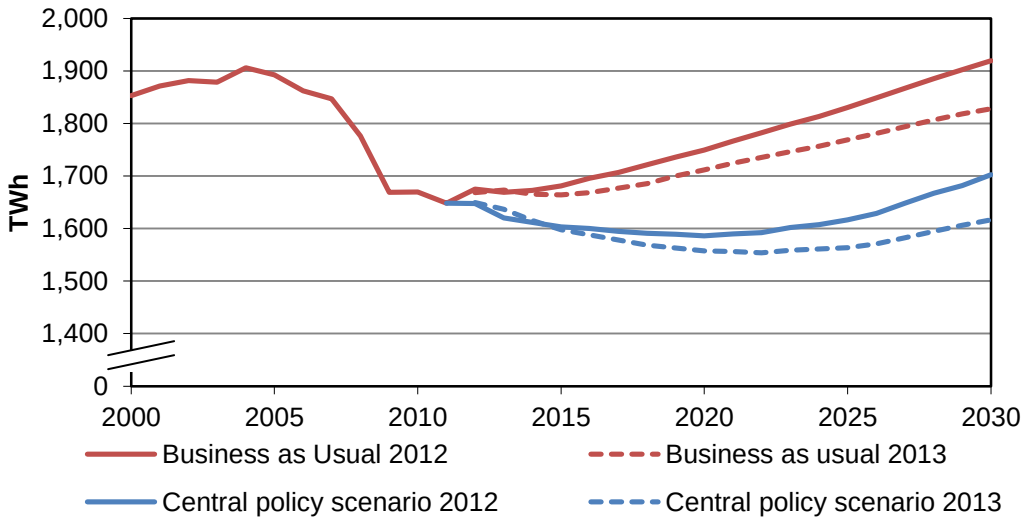
Chapter 3: Energy Projections

3.1. The Department of Energy and Climate Change publishes annual projections for final energy consumption[10]. The 2013 projections show lower estimated final energy consumption in 2020 and 2030, compared to the previous projections, as shown in Chart 3.1. UK final energy consumption is now projected to be 2 per cent lower in 2020 and 5 per cent lower in 2030 than previously projected in 2012.

3.2. UK final energy consumption peaked in 2004 at 1,900 TWh, before falling on average by 2 per cent per annum until 2008. This was followed by a 7 per cent reduction in 2009 as the UK went into recession. Based on the latest OBR economic projections[11] and policy measures, savings of 1 per cent per annum are expected until 2020 before energy consumption increases slowly towards 2030. It should be noted that the DECC energy projections only include the current policies not those in development. Existing policies continue to provide savings beyond 2020 but further policies will be needed to drive forward energy savings to 2030 and beyond.

3.3. The 2013 projections estimate policy savings, relative to business as usual,[12] of 154 TWh, 9 per cent of the baseline, in 2020, equivalent to the output of 18 power stations[13]. This rises to 212 TWh in 2030 which represents a 12 per cent saving. The business as usual scenario projected final energy consumption to increase by 160 TWh, 10 per cent, between 2012 and 2030.

Chart 3.1: Projected UK final energy consumption in 2012 and 2013: 1980-2030[14, 15]



Source: DECC Energy & Emissions

[10] DECC Energy & Emissions Projections https://www.gov.uk/government/collections/energy-and-emissions-projections

[11] Office of Budget Responsibility Economic and fiscal outlook, April 2013

[12] Business as usual refers to the scenario without policy introduced since the UK Low Carbon Transition Plan http://webarchive.nationalarchives.gov.uk/20100509134746/http:/www.decc.gov.uk/en/content/cms/publications/lc_trans_plan/lc_trans_plan.aspx

[13] Assumption of a power station with 1 GW capacity operating full-time.

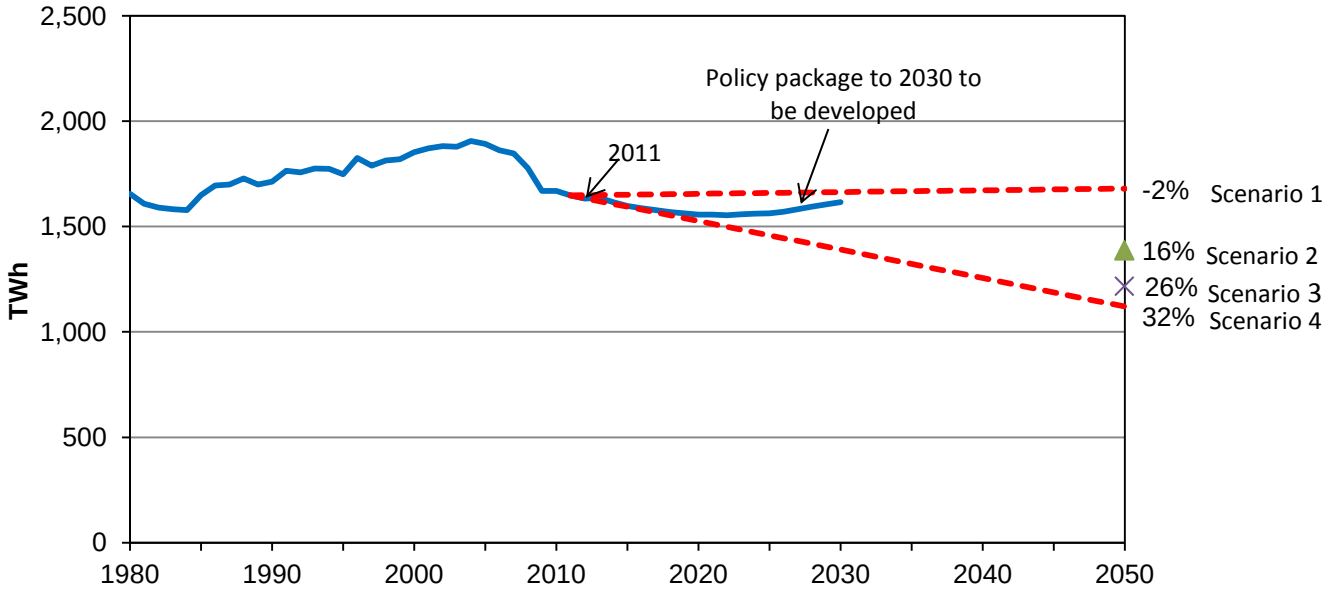
[14] Energy projections use a different definition of final energy consumption due to inclusion of energy losses in heat transformation. In 2012 the difference is 13 TWh.

