

UNITED KINGDOM



Country at a glance

- Population: 62.03 million (2012) [1]
- Total area: 243,610 sq. km [2]
- Carbon emissions per capita: 7.79 metric tons (2010) [3]
- Energy consumption per capita: 38.0 MWh 2010 [4]
- Percentage of global carbon emissions: 0.43% (2010) [3]



Flood Control Barrier on the River Thames Estuary in London

The picture shows the towers that control the opening and closing of the flood gates supported between the towers. The gates are closed when high tides and strong storm surges threaten to increase river levels sufficient to flood parts of London. It is particularly needed in anticipation of climate change related sea level rises. This massive structure is the second largest moveable flood control barrier in the world.

Thames Barrier. Permission Under CC BY-NC-ND 3.0 License
s3.freefoto.com/images/9907/05/9907_05_1_web.jpg

Table 1 Breakdown of energy use, electricity and heat generation, 2010

unit	Primary energy sourced within country		Energy imports minus exports	Primary energy used within the country ^(a)			Electricity Generation ^(b)		Heat Generation ^(c)	
	ktoe	%	ktoe	ktoe	GWh	%	GWh	%	GWh	%
Coal, including brown coal & peat	11,031	7	15,723	30,749	357,611	15	108,797	29	2,324	14
Oil fuels	64,368	43	11,257	63,364	736,928	31	4,861	1	447	3
Natural gas	51,453	35	31,959	84,789	986,100	42	174,999	46	13,260	83
Nuclear	16,194	11	0	16,194	188,337	8	62,140	16	0	0
Hydroelectric	310	0	0	310	3,605	0	3,604	1	0	0
Biofuels and waste	4,443	3	1,460	5,904	68,667	3	13,362	4	0	0
Solar photovoltaics	3	0	0	3	33	0	33	0	0	0
Solar thermal	87	0	0	87	1,011	0	0	0	0	0
Tide, wave and ocean	0	0	0	0	0	0	0	0	0	0
Wind	876	1	0	876	10,185	0	10,183	3	0	0
Geothermal	1	0	0	1	9	0	0	0	0	0
Electricity (imported)	0	0	229	229	2,663	0	0	0	0	0
Sub total Renewables	5,719	4	1,460	7,181	83,510	4	27,182	7	0	0
Totals	148,765	100	60,628	202,506	2,355,148	100	377,979	100	16,032	100

Source: Based on World Energy Statistics and Balances Database 2012, "World Energy Balances." © OECD/IEA, 2012.

Notes:

Standard conversion used is 1 ktoe = 11.63 GWh

(a) Sum of energy sourced within country, energy imports minus exports, international marine and aviation bunkers and stock change flows.

(b) Includes all electricity generation, including any exported.

(c) Does not include electrical heating. Includes waste heat recovery from electricity generation plants.

Table 2 Breakdown of transport fuel use, 2010

(in ktoe)	Total transport mix	%	Domestic aviation	Road	%	Rail	%	Pipeline transport	Domestic navigation	Non-specified (transport)
Coal and coal products	11	0	0	0	0	11	1	0	0	0
Oil products	39,790	96	707	37,106	97	606	64	0	1,371	0
Biofuels and waste	1,127	3	0	1,127	3	0	0	0	0	0
Electricity	335	1	0	0	0	334	35	0	0	2
Sub total Renewables	1,127	3	0	1,127	3	0	0	0	0	0
Total	41,264	100	707	38,233	100	951	100	0	1,371	2

Source: Based on World Energy Statistics and Balances Database 2012, "World Energy Balances." © OECD/IEA, 2012.

Stand on climate change

The United Kingdom ratified the Kyoto Protocol in 2002. The Department of Energy and Climate Change (DECC), a ministerial department, was created in 2008. The DECC took over some of the functions relating to energy from the Department for Business, Enterprise and Regulatory Reform and functions relating to climate change from the Department for Environment, Food and Rural Affairs. In 2008, the Climate Change Act was passed. This act lays out a framework to cut the UK's carbon emissions by 80% by 2050 from 1990 levels.

