

Climate change

Climate change looks certain to bring major social and environmental shifts that affect businesses, governments and individuals worldwide.

For example, the likely widespread introduction of carbon taxes and/ or caps on greenhouse gas emissions, coupled with rising energy prices, will make energy an increasingly significant business cost.

All customers, from consumers to governments and large corporations, will require ICT products and services that help them reduce energy consumption. Our ability to respond to this growing demand will affect our profitability and our reputation.

We expect our operations to be affected by changes in the climate. For example increases in extreme weather conditions could affect our network infrastructure. For this reason climate change is one of our key CSR risks.

Climate change strategy

Our climate strategy covers our global business and has four elements:

- Reducing the impact of our operations
- Empowering customers to reduce their impacts by offering innovative products and services
- Influencing our suppliers to provide more energy efficient products and services
- Encouraging our employees to reduce their carbon footprint at home and at work.

We have set targets in each area to focus our efforts. Carbon reduction is one of our key performance indicators.

Governance

Bruce Stanford, Managing Director, Major Programmes. BT Wholesale, sponsors our climate change strategy. An environment and climate change taskforce meets regularly to agree objectives and drive progress. Members include senior representatives from our major lines of business and central functions including BT Design, BT Operate and our procurement functions.

Advocacy

We intend to lead the business response to climate change and help drive efforts to create a low-carbon economy.

In 2007, BT's Chief Executive Ben Verwaayen chaired the UK's Confederation of Business and Industry's (CBI) Climate Change Task Force, which brought together chairmen and chief executives from 18 major UK companies. BT and the other taskforce members have agreed challenging targets, all of which are set out in the [CBI report](#).

BT has also supported initiatives such as The Prince of Wales's May Day Business Summit on Climate Change, for which it was National sponsor, and we have contributed to regional climate change initiatives across the UK and around the world.

Our operations

Our target is to reduce our UK climate change impact by 80% below 1996 levels, by 2016. At the end of 2007, we had achieved reductions of 58%, with 42% of our energy coming from renewable sources.

This figure is lower than the 60% we reported last year primarily due to changes in electricity conversion factors published by the UK government.

The Department for Environment, Food and Rural Affairs (Defra) [Greenhouse Gas conversion factors](#) for company reporting were revised in June 2007. We have therefore recalculated our carbon model back to our 1996 baseline.

Reducing our global carbon footprint is essential but difficult because our business is growing very rapidly outside the UK. We have therefore set a new target of reducing our worldwide CO₂ emissions per unit of BT's contribution to GDP by 80% from 1996 levels by 2020. This approach will enable BT to meet increasing customer demand at the same time as controlling its greenhouse gas emissions, and is in line with the approach expected to be adopted by the successor to the Kyoto protocol.

In order to be able to report progress against this target in 2009 we are now establishing and testing processes for collecting and verifying our greenhouse emissions globally.

Integrating carbon management is a priority when we acquire new businesses. We see this as a two way process and aim to learn from good practice in the companies we acquire. For example, BT I.Net a recent acquisition in Italy uses a system of wells to cool data equipment instead of conventional air-conditioning.

We have developed an abatement cost curve to identify and prioritise carbon reduction measures. This helps BT managers assess the cost of different reduction options, the carbon cuts that can be achieved and the payback period.

In this section we discuss;

- Energy Efficiency
- Green Energy
- Transport

Transport

BT fleet

BT operates a large fleet of commercial vehicles and we aim to reduce the climate impact of our fleet by purchasing more efficient vehicles and by encouraging our drivers to adopt fuel-efficient driving techniques.

More details are given in the transport section of this report.

Employee travel

We monitor our employee travel carefully in order to detect new trends and to identify opportunities for improvement.

This year we have noticed a substantial increase in the use of diesel cars. Although this was partly balanced out by a reduction in the use of petrol vehicles, we intend to determine the reasons for the increase so that we can identify ways to remedy it.

We also saw an increase in the numbers of long haul flights. Flights can be expected to increase as the number of customers we serve overseas continues to grow, but we will continue to explore all options for limiting flights which do not have a negative impact on customer experience.

Energy efficiency

Data centres

Data centres are major consumers of energy. The number of data centres operated by BT has increased as we manage data on behalf of more customers. In addition we expect our own needs for computing power and data storage to increase.

We audited energy consumption at 10 UK data centres and 3 European data centres in 2008. A wide range of improvements were identified and these are now being taken forward, subject to business case approval.

We aim to improve the design of our data centres and build in energy efficiency measures. In 2008 we developed design specifications for BT's Data Centre of the future. These include:

- Spacing equipment racks more widely and using outside air for cooling, rather than air conditioning
- Server virtualisation – using fewer, more efficient servers, which can substantially cut the number of computers required.