[15] Excludes energy used for non-energy purposes (e.g. chemical lubricants and road making material).

3.4. The UK has set a legally binding target to reduce Greenhouse gas emissions by 80 per cent between 1990 and 2050 with a series of five year carbon budgets set since 2008 to determine the trajectory for this. While low carbon electricity (e.g. renewables, nuclear, carbon capture and storage) and other renewable energy sources are expected to make substantial increases over this period there is still a significant contribution to be made from energy efficiency.

3.5. The DECC 2050 scenarios, set out in the 2011 Carbon Plan, present four scenarios to reduce greenhouse gas emissions by 80 per cent between 1990 and 2050. [16] All scenarios include a contribution of energy efficiency measured as final energy consumption per capita. The central scenario (scenario 3) requires a 50 per cent reduction in final energy consumption per capita between 2007 and 2050 with alternative scenarios requiring savings between 31 and 54 per cent. Chart 3.2 shows how these translate to levels of final energy consumption between broadly stable and 32 per cent savings from between 2011 and 2050.

Chart 3.2 UK final energy consumption: 1980-2050[17]



Source: DECC Energy Projections & Digest of UK Energy Statistics [18]

3.6. The four scenarios differ in their energy and generation mix but a key difference between them is the impact and resultant savings of energy efficiency. Scenario 4 is based on high energy efficiency and higher renewables and yields the greatest energy consumption savings. In this future, people embrace a low carbon behaviour change through higher uptake of home insulation and technologies such as heating controls that allow the public to recognise the financial benefits of taking up energy efficiency. More efficient electrified heating systems and vehicles allow further reductions. Scenario 1 reflects a future with less behaviour change and subsequently less energy efficiency savings but carbon reduction is met primarily through greater

[16] Carbon Plan 2011 Analytical Annex, http://www.decc.gov.uk/assets/decc/11/tackling-climate-change/carbon-plan/3748-carbon-plan-annex-a-dec-2011.pdf

[17] Excludes energy used for non-energy purposes.

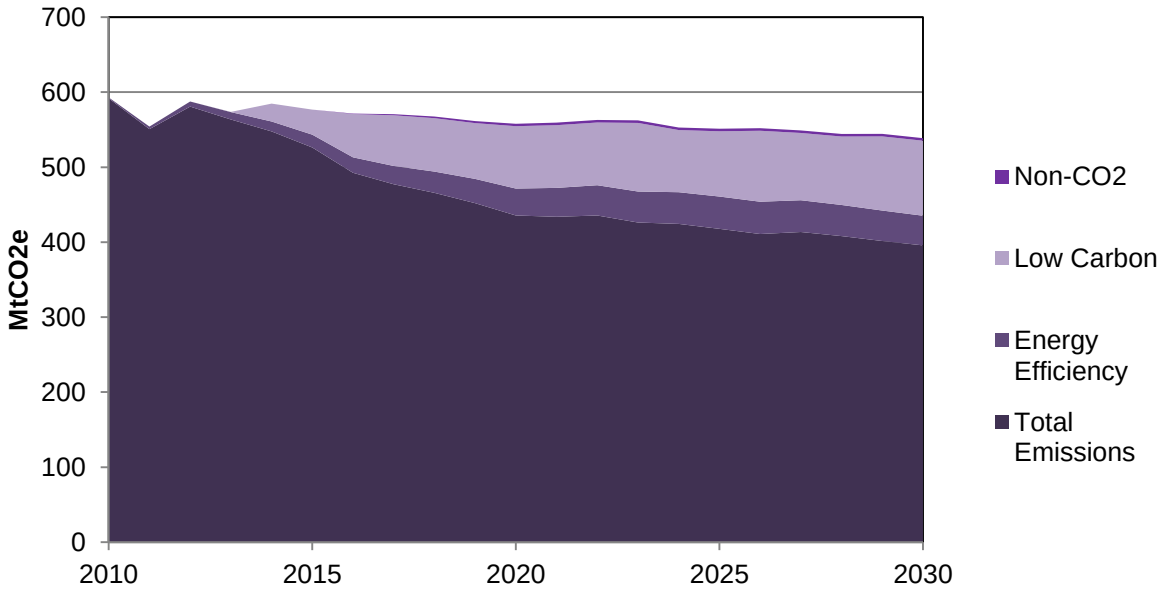
[18] The Digest of UK Energy Statistics - a National Statistics publication produced by DECC, http://www.decc.gov.uk/en/content/cms/statistics/energy_stats/source/total/total.aspx

transition to nuclear power stations and the subsequent decarbonisation of the grid. New policies post 2020 are needed to allow the UK to continue to decrease its energy consumption (and carbon emissions) until 2050 through energy efficiency.

3.7. Chart 3.2 shows that the UK is well on course to achieve the desired trajectory in the short term but without further policy action energy consumption will rise again in the 2020s. The policies that will be put in place to deliver the fourth carbon budget[19] are still under development; more details of these policies will be included as they are developed. Therefore the projection for the fourth carbon budget period represents a scenario in which there is no extension of existing policies or introduction of new policies after 2022.

