



12 July 2007

## Environmental Accounts

### **Error: Air emissions from the aviation industry (EA code 70)**

On 1 June 2007, ONS published Environmental Accounts estimates of air emissions and energy use broken down by 93 industries. This industry breakdown showed that greenhouse gas emissions from the aviation industry had increased by 9.9 per cent between 2004 and 2005. Year on year total greenhouse gases were unchanged. However, ONS has discovered that this result was based on incorrect flight kilometre data supplied for the year 2004. There was also an error in flight kilometre data for 2001 but this was much smaller and has a negligible impact on the published data.

New information suggests that the year on year increase in emissions from the aviation industry should be 6.1 per cent, between 2004 and 2005, rather than 9.9 per cent. This correction also affects the total greenhouse gas emissions in 2004 resulting in a year on year fall of 0.2 per cent between 2004 and 2005. The remainder of the industry disaggregation remains unaffected by this error. Because the error is related to fuel use, energy data will also be revised as a result of this action. The correction effects all air emissions and energy use datasets that show the aviation industry explicitly as industry 70, or implicitly as part of the transport and communications sector.

Revised figures using corrected input data will be published on 20 July 2007 in tables 13.3 and 13.5 of the National Accounts Blue Book 2007 and as datasets alongside other Environmental Accounts information accompanying the Blue Book.

ONS apologises for any inconvenience caused.

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## Greenhouse gas emissions stable in 2005

### Environmental Accounts Spring 2007

Environmental Accounts published today by the Office for National Statistics show that in 2005, on a UK residents basis, greenhouse gas emissions remained at their 2004 level of 733.5 million tonnes despite an increase in economic activity and energy consumption over the same period. Greenhouse gas emissions are currently 9.3 per cent lower, compared with the Kyoto base year of 1990, but little changed since 1999.

Between 2004 and 2005 greenhouse gas emissions from the non-household sector increased by 0.8 per cent. This recent rise is due to a 4.4 per cent increase in emissions from the transport and communications sector, largely as a result of air transport, and a 3.1 per cent increase in emissions from the construction industry.

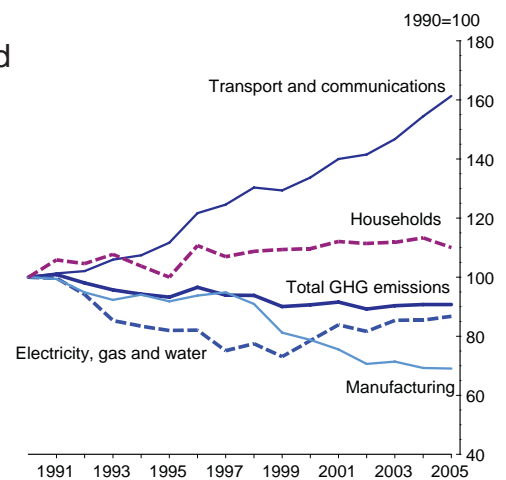
These increases have been offset by decreases in emissions from the household sector which accounts for 21.3 per cent of all emissions and saw a year on year fall of 2.9 per cent. This fall was largely driven by a reduction in emissions related to household heating and cooking fuels.

The ONS Environmental Accounts measure greenhouse gas emissions on a UK residents basis – they include emissions generated by UK households and companies in the UK and emissions from UK households and companies transport and travel activities abroad. They exclude emissions generated by non-residents' transport and travel in the UK.

As such, these data are on a different basis from estimates published by the Department for Environment, Food and Rural Affairs under the UK's Kyoto Protocol obligations. The Kyoto Protocol basis covers emissions from UK territory only and excludes emissions from international aviation and shipping. Table A of this release presents a reconciliation of data on both bases.

The latest Environmental Accounts release also contains new information on emissions affecting air quality and energy consumption.