Our network

We have a major opportunity to improve energy efficiency as we roll out our 21st Century Network. In particular, our new network uses fresh air cooling which means that the electrical chiller units only have to operate on the hottest days. It also uses direct current power which reduces the losses due to conversion from alternating current.

We are implementing a sub metering strategy at our key sites to help us monitor energy use in more detail and identify potential savings

Office efficiency

We launched 'Project Axe' in 2008 to increase energy efficiency in our UK offices by decommissioning unauthorised computer equipment.

A Boiler Replacement Programme has also been initiated to change top oil boiler burners to gas or biomass boilers, and a programme of energy audits has now been completed at 14 major offices. Results of energy saving measures are being reviewed and where these are found to be successful they are being introduced into all of our offices.

We have also done studies on the lighting at two of our warehouse sites. These identified potential improvements that should yield a 67% saving in energy usage – some 1,016 tonnes of CO₂.

Green energy

Our UK green energy contract, which we renewed this year until 2010, is one of the largest in the world. We have also negotiated low-carbon energy contracts in Germany, Belgium and Italy.

Supplies of green electricity are limited in most countries – just 4.5% of total UK electricity production for example - and are becoming more expensive as demand grows. In 2007, BT announced its intention to develop its own wind-farms. This is the UK's biggest corporate wind power project outside the energy sector and will produce up to 25% of our UK electricity consumption, by 2016. We are identifying suitable sites and expect to start generating power in 2012. We are also exploring renewable projects outside the UK. Our office complex at El Segundo in California is to be powered by photovoltaic panels that will deliver around 500KW of renewable electricity.

Employees and climate change

Changing behaviour is key to tackling climate change. As a major employer we are well placed to influence the behaviour of over 100,000 people directly and reach many more through our employees' families and communities.

As members of the CBI Task Force we have committed to work in partnership with our employees to achieve major cuts in their emissions both at work and at home. Our target is for 20% of our employees to be actively engaged in reducing their carbon footprint at work and at home by 2012.

We aim to make employee engagement fun, creative and viral, and to bring about a real desire for change.

Activities last year included:

- Launching a series of Carbon Clubs around the business to engage employees and generate ideas for reducing our footprint. 83 Clubs have been set up worldwide so far involving over 650 employees.
- Holding our first 'Living Lightly Day' encouraging employees to reduce their carbon footprint. Over 8,000 pledges were made.
- Running our first Creative Challenge Award, which asked BT people, and students from the London College of Communication for carbon reduction ideas. Many innovative entries were received and the finalists and winning entries are described [here](#) .
- Updating our climate change [website](#) with suggestions for action in the home and the community. The site also includes a carbon calculator to help visitors understand their own climate impact.
- Running several climate change clinics and road shows in the UK, Europe, and the US. These gave our people the opportunity to hear what we're doing and to tell us what more they want us to do.

Customers and climate change

Tackling climate change requires innovative products and services. We are embedding sustainability into our product design processes as part of our [sustainable economic growth](#) programme.

We are developing new products and services to help all our customer groups reduce their energy use.

Corporate and public sector customers

We launched our Sustainability Practice in 2007. This helps our large corporate and public sector customers reduce their carbon footprint by using ICT and changing behaviour. Our first service is the BT Carbon Impact Assessment. This helps organisations calculate their CO₂ emissions and finds ways to reduce them. Examples include data centre consolidation, collaborative and remote working tools and other networked IT services.

We are also promoting services that help companies implement flexible working practices. We use our own experiences in this area to demonstrate the [benefits](#) for the company, employees and the environment.

Small and medium businesses (SME)

We have developed a website for SME customers with a carbon calculator and tips for improving energy efficiency and reducing business travel. We held a conference and webinar for our SME customers on reducing energy use and cutting costs.

Consumers

Consumers are potentially in a strong position to fight climate change because of their demand for environmentally friendly products and their influence on government. However, this influence is yet to be strongly felt. Businesses need to provide consumers with better information and more choice. As members of the CBI [Task Force](#), we have committed to develop new products and services that empower UK households to halve their emissions by 2020.

This year we launched our range of Green Phones, which consume around half the electricity of previous models. The phones are available on bt.com and from Argos. This is the first stage of a £2 million commitment to improve the energy efficiency of our entire home-phone range. We estimate that the replacement of all our cordless and fixed-line phones with more energy-efficient equivalents will result in an overall reduction in CO₂ emissions, for our customers, in excess of 195,000 tonnes over the next three years.

We also have an "[Interactive House](#)" on our climate change website to help customers understand and reduce their carbon footprint.

Suppliers and climate change

In order to continue reducing our carbon footprint, and to help our customers to do the same, we need the products we buy to be as energy efficient as possible. We have therefore established a set of [procurement principles](#) that support our climate change strategy.

Climate change - Key Performance Indicators

Indicator	Description	Measure	Target
Global Warming CO ₂ emissions	A measure of BT's climate change impact	2007 financial year UK CO ₂ emissions were 0.68 million tonnes, 58% below the 1996 level (See Note 7)	2016 CO ₂ emissions to be 80% below 1996 levels.