3.8. Chart 3.3 shows that the existing policy package is due to deliver savings in Greenhouse gas emissions of 122 $MtCO_2e$ (21%) in 2020 and 143 $MtCO_2e$ (24%) in 2030, relative to business as usual. In 2020, 29 per cent of these savings are due to energy efficiency with the remainder from switching to low carbon energy sources. In the non-traded emissions sector, energy efficiency policies make up 63 per cent of the savings in 2020 and 84 per cent of the savings in 2030.

Chart 3.3 Projected UK Greenhouse gas emissions with policy saving: 2010-2030[20,21]



Source: DECC Energy & Emissions Projections 2013

3.9. Chart 3.4 shows a breakdown of sectors by their projected policy savings until 2030. In 2020, based on current policies, the residential sector contributes 38 per cent of the savings, a further 30 per cent from transport and 24 per cent from public and commercial services.

3.10. By 2030, based on current policies, the transport sector contributes 51 per cent of the savings with a further 32 per cent from residential and 12 per cent from public and commercial services. The contribution from transport is primarily based on increasing

[19] Fourth carbon budget refers to 2023-2027.

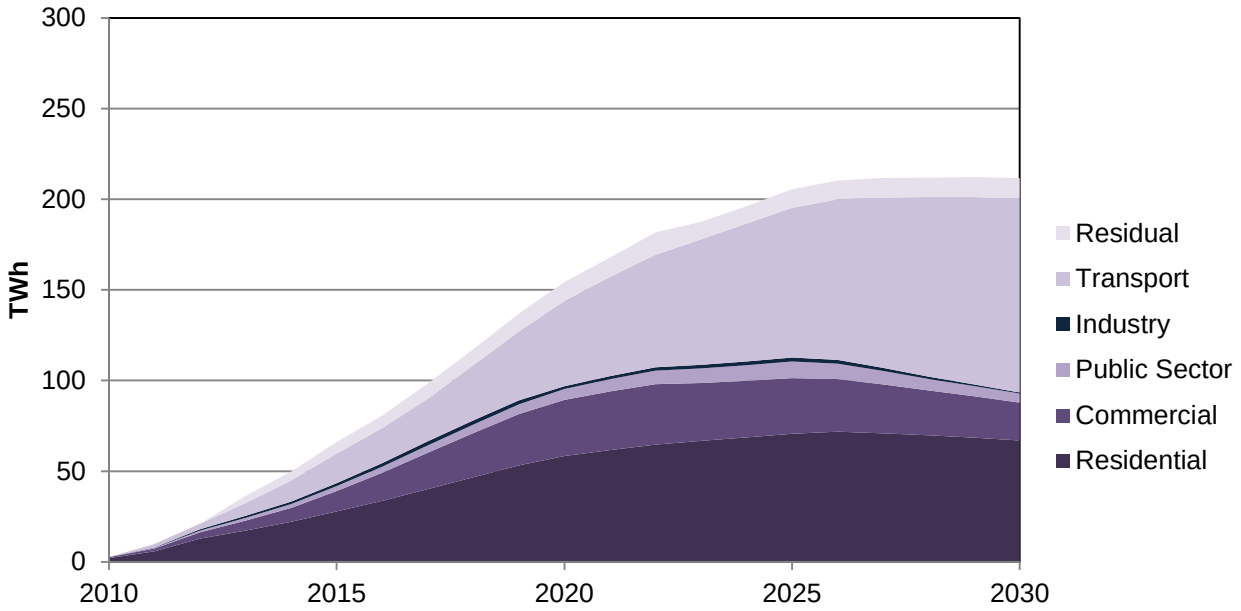
[20] DECC Energy & Emissions Projections 2013
http://www.decc.gov.uk/en/content/cms/about/ec_social_res/analytic_projs/en_emis_projs/en_emis_projs.aspx

[21] UK Territorial emissions before trading of EU allowances

combustion and engine efficiency for a range of vehicles. This allows users to reduce fuel use as well as reducing emissions.

3.11. Industrial savings are very low since most industrial policies are in the baseline. Residual savings include the impact of demand response to changes in the electricity price change due to changes in the generation mix in the policy scenario.

Chart 3.4 Projected UK policy savings for final energy consumption: 2010-2030



Source: DECC Energy & Emissions Projections 2013

Chapter 4: Sectoral Indicators

4.1. Improvements in energy efficiency cannot be reliably measured using only the macro indicators set out above. Changes in energy intensity can shift due to changes in economic structure, or recession, therefore looking at individual sectors of the economy provides additional insight. Sectoral indicators have the advantage of being driven by a narrower range of energy uses and have stronger links to the drivers of energy use and efficiency.

Domestic

4.2. Chart 4.1 shows how domestic energy consumption per household rose by 9 per cent between 1990 and 2004. Since then it has fallen by 19 per cent and in 2012 was 12 per cent lower than 1990 levels. In 2011, domestic energy consumption per household was 18 per cent below 1990 levels but consumption rose in 2012, largely driven by a cold winter. The peaks observed in 2010 and 2012 are due to an especially cold 2010 (average of 9.0 degrees Celsius per day) and a warmer than expected 2011 (average of 10.7 degrees Celsius per day) followed by a typical 2012 (average of 9.8 Celsius per day). [22]

4.3. Service demand is an indicator which captures the benefits of energy use. The indicator models energy usage, which is affected by external and internal temperatures achieved and the number of households. Additional demand from lighting and appliances will also increase service demand.