Greenhouse gas emissions 1990 - 2005



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### **Greenhouse gas emissions (Table B)**

UK households were responsible for the direct emission of 156.0 million tonnes of greenhouse gases in 2005, down 2.9 per cent on a year earlier. However, emissions from this sector are currently 10.0 per cent higher than in 1990. Greenhouse gas emissions from households' travel were 67.2 million tonnes in 2005 compared with 67.9 in 2004 while emissions from other sources such as heating and cooking amounted to 88.8 million tonnes, 4.2 per cent lower than in the previous year. In 2005, greenhouse gas emissions from households constituted 21.3 per cent of all greenhouse gas emissions compared with 17.5 per cent in 1990.

Greenhouse gas emissions from the non-household sector accounted for 78.7 per cent of all emissions in 2005. The largest source of non-household emissions is the electricity, gas and water supply industry which contributed 25.7 per cent of all emissions in 2005. Manufacturing and the transport and communications industries were the other most significant contributors to greenhouse gas emissions in 2005, responsible for 16.3 per cent and 14.2 per cent respectively.

Greenhouse gas emissions from the electricity, gas and water supply industry rose by 1.5 per cent between 2004 and 2005 but have fallen 13.2 per cent since 1990. Emissions from Manufacturing fell from 173.4 million tonnes in 1990 to 119.8 million tonnes in 2005, a fall of 30.9 per cent. Emissions from agriculture, mining and quarrying and other services have also fallen both year on year and compared with the 1990 base year.

Year on year, greenhouse gas emissions from transport and communications increased 4.4 per cent between 2004 and 2005. Greenhouse gas emissions from the transport and communication industries were 61.3 per cent higher in 2005 than in 1990. The transport and communication industries were responsible for emitting the equivalent of 104.5 million tonnes of greenhouse gases in 2005 compared with 64.8 million tonnes in 1990. This rise mainly reflects increases in emissions from the air and sea transport industries.

Emissions from air transport rose 9.9 per cent between 2004 and 2005, in line with growth of the industry. Over the same period the number of flight kilometres by UK operators increased by 11.5 per cent. Air transport was therefore responsible for 87.0 per cent of the increase in emissions from the transport and communications sector between 2004 and 2005. Since 1990 emissions from aviation have more than doubled and as a proportion of total greenhouse gas emissions their share has increased from 2.5 per cent to 5.8 per cent.

Over the same period the proportion of greenhouse gas emissions attributed to the shipping industry has increased from 2.1 per cent in 1990 to 3.7 per cent in 2005. Between end year 2000 and 2005, gross tonnage of UK owned trading ships increased by 60.7 per cent, largely due to UK shipping companies moving operations to the UK to qualify for the Tonnage Tax.

There have also been less significant increases in emissions from other industries within the transport sector including; railways, tubes and trams and taxis.

Emissions of greenhouse gases from all road transport, including the activities of UK households and companies abroad, rose 0.5 per cent in 2005 compared with 2004 and are currently 14.5 per cent above their 1990 level.

Overall, most of the reduction in greenhouse gas emissions since 1990 has occurred in the period between 1990 and 1999, when emissions fell by 10.0 per cent. In comparison, since 1999, total greenhouse gas emissions have increased by 0.8 per cent.

### **Energy consumption (Table C)**

In 2005, total energy consumption, including nuclear and hydroelectric power and imports of electricity, was broadly unchanged at 244.8 million tonnes of oil equivalent (mtoes) compared with 244.9 a year earlier. Since 1990, total energy consumption has risen 11.0 per cent.

Between 1990 and 2005, the consumption of carbon fuels rose 10.9 per cent while greenhouse gas emissions fell 9.3 per cent due to changes in fuel use - the combustion of natural gas rather than coal and the introduction of integrated pollution prevention and control measures.

The use of carbon fuels such as coal, oil and gas fell from 225.5 mtoes in 2004 to 225.0 mtoes in 2005, a decrease of 0.2 per cent on the previous year. The largest direct users of carbon fuels were the electricity, gas and water supply industries who accounted for 27.0 per cent of carbon fuel consumption in 2005 and consumed 60.7 mtoes in 2005, up 0.7 per cent on 2004.