Note 7: 2008 figures recalculated to take account of updated Defra Company Reporting Guidelines (2007) (Annex 1)

Employees and Climate Change - Key Performance Indicators

Indicator	Description	Measure	Target
Employee Engagement Index	A measure of the overall success of BT's relationship with its employees	The Employee Engagement Index was 5.04 during the 2008 financial year (see Note 3)	BT will maintain the 2007/08 level of employee engagement, 5.04, as measured by its annual employee attitude survey.
Global Warming CO2 emissions	A measure of BT's climate change impact	2007 financial year UK CO2 emissions were 0.68 million tonnes, 58% below the 1996 level (See Note 7)	2016 CO2 emissions to be 80% below 1996 levels.

Note 3: In 2007/08 the Employee Engagement Index was based on an average of the mean results across a reduced number (4) of key questions so a comparison with the 2007 score of 65 is not possible. Using the same calculation method the 2007 EEI was 5.07.

Note 7: 2008 figures recalculated to take account of updated Defra Company Reporting Guidelines (2007) (Annex 1)

Climate change Targets

Start Date	End Date	Description	Update	Target Status
April 2008	December 2020	BT Group will reduce its CO2e emission intensity by 80% against 1996/7 levels by December 2020.		New
April 2008	March 2009	BT will conduct a trial of electric vehicles in two of its lines of business in association with two manufacturers to assess the financial and operational use of the vehicle type.		New
April 2008	March 2009	BT will trial the use of Bio-diesel in association with a fuel supplier and vehicle manufacturer		New
April 2008	March 2009	80% of BT contracts placed will take energy consumption and / or environmental impact into consideration in the award of business		New
April 2008	March 2009	30% of BT 'product or service replacement contracts' awarded will be able to demonstrate an improvement in energy efficiency and/or reduced environmental impact (dependant on product or service type)		New
April 2007	December 2016	BT will reduce its UK carbon dioxide emissions (measured in tonnes CO2 equivalent) to 80% below 1996 levels.	On track to achieve target with current levels 58% below the base year. Note that this year we have recalculated our 1996 baseline figure to take account of the updated DEFRA CO2 conversion factor for 1996.	On Target
April 2007	December 2012	20% of BT's employees will be actively engaged in reducing carbon footprint at work and at home.	We are well on track to achieve this target with a significant number of BT people now actively engaged.	On Target
April 2007	March 2009	BT will complete the design for BT's Data Centre of the future and start rolling out to the estate.	We have completed the base design and are now moving towards a detailed systems design. We are on target to deliver on time.	On Target

Employees and Climate Change Targets

Start Date	End Date	Description	Update	Target Status
April 2008	March 2009	BT will maintain the 2007-8 level of Employee Engagement, 5.04, as measured by its annual employee attitude survey		New
April 2007	December 2016	BT will reduce its UK carbon dioxide emissions (measured in tonnes CO2 equivalent) to 80% below 1996 levels.	On track to achieve target with current levels 58% below the base year. Note that this year we have recalculated our 1996 baseline figure to take account of the updated DEFRA CO2 conversion factor for 1996.	On Target
April 2007	December 2012	20% of BT's employees will be actively engaged in reducing carbon footprint at work and at home.	We are well on track to achieve this target with a significant number of BT people now actively engaged.	On Target