4.4. Specific energy consumption is defined as the level of energy consumption needed for a unit of service demand. It gives a good indication of technical energy efficiency and accounts for improvements in building standards, the efficiency of heating systems, lighting and appliances. For example, since 1990 the number of home computers and laptops has seen more than a sevenfold increase whilst the number of television sets has more than doubled.[23] While the energy consumption has increased, service demand has increased at a faster rate leading to a reduction in specific energy consumption.

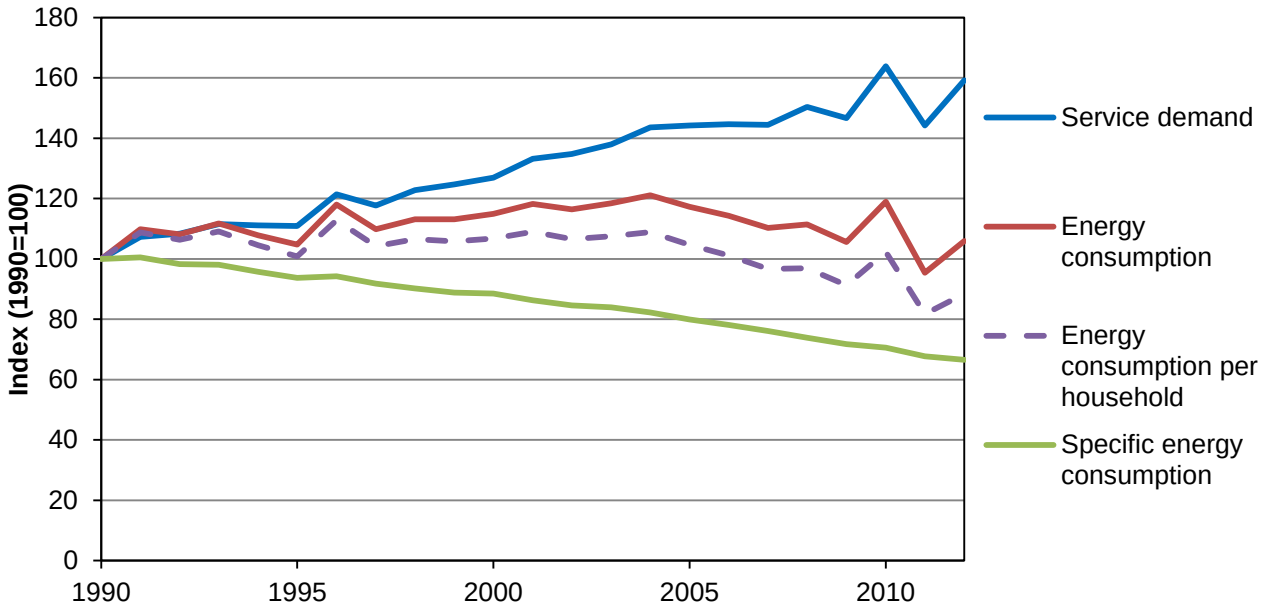
4.5. While service demand is modelled to have risen by 59 per cent since 1990, energy consumption has risen by just 6 per cent, driving a reduction in specific energy consumption of one third. This equates to an average saving of 2 per cent per annum.

4.6. It should be noted that specific energy consumption measures technical energy efficiency savings. This does not capture savings due to changing behaviour, for example turning off lights in unoccupied rooms, reducing temperatures or not boiling excess water in a kettle.

[22] Energy Trends table 7.1

[23] Energy Consumption in the United Kingdom, table 3.12

Chart 4.1 Domestic energy consumption, consumption per household and energy service demand: 1990-2012[24]



Source: Energy Consumption in the UK, table 3.36

Domestic Sector

4.7. The Standard Assessment Procedure (SAP) is an energy efficiency rating for buildings. A SAP rating of 100 implies zero net cost of energy use for heating, hot water and lighting. The rating is based on how much energy is needed to provide a standard pattern of heating, hot water and lighting, based on a building's physical properties.

4.8. Chart 4.2 shows that between 1996 and 2011[25] the average SAP rating for all homes has increased from 45 (EPC[26] band E) to 57 (bottom of EPC band D). Housing association properties have the highest SAP rating due to being built more recently and insulated to higher standards[27]. The biggest improvements have come in the private and local authority sectors. This improvement equates to a reduction in modelled energy use of about 20 per cent. This improvement has been achieved through improvements in the efficiency of heating systems, insulation including double glazing and efficient lighting. Since 2007, a slight increase in the rate of improvement of all homes can be seen. A number of policies started around this time including new buildings regulations requiring all new boilers to be A-rated, the Carbon Emissions Reduction Target (CERT) and the introduction of Energy Performance Certificates.

4.9. There is still a significant gap between the modelled performance of all homes and new homes. New homes have a SAP rating of around 79 (top of EPC band C) in 2013. The most recent data for all homes is from 2011 and is a rating of 57, so based on the SAP model, new homes in 2013 would require less than half the energy than the average home to achieve the same level of energy service. The average SAP rating of

[24] Data for service demand and specific energy consumption begins in 1990.