National climate change programmes

Residential-Commercial Sector:

- The CRC Energy Efficiency Scheme was announced in 2007. It is a cap and trade scheme to reduce carbon emissions that will apply to organizations that consume more than 6,000 MWh of electricity (half-hourly metered energy consumption) a year.[5]
- These organizations are responsible for around 10% of the United Kingdom's emissions. The scheme aims to encourage these organizations to develop better energy management strategies.

Industrial Sector:

- The United Kingdom is a participant in the European Union Emissions Trading Scheme (EU ETS).
- There are around 1,100 EU ETS participants in the United Kingdom, accounting for around 50% of the UK's carbon emissions.
- Participation in the EU ETS is designed by the UK to account for the traded sector proportion of the UK's carbon budget, as introduced in the Climate Change Act 2008. [6]
- This will help the UK meet the target of reducing its greenhouse gas emissions by at least 80% by 2050.

Transport Sector:

- The Office for Low Emissions Vehicles (OLEV) is a cross-agency team that aims to support the fledging ultra-low emission vehicles market.
- Amongst its responsibilities are the provision of grants to reduce the upfront costs of new ultra-low emission vehicles, and encouragement for private investment and supporting research for ULEVs. [7]

Energy Sector:

- The United Kingdom passed the Renewables Obligation in 2002. All electricity generators were required to supply an increasing proportion of their electricity from renewable sources. [8]
- This was initially set at 3% and was raised to 20% by 2020-21 in the 2006 Energy Review.

Ministries involved in climate change/energy policy making:

Ministries involved	Web links
Directorate-General for Climate Action (DG CLIMA)	ec.europa.eu/dgs/clima/mission/index_en.htm
Department of Energy & Climate Change	www.gov.uk/government/organisations/department-of-energy-climate-change
Environment Agency	www.gov.uk/government/organisations/environment-agency
Department for Business Innovation & Skills	www.gov.uk/government/organisations/department-for-business-innovation-skills
Department for Transport	www.gov.uk/government/organisations/department-for-transport
Department for Environment, Food and Rural Affairs	www.defra.gov.uk/
Department for Communities and Local Government	www.gov.uk/government/organisations/department-for-communities-and-local-government
HM Treasury	www.gov.uk/government/organisations/hm-treasury

Institutes involved in climate change/energy policy making:

Institutes involved	Web links
The UK Energy Research Centre (UKERC)	www.ukerc.ac.uk/support/Home
The Climatic Research unit of the University of East Anglia (CRU)	www.cru.uea.ac.uk/
Oxford Institute for Energy Studies	www.oxfordenergy.org/
Institute for Environment and Sustainability (IES)	ies.jrc.ec.europa.eu/
UCL Energy Institute	www.bartlett.ucl.ac.uk/energy
Low Carbon Research Institute (LCRI)	www.lcri.org.uk/

References

- [1] "World Population Prospects: The 2010 Revision." Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat.
- [2] "CIA – The World Factbook." Available at: <https://www.cia.gov/library/publications/the-world-factbook/geos/uk.html> [Accessed: 8 March 2013].
- [3] CO₂ Emissions from Fuel Combustion Statistics database 2012, "Indicators for CO₂ emissions." © OECD/IEA, 2012.
- [4] World Energy Statistics and Balances database 2012, "World Energy Balances." © OECD/IEA, 2012.
- [5] "CRC Energy Efficiency Scheme." Available at: <https://www.gov.uk/crc-energy-efficiency-scheme> [Accessed: 11-Mar-2013].
- [6] "Reducing the UK's greenhouse gas emissions by 80% by 2050." Available at: <https://www.gov.uk/government/policies/reducing-the-uk-s-greenhouse-gas-emissions-by-80-by-2050/supporting-pages/carbon-budgets> [Accessed: 11-Mar-2013].
- [7] "Office for Low Emission Vehicles." Available at: <https://www.gov.uk/government/organisations/office-for-low-emission-vehicles>. [Accessed:11-Mar-2013].
- [8] "Increasing the use of low-carbon technologies." Available at: <https://www.gov.uk/government/policies/increasing-the-use-of-low-carbon-technologies/supporting-pages> [Accessed: 11-Mar-2013].