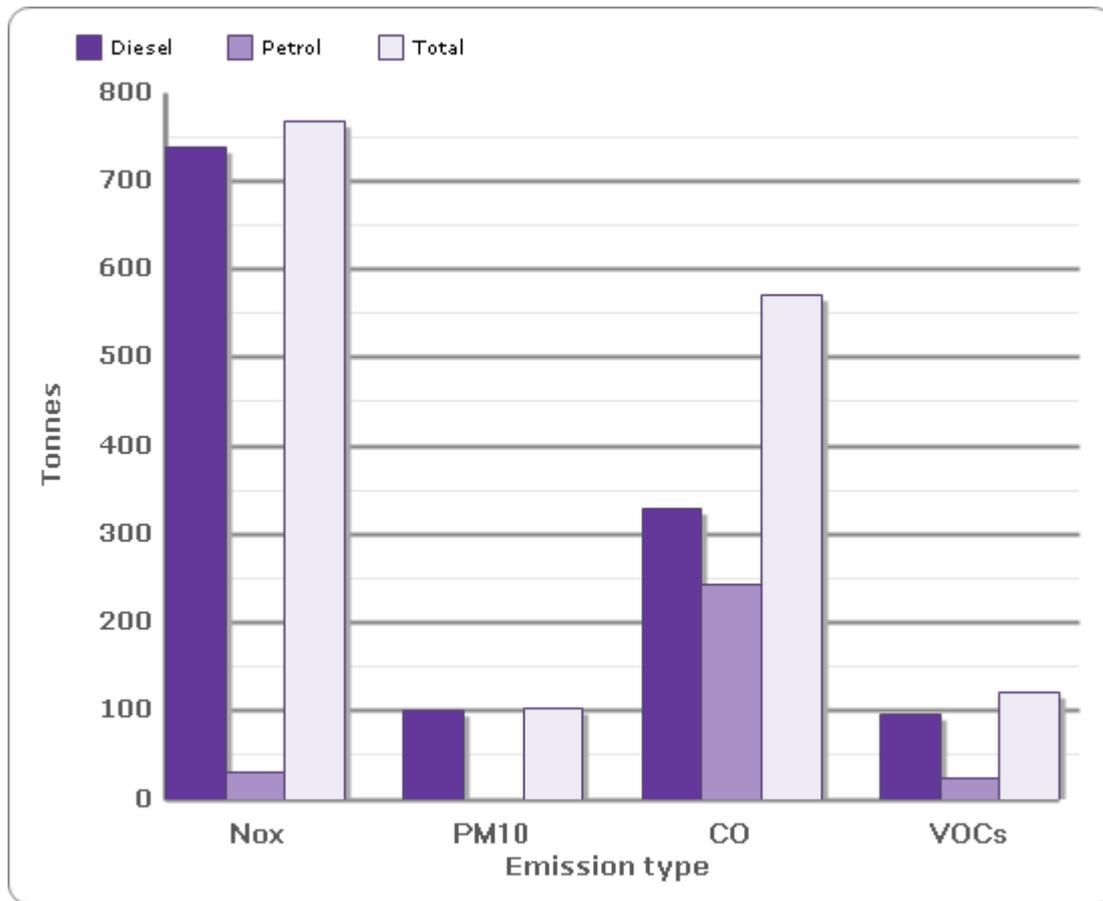
Customers and Climate Change Targets

Start Date	End Date	Description	Update	Target Status
April 2007	March 2008	BT will hold an event with its Suppliers to engage them on Procurement's CSR goals including Climate Change, the Procurement Principles and drive progress towards the Vision "harness communications to tackle climate change"	A supplier conference was held on 18/06/07. Slides are available from this URL Supplier Conference	Completed
April 2007	March 2008	BT will implement the following Climate Change Procurement Principles to incorporate energy consumption and environmental factors into our procurement processes over the coming year: <ul style="list-style-type: none"> • We will harness the capability, diversity and innovation of our supply base to add value to our business and encourage suppliers to offer solutions which have a reduced environmental impact. • That the energy consumption and environmental impact of a product or service (from manufacture, through usage, to disposal) is a mandatory criterion in all tender adjudication. • That the energy consumption and environmental impact of any replacement product or service (from manufacture, through usage, to disposal) is less than its predecessor. 	The procurement principles have been implemented and training sessions held.	Completed