The next largest consumer was the UK household sector (26.4 per cent) who consumed 59.3 mtoes in 2005. This was 3.4 per cent lower than in 2004 and a factor in offsetting a 4.7 per cent year on year increase in carbon fuel use by the transport and communications industry.

Energy from other sources such as nuclear, hydroelectricity, wind and imported electricity rose 2.1 per cent between 2004 and 2005 and is now 11.9 per cent higher than in 1990. Imports of electricity in 2005 were 11.0 per cent higher than in 2004, while energy derived from nuclear fuel and hydroelectricity remained broadly stable, up 1.2 per cent and 0.7 per cent respectively. Between 2004 and 2005, energy from wind power has increased by 50.3 per cent from 0.2 to 0.3 million tonnes of oil equivalent.

The total amount of energy derived from renewable sources rose 12.2 per cent between 2004 and 2005. Energy from renewable sources such as biomass (for example wood, manure and crops), hydro and wind power amounted to 4.6 mtoes in 2005 and accounted for 1.9 per cent of all energy used. Since 1990, the amount of energy from renewable sources more than doubled from 1.9 mtoes to 4.6 mtoes.

## BACKGROUND NOTES

1. Environmental accounts are 'satellite accounts' to the main national accounts. They provide information on air pollution, energy consumption, oil and gas reserves, trade in basic materials, environmental taxation and spending on environmental protection. These are related to the different industrial, commercial and domestic sectors. Environmental accounts use similar concepts and classifications of industries to those employed in the National Accounts, and they reflect the recommended European Union and United Nations framework for developing such accounts.
2. The Environmental Accounts estimates for air emissions are published on a National Accounts basis and differ from those used to monitor progress against the Kyoto Protocol in that they include emissions from international aviation and from fuels purchased abroad by UK residents, including those purchased by international shipping and aircraft on international flights. They exclude emissions from fuels purchased in the UK by non-UK residents.
3. The greenhouse gases included in the atmospheric emissions accounts are those covered by the Kyoto Protocol: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>). To aggregate the greenhouse gases covered in the accounts, a weighting based on the relative global warming potential (GWP) of each of the gases is applied, using the effect of CO<sub>2</sub> over a 100 year period as a reference. This gives methane a weight of 21 relative to CO<sub>2</sub> and nitrous oxide a weight of 310 relative to CO<sub>2</sub>, SF<sub>6</sub> has a GWP of 23,900 relative to CO<sub>2</sub>. The GWP of the other fluorinated compounds varies according to the individual gas.
4. For the purpose of this news release, the UK transport industries comprise railways, tubes and trams, buses and coaches, taxis and mini cabs, road freight, air transport, water transport and transport via pipelines. The road freight industry covers road haulage companies as opposed to all types of road freight. Lorries owned by retailers for instance are allocated to the retail industry.
5. Further details on air emissions and energy use as well as information on other elements of the environmental accounts such as oil and gas reserves, material flows and environmental protection expenditure, can be found at: <http://www.statistics.gov.uk/statbase/Product.asp?vlnk=3698>
6. The environmental accounts are used to inform sustainable development policy, to model impacts of fiscal or monetary measures and to evaluate the environmental performance of different industrial sectors.
7. Details of the policy governing the release of new data are available from the press office. Also available is a list of names of those given pre-release access to the contents of this release.



8. **National Statistics** are produced to high professional standards set out in the National Statistics Code of Practice. They undergo regular quality assurance reviews to ensure that they meet customer needs. They are produced free from any political interference. © Crown copyright 2007.