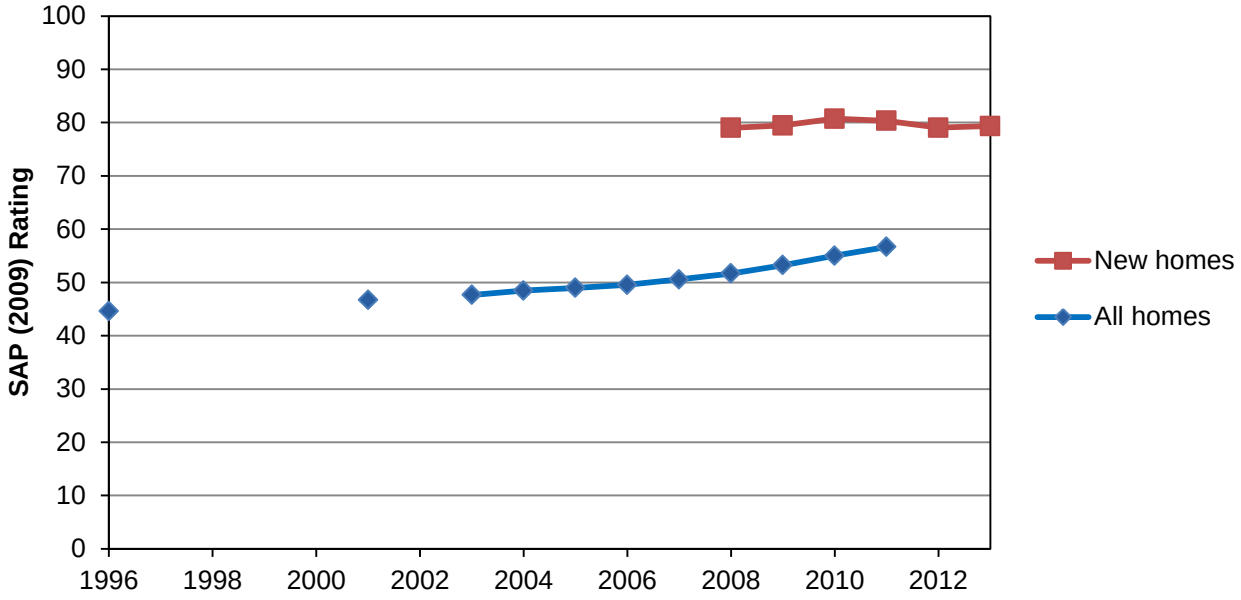
[25] Data for all homes is only available until 2011. Data for new homes is available until 2013 (Q1 and Q2 only). This is due to them being from different surveys.

[26] Energy Performance Certificate

[27] English Housing Survey: Chapter 4 Energy Performance

new homes has decreased slightly from 81 in 2010 to 79 in 2013.[28] Analysis from the National Energy Efficiency Data-framework has shown that the difference in actual energy consumption is much smaller with properties built post 2000 consuming just 16 per cent less gas than pre 1919 homes. [29] This difference is a result of the modelling assumptions for SAP and a variety of factors including different heating practices being undertaken in different households.

Chart 4.2 Energy efficiency rating of homes in England: 1996-2013



Source: English Housing Survey (all homes) 1996-2011, Codes for sustainable homes and energy performance 2008-2013 (new homes), Department for Communities & Local Government

Industrial Sector

4.10. Energy efficiency in industry focuses on maximising the amount of production which can be achieved from each unit of energy. Energy is a key input and cost for many industries.

4.11. Chart 4.3 shows that overall, industrial energy intensity, as measured by energy consumption per unit of production, has fallen by 57 per cent since 1980. Since the mid-1990s the rate that energy intensity for all industry fell slowed from an average of 4 per cent per annum between 1980 and 1995 to 2 per cent per annum since 1995.

4.12. The industrial sector is a diverse energy user with different trends in sub-sectoral industries having a significant effect on the overall indicator. Between 1980 and 2012 energy intensity has fallen in iron and steel by 32 per cent, food, drink and tobacco by 42 per cent and chemicals by 79 per cent.

4.13. All industry energy consumption has fallen by 148 TWh between 1990 and 2011.[30] Industrial output was modelled to have increased consumption by 13 TWh over the

[28] 2013 data is based on Q1 and Q2 only – Codes for Sustainable Homes Statistics – table 2, SAP by dwelling type

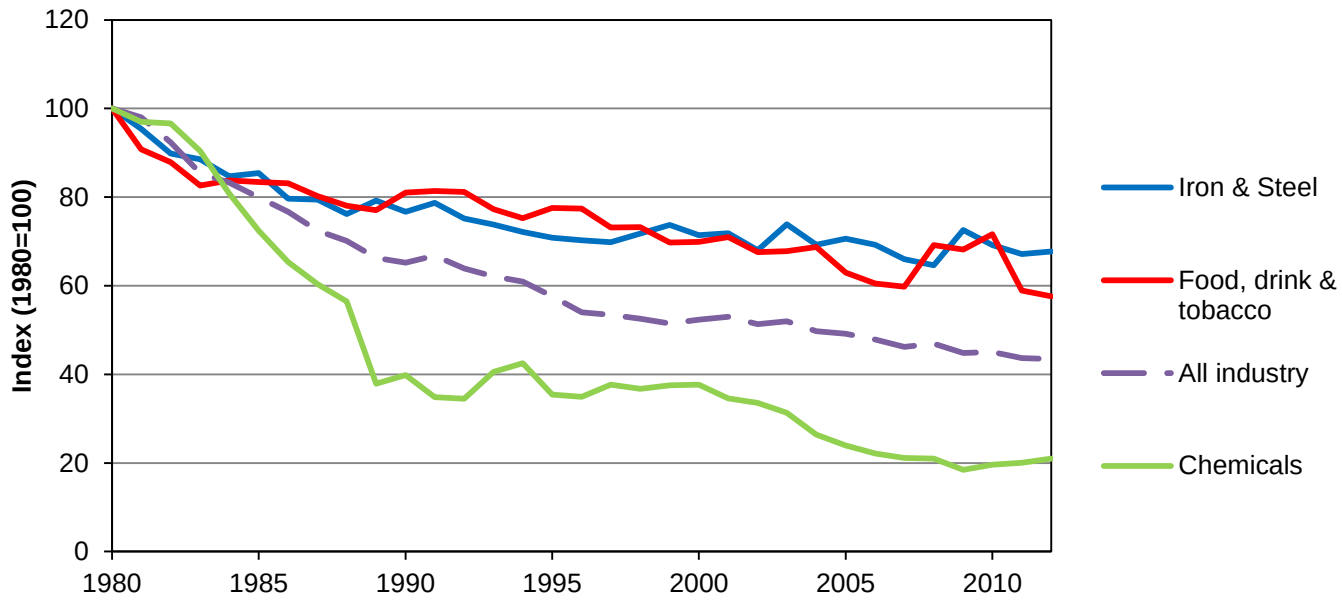
[29] National Energy Efficiency Data-framework: Summary of analysis 2013 part 1.
http://www.decc.gov.uk/en/content/cms/statistics/energy_stats/en_effic_stats/need/need.aspx