Suppliers and Climate Change Targets

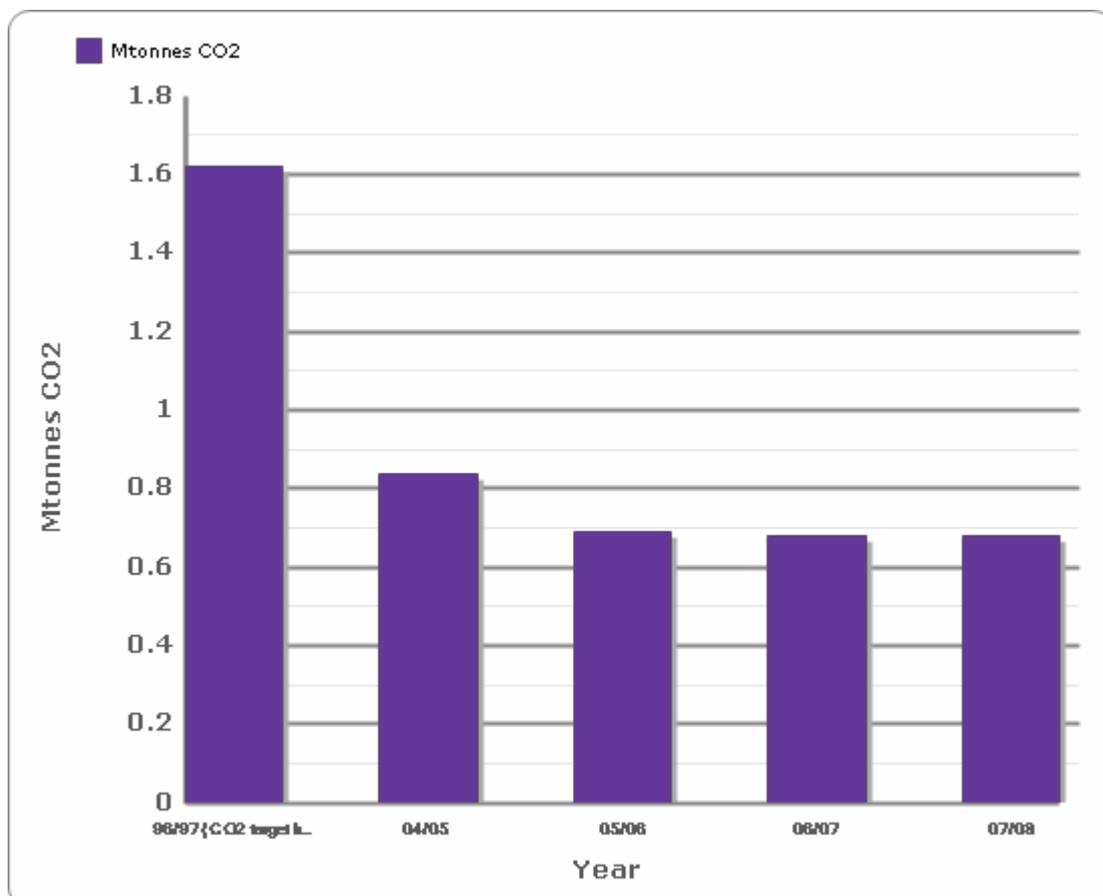
Start Date	End Date	Description	Update	Target Status
April 2008	March 2009	80% of BT contracts placed will take energy consumption and / or environmental impact into consideration in the award of business		New
April 2008	March 2009	30% of BT 'product or service replacement contracts' awarded will be able to demonstrate an improvement in energy efficiency and/or reduced environmental impact (dependant on product or service type)		New
April 2007	March 2008	BT will produce a study of energy efficiency options, possible targets and labelling for key business products.	During the year we have looked at the whole lifecycle of a product; manufacture, in-life operation and recycling and are engaged with manufacturers of the equipment as they have the major role in improving energy efficiency at the design stage e.g. Cisco, Nortel and HP. Through the engagement process we can influence through our procurement principles and the importance of reducing carbon emissions and push for clear unambiguous targets from these suppliers.	Completed
April 2007	March 2008	BT will produce a report on energy efficiency options, possible targets and labelling for key consumer products.	Although we have failed to meet this target, BT Retail has appointed a Head of Sustainability to accelerate our plans in this area. We have already undertaken a significant amount of work to improve energy efficiency e.g. more efficient power supply units, DECT phone ranges which use on average 50% less energy than their predecessors. The BT Home Hub also now features the new efficient power supplies. We are keen to label equipment to ensure the new power efficient products are easily recognised and are currently undertaking a review of the most effective ways of labelling in the UK.	Failed

Emissions from vehicles travelling on BT Business



Excludes BT Global Services outside the UK. Source: NETCEN (AEA Technology)