# A Greenhouse gas emissions bridging table

## National Accounts measure to IPCC<sup>1</sup> measure

Thousand tonnes

		1990	1995	1997	1999	2000	2001	2002	2003	2004	2005
<b>Greenhouse gases - CO<sub>2</sub>,CH<sub>4</sub>,N<sub>2</sub>O,HFC,PFCs and SF<sub>6</sub><sup>2</sup></b>											
National Accounts measure	<b>JKRU</b>	808 315	753 669	759 059	727 536	732 481	740 036	721 105	730 112	733 445	733 446
less											
Bunker emissions <sup>3</sup>	<b>A43J</b>	22 569	27 100	31 215	34 276	36 318	36 249	34 613	35 112	39 374	41 261
CO <sub>2</sub> from biomass <sup>4</sup>	<b>A43K</b>	2 980	5 240	5 762	6 411	6 573	7 261	7 507	8 352	9 358	9 207
Cross boundary adjustment <sup>5</sup>	<b>A43L</b>	12 958	12 882	16 217	16 494	17 392	21 285	23 848	25 705	26 056	27 349
plus											
Crown Dependancies <sup>6</sup>	<b>EQ44</b>	259	261	260	263	264	256	253	206	209	209
Landuse change / forestry <sup>7</sup>	<b>A43M</b>	2 895	1 002	514	-250	-426	-575	-1 101	-1 158	-1 913	-2 035
IPCC											
(inc. net Co <sub>2</sub> emissions/removals) <sup>8</sup>	<b>A43N</b>	772 962	709 710	706 640	670 368	672 036	674 921	654 288	659 990	656 953	653 803
IPCC Kyoto greenhouse gas basket total <sup>9</sup>	<b>F8ZL</b>	770 254	708 699	705 668	669 838	671 581	674 528	654 230	659 794	657 333	654 127

Source: Netcen, ONS

- 1 Intergovernmental panel on climate change.
- 2 Carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbon and sulphur hexafluoride expressed as thousand tonnes of carbon dioxide equivalent.
- 3 International aviation and international shipping emissions.
- 4 Emissions arising from wood, straw, biogases and poultry litter combustion for energy production.
- 5 Emissions made by UK residents abroad and excludes emissions made by foreign residents in the UK.
- 6 Emissions from deforestation, soils and changes in forest and other woody biomass.
- 7 Includes emissions of crown dependancies; Guernsey, Jersey, Isle of Man. The total used for assessing progress against the Kyoto Protocol target differs slightly from the sum of greenhouse gases reported above in the table due to differences in the coverage of land use change and forestry Cayman Islands, Falkland Islands and Montserrat.
- 8 Excludes emissions from overseas territories. The UK's base year for the Kyoto target of a 12.5 per cent reduction by 2008-12 is the sum of 1990 emissions for Co<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O and from 1995 emissions for HFC, PFC and SF<sub>6</sub>.
- 9 An allowance is included for net emissions from deforestation in 1990, in accordance with Article 3.7 of the Kyoto Protocol.