[30] Energy Consumption in the UK, table 4.15. "Output and intensity factors affecting changes in industrial energy use between 1990 and 2011". Analysis is not currently available for 2012.

same time period. This equates to a modelled 161 TWh saving. The biggest efficiency gains over the period were in Iron & Steel and Chemicals sectors where an additional 55 and 48 TWh respectively would have been required to produce the current levels of output without energy efficiency.

4.14. Industrial energy intensity can be affected by changes in the volume of output. Increases in energy intensity can be seen in many industries during the recession as the volume of output fell faster than the energy use.

Chart 4.3 Industrial energy intensity: 1980-2012 (final energy consumption per unit of production) [31]



Source: Energy Consumption in the UK, table 4.16

Service Sector

4.15. Energy intensity in the service sector is defined as the value of goods or services produced relative to the energy used to produce them. Chart 4.4 shows that energy intensity in the services sector has fallen by 49 per cent since 1980. This equates to a 2 per cent per annum saving although with a few spikes such as the recession in the early 1990s.

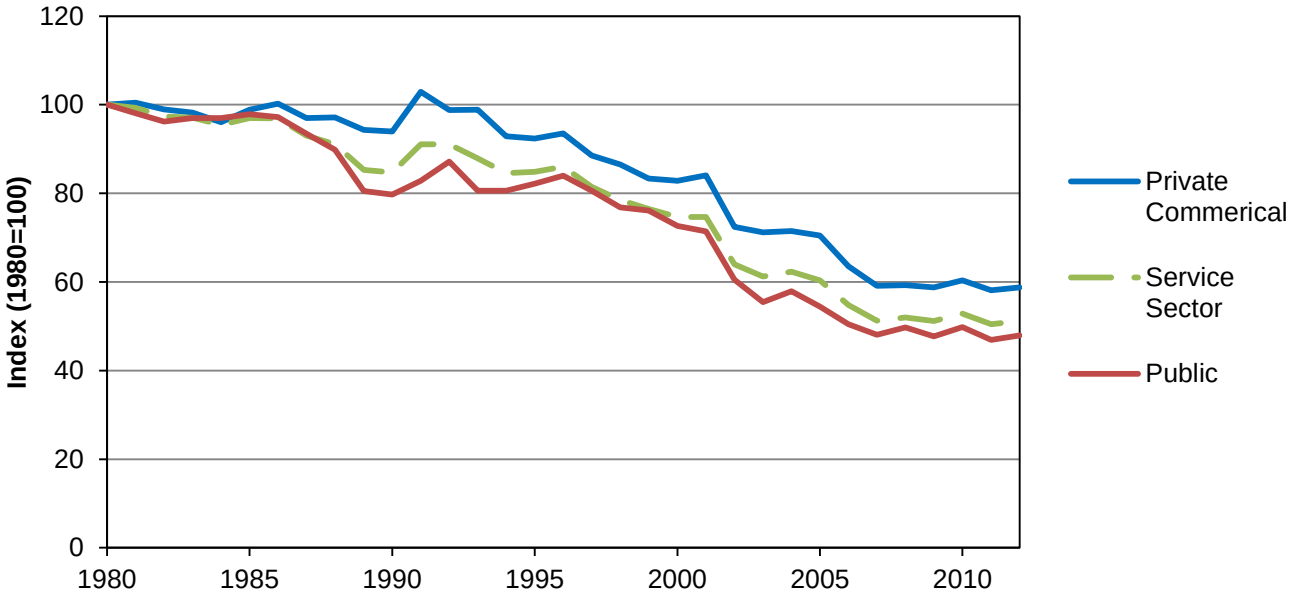
4.16. Overall the commercial and public sectors have followed similar trends over the last 30 years, although progress in the first 10 years was different. Between 1980 and 2012, public sector energy intensity decreased by 52 per cent. Over the same time period, commercial sector energy intensity decreased by 41 per cent. Energy intensity in the public sector fell earlier, with a 20 per cent fall between 1980 and 1990 whereas the private commercial sector energy intensity fell just 6 per cent over the same time period. Since 1990, public sector energy intensity has decreased by a further 40 per cent to 2012, whilst the commercial sector fell a further 37 per cent between 1990 and 2012.

[31] Measured using the ONS Index of Production, except for Iron & Steel which is measures as tonnes of steel produced.

4.17. There is currently no representative data series measuring the energy efficiency of the non-domestic building stock. Based on analysis by the Building Research Establishment,[32] 57 per cent of energy use in this sector in 2012 was used for heating,[33] 4 per cent was used for cooling and 19 per cent was used for lighting, therefore energy use of buildings will be the main driver of this trend.

4.18. DECC has commissioned a major research project to update the evidence of how energy is used in non-domestic buildings. This work will support evaluation and development of current and future energy efficiency policies, as well as improving the quality of the Government's energy efficiency modelling.