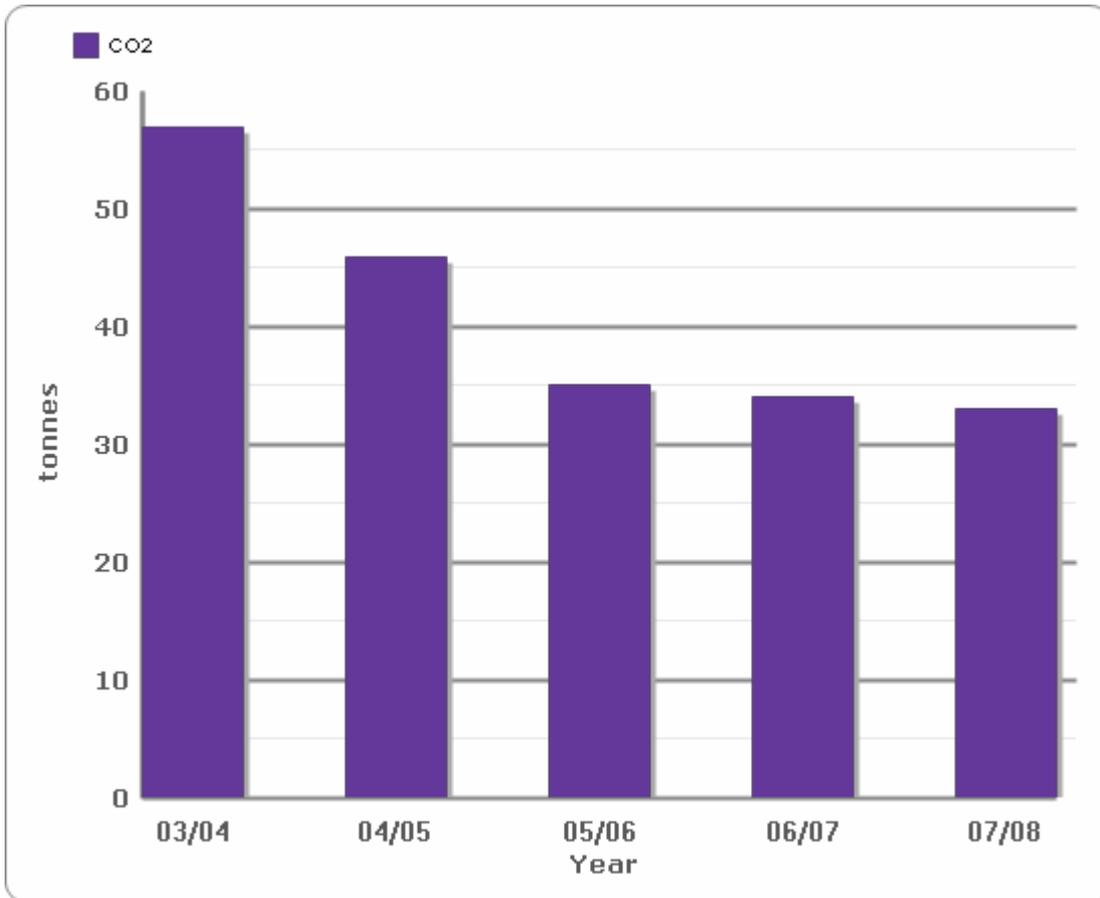
CO2 equivalent emissions



Excludes BT Global Services outside the UK. This year we have recalculated our figures back to the 1996 baseline, to take account of the updated Defra CO2 conversion factors.

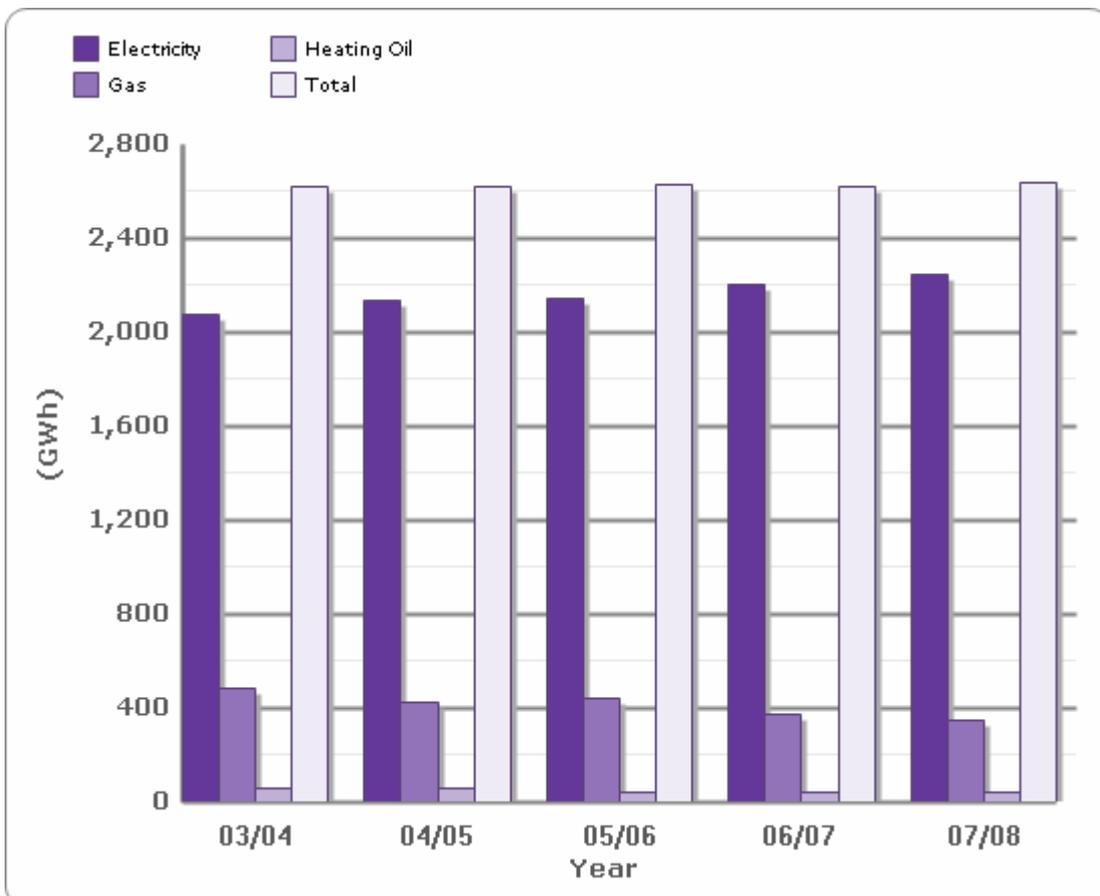
Source: Invoices, BT vehicle database, BT refrigerants database, BT expenses unit, BT travel management, DETR, AEA NETCEN