# B Greenhouse gas and acid rain precursor emissions

Thousand tonnes

		1990	1995	1997	1999	2000	2001	2002	2003	2004	2005
<b>Greenhouse gases - CO<sub>2</sub>,CH<sub>4</sub>,N<sub>2</sub>O,HFC,PFCs and SF<sub>6</sub><sup>1</sup></b>											
Agriculture	JKRH	60 737	58 581	59 719	57 797	55 581	52 603	52 938	52 545	52 326	51 302
Mining and quarrying	JKRJ	40 554	37 103	36 581	32 462	31 958	31 118	31 578	30 891	30 279	29 155
Manufacturing	JKRK	173 414	159 153	164 436	140 790	136 609	130 999	122 466	123 796	120 037	119 745
Electricity, gas and water supply	JKRL	216 921	177 712	162 955	158 571	170 305	181 971	177 093	185 228	185 453	188 216
Construction	JKRM	8 973	9 513	9 943	10 217	10 249	10 429	10 523	10 750	10 964	11 302
Wholesale and retail trade	JKRN	13 834	15 807	16 806	18 638	19 064	18 433	18 281	18 401	19 248	18 809
Transport and communication	JKRO	64 757	72 296	80 667	83 759	86 581	90 644	91 654	95 001	100 031	104 466
Other business services	JKRP	6 627	7 037	6 783	7 252	7 315	7 745	6 718	6 839	6 816	7 066
Public administration	JKRQ	10 814	10 787	10 389	9 664	9 006	9 680	9 724	8 977	9 232	9 226
Education, health and social work	JKRR	11 821	11 583	12 223	12 738	11 974	12 670	10 499	10 489	11 071	11 029
Other services	JKRS	58 089	52 242	46 924	40 640	38 379	34 823	31 693	28 724	27 326	27 159
Households	JKRT	141 774	141 856	151 633	155 007	155 461	158 921	157 939	158 470	160 663	155 972
<b>Total greenhouse gas emissions</b>	<b>JKRU</b>	<b>808 315</b>	<b>753 669</b>	<b>759 059</b>	<b>727 536</b>	<b>732 481</b>	<b>740 036</b>	<b>721 105</b>	<b>730 112</b>	<b>733 445</b>	<b>733 446</b>
<i>of which, emissions from road transport<sup>2</sup></i>	JKRV	111 824	114 693	122 215	123 915	123 363	123 477	126 205	126 249	127 489	128 057
<i>of which, emissions from water transport<sup>3</sup></i>	F8ZP	17 015	17 014	19 764	16 630	16 138	20 551	22 279	23 789	27 442	27 234
<i>of which, emissions from air transport<sup>4</sup></i>	F8ZQ	20 374	24 658	28 045	33 845	37 350	36 825	36 122	37 361	38 988	42 843
<b>Acid rain precursor emissions - SO<sub>2</sub>,NO<sub>x</sub>,NH<sub>3</sub><sup>5</sup></b>											
Agriculture	JKRW	719	669	680	659	611	597	575	557	562	556
Mining and quarrying	JKRX	101	83	91	82	84	74	77	92	88	87
Manufacturing	JKRY	934	760	663	562	511	490	443	432	438	437
Electricity, gas and water supply	JKRZ	3 277	1 937	1 284	981	1 052	994	914	935	752	639
Construction	JKSA	71	67	65	62	60	58	55	53	51	50
Wholesale and retail trade	JKSB	99	84	76	72	68	61	60	57	58	54
Transport and communication	JKSC	793	778	855	740	716	835	872	911	1 016	1 004
Other business services	JKSD	38	33	27	24	22	21	17	17	14	14
Public administration	JKSE	79	67	63	52	48	48	44	36	41	40
Education, health and social work	JKSF	61	44	39	28	23	22	17	16	15	15
Other services	JKSG	77	68	59	50	48	50	46	46	44	44
Households	JKUK	700	564	530	461	411	377	346	321	302	271
<b>Total acid rain precursor emissions</b>	<b>JKUL</b>	<b>6 950</b>	<b>5 154</b>	<b>4 433</b>	<b>3 773</b>	<b>3 653</b>	<b>3 629</b>	<b>3 466</b>	<b>3 472</b>	<b>3 383</b>	<b>3 212</b>
<i>of which, emissions from road transport</i>	JKUM	997	844	774	685	619	566	524	483	452	415

1 Carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbon and sulphur hexafluoride expressed as thousand tonnes of carbon dioxide equivalent.