Chart 4.4 Service Sector energy intensity: 1980-2012 (energy consumption per unit of gross value added)



Source: Energy Consumption in the UK, table 5.19, 5.20, 5.21

Transport sector

4.19. In 2012, cars consumed 57 per cent of the energy used in road transport and 47 per cent of all transport fuel purchased in the UK (including aviation fuel)[34]. Car efficiency is therefore a key indicator for the sector.

4.20. The energy used by cars in 2012 was 10 per cent lower than in 1995 and 16 per cent lower than the peak in 2002. Over the same period, the distance travelled by cars in Great Britain increased by 10 per cent leading to a reduction in energy consumption per vehicle km of 19 per cent. This indicator measures the technical performance of the vehicles and the efficiency of driving.

4.21. The increase in passenger kilometres travelled since 1995 has been slightly lower than vehicle kilometres as car occupancy rates have fallen by 4 per cent to 1.5 people per car.[35] A more complete but less timely measure of overall car use efficiency would

[32] Energy Consumption in the UK, table 5.09

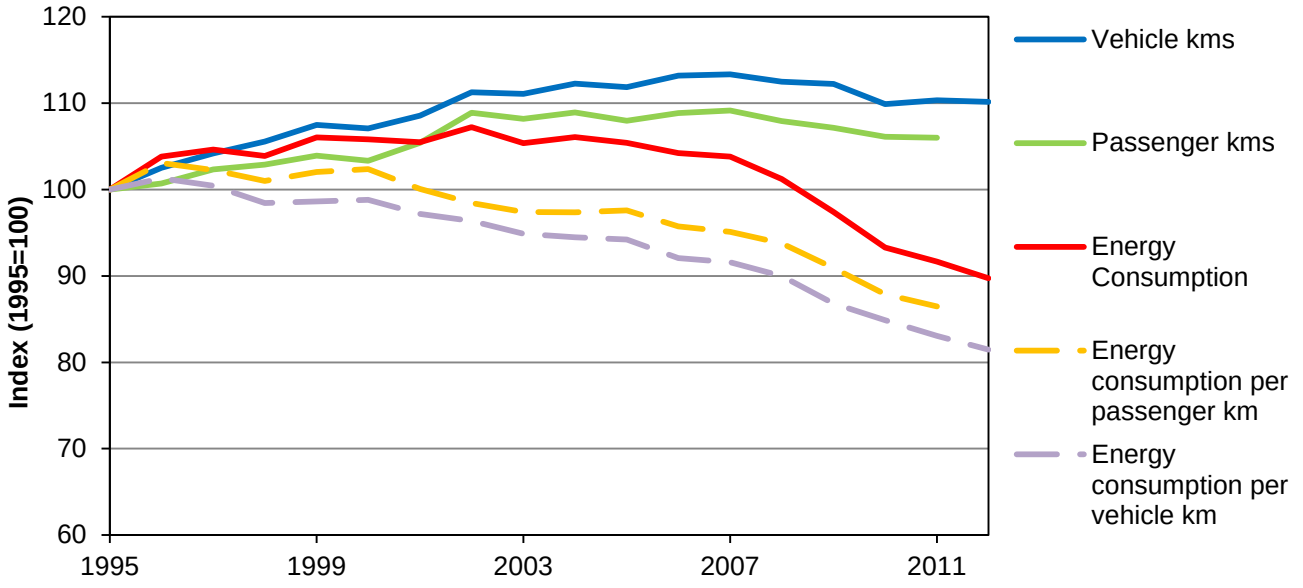
[33] Includes hot water

[34] Energy Consumption in the UK, tables 2.01 and 2.02 respectively.

[35] Energy Consumption in the UK, table 2.07

be energy consumption per passenger km which takes into account the occupancy of a car[36]. Using this indicator the reduction in energy use per passenger km is 14 per cent between 1995 and 2011.

Chart 4.5 Car energy use and efficiency indicators: 1995-2012[37,38]



Source: Energy Consumption in the UK 2.02, 2.04, Road Traffic Survey, Department for Transport

4.22. The best measure of activity in the road freight sector is tonne-kilometres which values the output of the weight of goods transported multiplied by the distance hauled. Chart 4.6 shows that between 1995 and 2011 there was a decrease in energy per tonne-kilometre of 10 per cent. Energy per tonne-kilometres hit its lowest point in 2001 and had increased slightly before a noticeable jump in 2009, caused largely by the recession.

4.23. Energy consumption for freight vehicles fell two per cent between 1995 and 2012.[39] Total energy consumption was noticeably reduced during the recession, as were total tonne-kms but both have increased since 2009.