CO2 emissions per £m Turnover



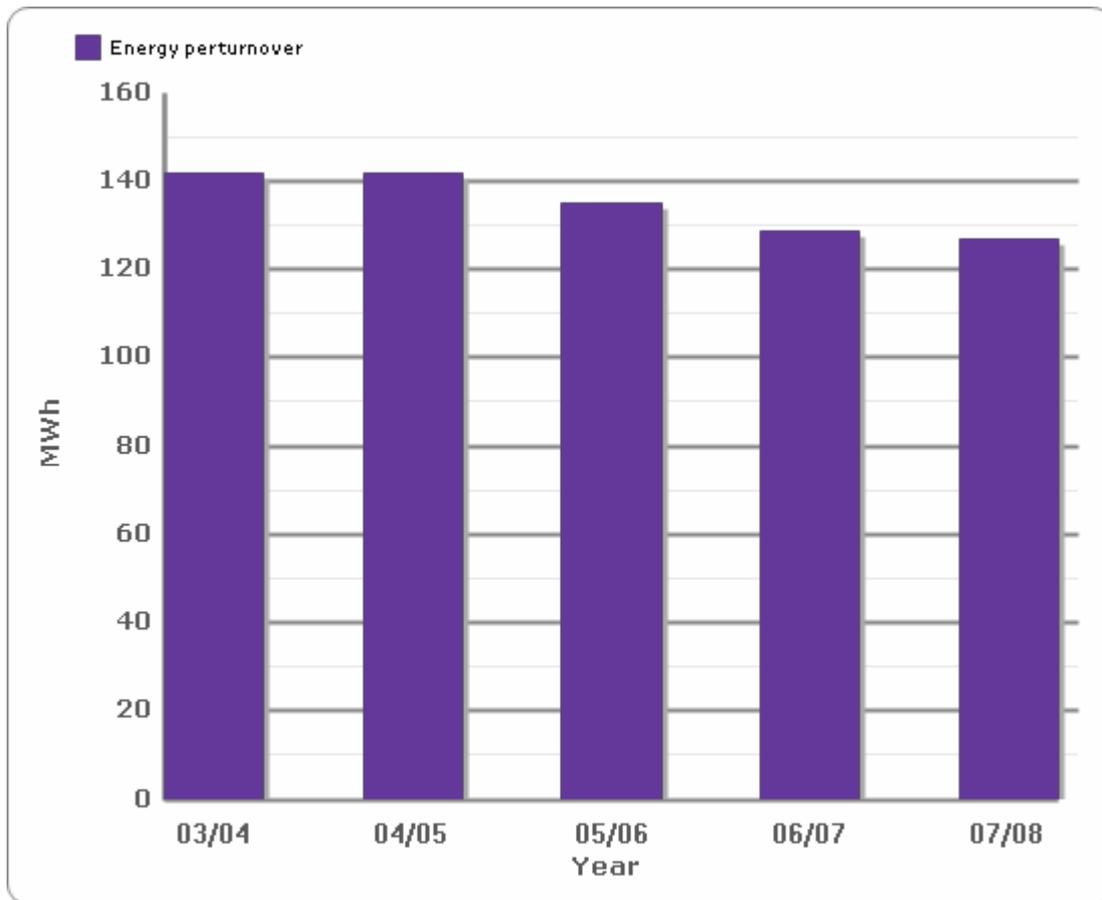
Excludes BT Global Services outside the UK.
Source: Annual Report & Accounts, CO2 Model

Energy consumption



Excludes BT Global Services outside the UK.
Source: Invoices (not weather corrected). Figures include BT plc, BT Northern Ireland & Manx Telecom. Figures exclude Subsidiary companies and BT Tenants