2 Includes emissions from all road transport sources (e.g. HGVs, LGVs, cars and motorcycles) across all industries

3 Emissions from water transport industry (Environmental Accounts code 69)

4 Emissions from air transport industry (Environmental Accounts code 70)

5 Sulphur dioxide, nitrogen oxides and ammonia expressed as thousand tonnes of sulphur dioxide equivalent.

Source: Netcen, ONS

# C Energy Consumption

Million tonnes of oil equivalent

		1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>Direct use of energy from carbon fuels</b>													
Agriculture	JKPO	2.3	2.3	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.2	2.2	2.1
Mining and quarrying	JKPP	3.9	4.9	5.6	5.8	6.4	6.3	6.7	7.6	7.5	7.6	7.5	7.3
Manufacturing	JKPQ	42.3	42.1	43.3	43.3	42.3	42.7	42.8	40.9	39.0	39.6	38.2	38.0
Energy, gas and water supply	JKPR	56.8	51.9	52.8	50.2	52.3	51.5	55.2	57.7	56.8	59.5	60.3	60.7
Construction	JKPS	3.0	3.1	3.2	3.3	3.3	3.3	3.3	3.4	3.4	3.5	3.6	3.7
Wholesale and retail trade	JKPT	5.1	5.6	5.8	5.6	5.7	6.0	6.0	5.7	5.5	5.6	5.9	5.8
Transport and communication	JKPU	22.0	24.7	26.9	27.5	28.8	28.6	29.6	30.9	31.1	32.2	33.8	35.4
Other business services	JKPV	2.5	2.6	2.7	2.5	2.6	2.7	2.7	2.8	2.4	2.4	2.4	2.5
Public administration	JKPW	3.8	4.1	4.1	4.0	3.8	3.7	3.4	3.7	3.8	3.5	3.6	3.6
Education, health and social work	JKPX	4.7	4.8	5.2	5.2	5.3	5.4	5.2	5.2	4.5	4.6	4.9	4.8
Other services	JKPY	2.4	2.2	2.3	1.9	1.9	1.9	1.9	2.0	1.7	1.8	1.8	1.8
Households	JKPZ	54.0	54.4	60.5	57.7	58.5	58.7	59.2	60.5	60.0	60.4	61.4	59.3
<b>Total use of energy from carbon fuels</b>	<b>JKQA</b>	<b>202.9</b>	<b>202.7</b>	<b>214.6</b>	<b>209.2</b>	<b>213.1</b>	<b>213.2</b>	<b>218.0</b>	<b>222.9</b>	<b>218.1</b>	<b>222.9</b>	<b>225.5</b>	<b>225.0</b>
Energy from other sources <sup>1</sup>	JKQB	17.7	23.1	24.0	23.8	25.0	24.0	21.4	22.1	21.3	20.6	19.4	19.8
<b>Total energy consumption of primary fuels and equivalents</b>	<b>JKQC</b>	<b>220.6</b>	<b>225.9</b>	<b>238.5</b>	<b>233.0</b>	<b>238.1</b>	<b>237.1</b>	<b>239.3</b>	<b>245.0</b>	<b>239.4</b>	<b>243.5</b>	<b>244.9</b>	<b>244.8</b>
<b>Direct use of energy including electricity</b>													
Agriculture	JKQD	2.6	2.6	2.7	2.7	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.4
Mining and quarrying	JKQE	4.1	5.1	5.8	6.0	6.6	6.5	6.9	7.8	8.0	8.3	8.2	8.2
Manufacturing	JKQF	49.1	49.9	51.4	51.3	50.1	50.7	50.7	48.4	46.8	47.1	45.8	45.7
Electricity, gas and water supply	JKQG	52.6	50.3	51.2	48.4	51.5	49.4	50.0	53.2	51.1	52.8	52.3	52.5
<i>of which - transformation losses by major producers</i>	JKQH	46.5	45.1	45.2	44.0	45.3	43.7	44.0	46.3	44.9	46.4	45.6	46.5
<i>distribution losses of electricity supply</i>	JKQI	2.1	2.5	2.4	2.5	2.4	2.4	2.5	2.7	2.6	2.6	2.6	2.6