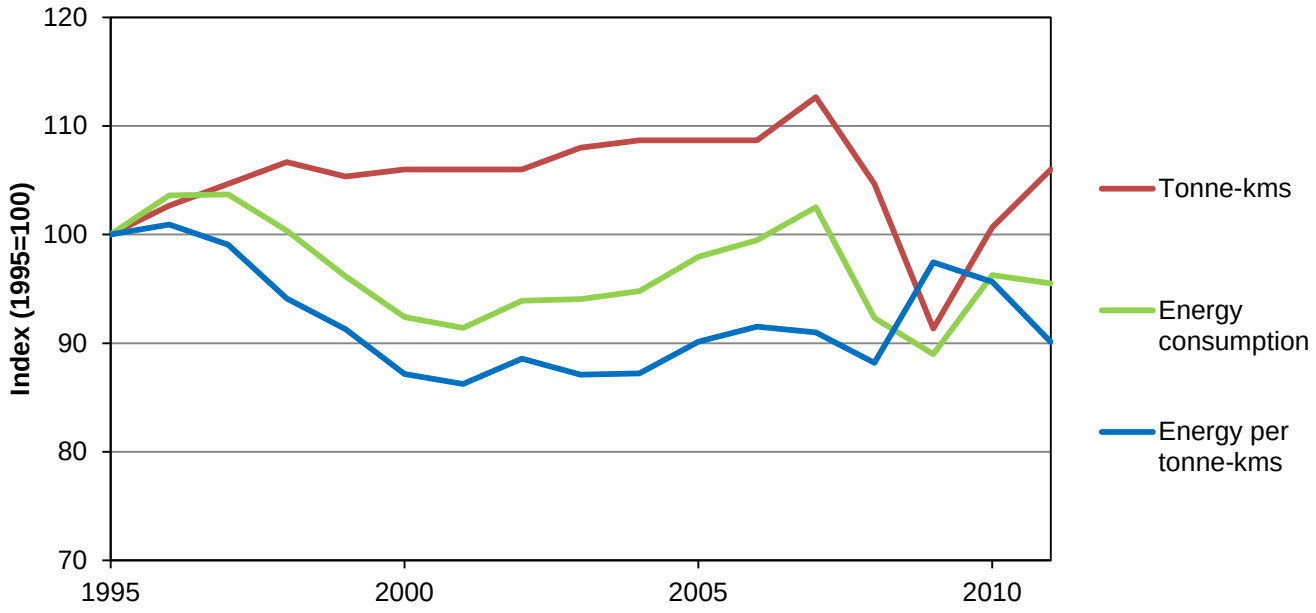
[36] Index for car passenger kms includes passenger journeys made in vans.

[37] Energy consumption series is for United Kingdom, vehicle and passenger kms are for Great Britain.

[38] The Road Traffic Survey data for this indicator begins in 1995.

[39] 2012 data is only available for Energy Consumption and is not shown on the chart.

Chart 4.6 Road freight indicators (consumption per tonne-km): 1995-2011 [40,41]



Source: Transport Statistics Great Britain. Energy data modelled by AEA Technology

For more information on domestic and non-domestic energy efficiency please see the following Department of Energy and Climate Change publications.

Energy Consumption in the UK - a comprehensive review of energy consumption and changes in efficiency, intensity and output since the 1970s for the UK.
https://www.gov.uk/government/collections/energy-consumption-in-the-uk

The National Energy Efficiency Data Framework – analysis of domestic and non-domestic energy efficiency at a sub-national level looking at consumption and efficiency of dwellings and buildings and the characteristics of these.

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

Energy Sector Indicators – Indicators of the energy sector covering economic, supply, prices and environmental indicators.

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

Energy Trends – A quarterly publication containing headline energy and feature articles on a range of energy topics.

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

[40] Coverage of Heavy Goods Vehicles (HGV) > 3.5 tonnes in UK from Energy Consumption in the UK table 2.02.

[41] Although data exists to 1970 for this variable, only 1995 to 2011 is shown, as to be relative to Chart 4.5.

Appendix A – Data Sources & Unit Conversion

The Energy Efficiency Statistical Summary uses a range of sources, this annex provides a brief description of each of the key data sources and where they can be found. Unit conversion has taken place on some of the data and there is a short note addressing this in the annex.

Data Sources

Energy Consumption in the UK - Energy consumption in the United Kingdom' is an annual statistical publication providing a comprehensive review of energy consumption and changes in efficiency, intensity and output since the 1970s. As well as covering statistics across the UK, Energy Consumption in the UK reports energy consumption statistics by four sectors – the transport, domestic, industrial and services sectors.
https://www.gov.uk/government/collections/energy-consumption-in-the-uk

DECC Energy and Emissions Projections – The DECC Energy and Emissions projections publication is an annual publication of projections for future energy use and greenhouse gas emissions in the UK. The projections are based on assumptions of future economic growth, fossil fuel prices, electricity generation costs, UK population and other key variables regularly updated. Each set of projections takes account of climate change policies where funding has been agreed and where decisions on policy design are sufficiently advanced to allow robust estimates of policy impacts to be made.
https://www.gov.uk/government/collections/energy-and-emissions-projections

English Housing Survey & Codes for sustainable homes and energy performance – The English Housing Survey and the Codes for sustainable homes and energy performance are publications by the Department for Communities and Local Government. These focus on household characteristics and home energy performance.
https://www.gov.uk/government/organisations/department-for-communities-and-local-government/about/statistics

International Energy Agency – The International Energy Agency annually publishes energy statistics in a comparative format for most countries in the world. Figures have been obtained from the IEA database. http://data.iea.org/IEASTORE/DEFAULT.ASP

The Office for National Statistics Blue Book - The Blue Book is an annual publication of the full set of economic accounts, or National Accounts, for the United Kingdom. These accounts are compiled by the Office for National Statistics. They record and describe economic activity in the United Kingdom and as such are used to support the formulation and monitoring of economic and social policies.
http://www.ons.gov.uk/ons/rel/naa1-rd/united-kingdom-national-accounts/the-blue-book--2013-edition/index.html

Transport Statistics GB & the Road Traffic Survey - Transport Statistics Great Britain (TSGB) is the Department for Transport's main statistical compendium publication. It describes the major statistical trends in the British transport sector. The Road Traffic Survey provides estimates of the vehicle miles travelled each year in Great Britain, by vehicle type, road category and region.
https://www.gov.uk/government/organisations/department-for-transport/about/statistics

Unit Conversion

Data published in the Energy Consumption in the UK and Energy and Emissions Projections publications are often published in tonnes of oil equivalent (toe). The Energy Efficiency Deployment Office publishes figures in (kilo or terra) watt hours (kWh or TWh) as standard. The Digest of United Kingdom Energy Statistics, Annex A, details the conversion factors to achieve this.

1 tonne of oil equivalent = 11,630 kWh

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/225070/DUKES_2013_Annex_A.pdf

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