Energy Consumed per £m Turnover



Excludes BT Global Services outside the UK

Source: Annual Report & Accounts, Energy Database

2008 International Data

	Electricity	Gas	Oil	Water	Total Waste	General Waste	Waste Recycled	Travel						
	kWh	kWh	litres	litres	Tonnes	Tonnes	Tonnes	Air miles Domestic	Air miles short haul	Air miles long haul	Car miles Petrol	Car miles Diesel	Hire Car Petrol	Hire Car Diesel
USA	63647800	2,466,115		23,111,398	202	156	46	11,850,669		21,655,681				
Argentina	5,599,200			4,500,000						27,836	425,000		64000	
Australia	533,672				29	4	25	343,597	50,385	8,091,429				
Belgium	4,313,308	1,336,771	3,600	4,042,000	682,110	529,014	153,096		1,068,999	1,117,186	106,151	16,535,371		
Brazil	300,000													
China	179,186							385,828						
Columbia	1,243,728		997	996,000	6	1	5	114,186	60,884	1,096,311	130,391			
Costa Rica	26,772			48,000	1									
El Salvador	78,492			480,000	3									
France	4,055,813		1,700					147,435	717,786	587,781				
Germany	78,124,834		110,000	355,000	303	132	171	3,089,239	4,548,469	3,984,059		22,000,000		
Guatemala	8,520				0									
Honduras	89,760			48,000	1									
Hong Kong	288,926								218,088	3,754,410				
Hungary	366,109								638,131	110,791				
India	2,053,430			1,123,630										
Ireland	95,238,014	5,373,717	723,695	18,929,000	1,085	758	327	387	99,267	78,716	351,259	2,217,136		
Italy	32,594,400	2,470,406		51,429,000	51		51							
Korea	73,381													
Malaysia	34,915													
Netherlands	31,003,265			202,000	128	54	74	100	1,656,749	1,414,009				
Nicaragua	65,628			30,000	0	0								
Panamá	139464				2									
Peru	438,840			1,200,000	9			22,780	53,400	19,000	237,600		56000	
R. Dominicana	85,867			30,000	1	1								
Singapore	285,536				9		9	51,510	21,796	7,047,387				
Spain	51,869,128			16,574,000	25		25	691,923	1,648,316	1,855,349	254,613			
Sweden								59,219	709,493	70,814				
Switzerland								266	759,556	786,500				
Taiwan	37,363			783,000						15,542	58,614			
TOTALS	372,737,988	11,647,009	839,992	123,098,028	683,967	530,121	153,830	16,757,138	12,251,319	51,697,259	1,505,014	40,752,507	120,000	0

Note 1 - Waste data consolidated for all sites

Note 2 - Most international countries recycle their waste

Note 3 - LRQA assurance process was limited to a check that data had been correctly collated from country submission and did not include testing of source data and internal controls (limited assurance).

2008 UK CO2 Mode

BT Carbon Dioxide (CO2 equivalents) Model

		Base Year	2004/05	2005/06	2006/07	2007/08
		1996/97 (Base)	2004/05	2005/06	2006/07	2007/08
Emission Source		Amount (kg)	Amount (kg)	Amount (kg)	Amount (kg)	Amount (kg)
SCOPE 1	<i>Stationary Combustion</i>					
	Oil Combustion - Electricity Generation	12,078,458	12,033,000	6,849,137	3,504,142	1,661,878
	Gas Combustion	107,947,064	79,059,984	81,589,349	69,395,018	64,465,045
	Oil Combustion - Heating	66,778,054	14,410,161	10,383,618	10,095,460	10,512,817
	Refrigeration Gases (HFCs and SF6 only)	500,000	2,406,894	1,433,998	3,240,410	2,731,592
	Commercial Fleet Diesel	167,232,000	126,699,464	129,340,509	125,686,194	124,124,316
	Commercial Fleet Petrol	18,480,000	9,603,799	5,933,994	5,162,533	660,928
	Company Car Diesel	24,021,000	11,153,473	15,392,853	15,937,594	23,061,808
	Company Car Petrol	16,296,000	17,303,091	12,072,696	9,273,486	6,009,163
	Total Scope 1 Emissions	413,332,576	272,669,866	262,996,155	242,294,837	233,227,548
	SCOPE 2	<i>Purchased Electricity</i>				
Purchased Electricity		1,149,604,890	506,276,419	372,042,552	383,736,997	390,231,795
Total Scope 2 Emissions		1,149,604,890	506,276,419	372,042,552	383,736,997	390,231,795
Combined Scope 1 & 2 Emissions		1,562,937,466	778,946,285	635,038,706	626,031,834	623,459,342
SCOPE 3	Homeworker Emissions	0	8,066,479	9,014,642	6,717,074	5,751,895
	Cars on BT Business (Diesel)	864,094	600,826	1,805,450	1,642,309	2,502,607
	Cars/Motorcycles on BT Business (petrol)	4,882,118	3,785,867	1,420,477	1,033,503	805,521
	Refrigeration Gases (CFCs and HCFCs only)	13,074,389	7,763,662	4,375,817	6,388,124	4,517,461
	Rail travel	11,454,803	13,484,611	14,594,061	13,826,495	15,161,055
	Air Travel (short haul)	7,861,956	6,006,193	7,553,833	7,328,436	6,975,822
	Air Travel (long haul)	8,098,223	6,029,284	7,864,527	8,802,487	11,296,724
	Hire Cars (Diesel)	904,141	2,670,362	2,085,571	2,896,157	4,655,901
	Hire Cars (Petrol)	10,589,626	12,777,391	5,409,009	9,340,850	9,690,058
	Total Scope 3 Emissions	57,729,350	61,184,675	54,123,386	57,975,436	61,357,043
Total CO2 emissions (kgs)		1,620,666,816	840,130,960	689,162,092	684,007,270	684,816,385

Source: Invoices, BT vehicle database, BT refrigerants database, BT expenses unit, BT travel management, DEFRA, AEAT NETCEN

% Reduction =	0%	48%	57%	58%	58%
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