Construction	JKQJ	3.1	3.3	3.4	3.4	3.4	3.5	3.5	3.5	3.6	3.7	3.7	3.9
Wholesale and retail trade	JKQK	7.1	7.8	8.1	8.2	8.3	8.6	8.7	8.5	8.4	8.6	8.9	8.9
Transport and communication	JKQL	22.7	25.6	27.8	28.5	29.8	29.7	30.6	32.1	32.2	33.4	35.0	36.6
Other business services	JKQM	4.2	4.5	4.6	4.6	4.7	4.9	5.0	5.2	4.8	4.8	4.8	4.8
Public administration	JKQN	4.4	4.8	4.7	4.6	4.3	4.3	4.0	4.3	4.4	4.2	4.4	4.3
Education, health and social work	JKQO	5.8	6.0	6.5	6.4	6.6	6.7	6.4	6.8	5.7	5.6	5.9	5.9
Other services	JKQP	2.9	2.8	2.7	2.3	2.3	2.2	2.1	2.3	2.0	2.2	2.2	2.1
Households	JKQQ	62.0	63.2	69.7	66.7	67.9	68.2	68.8	70.3	69.9	70.3	71.3	69.4
<b>Total energy consumption of primary fuels and equivalents</b>	<b>JKQR</b>	<b>220.6</b>	<b>225.9</b>	<b>238.5</b>	<b>233.0</b>	<b>238.1</b>	<b>237.1</b>	<b>239.3</b>	<b>245.0</b>	<b>239.4</b>	<b>243.5</b>	<b>244.9</b>	<b>244.8</b>
<b>Reallocated use of energy</b>													
<i>Energy industry electricity transformation losses and distribution losses and allocated to final consumer</i>													
Agriculture	JKQS	3.2	3.1	3.2	3.1	3.1	3.1	3.0	3.0	3.0	3.0	3.0	2.9
Mining and quarrying	JKQT	4.5	5.4	6.1	6.3	6.8	6.7	7.2	8.1	8.7	9.2	9.2	9.5
Manufacturing	JKQU	62.5	61.9	63.3	62.6	61.5	61.6	61.5	59.4	57.3	57.8	56.2	56.3
Electricity, gas and water supply	JKQV	11.1	11.6	12.3	11.1	13.5	12.9	13.5	14.5	13.9	14.2	14.4	13.6
Construction	JKQW	3.3	3.5	3.6	3.6	3.6	3.7	3.7	3.7	3.8	3.9	3.9	4.1
Wholesale and retail trade	JKQX	10.4	11.3	11.7	12.0	12.1	12.3	12.5	12.6	12.5	12.7	12.9	13.2
Transport and communication	JKQY	23.9	27.0	29.2	30.0	31.3	31.1	32.1	33.7	33.7	35.0	36.6	38.2
Other business services	JKQZ	7.2	7.4	7.5	7.7	7.8	8.0	8.3	8.7	8.1	8.2	8.1	8.1
Public administration	JKRA	7.2	6.1	5.8	5.5	5.2	5.2	4.9	5.1	5.1	5.2	5.4	5.4
Education, health and social work	JKRB	7.7	7.9	8.6	8.3	8.5	8.5	8.0	8.5	7.4	7.1	7.4	7.5
Other services	JKRC	3.8	3.7	3.4	2.9	2.7	2.6	2.5	2.8	2.4	2.7	2.7	2.6
Households	JKRD	75.9	77.1	83.9	79.9	81.9	81.5	82.2	84.7	83.5	84.4	85.1	83.4
<b>Total energy consumption of primary fuels and equivalents</b>	<b>JKRE</b>	<b>220.6</b>	<b>225.9</b>	<b>238.5</b>	<b>233.0</b>	<b>238.1</b>	<b>237.1</b>	<b>239.3</b>	<b>245.0</b>	<b>239.4</b>	<b>243.5</b>	<b>244.9</b>	<b>244.8</b>
Energy from renewable sources <sup>2</sup>	JKRF	1.9	2.3	2.1	2.3	2.6	2.8	2.8	3.0	3.3	3.5	4.1	4.6
Percentage from renewable sources	JKRG	0.9	1.0	0.9	1.0	1.1	1.2	1.2	1.2	1.4	1.4	1.7	1.9

1 Nuclear power, hydroelectric power and imports of electricity.

Source: Netcen, Department of Trade and Industry, ONS

2 Renewable sources include solar power and energy from wind, wave and tide, hydroelectricity, wood, straw and sewage gas. Landfill gas and municipal solid waste combustion have also been included within this definition.