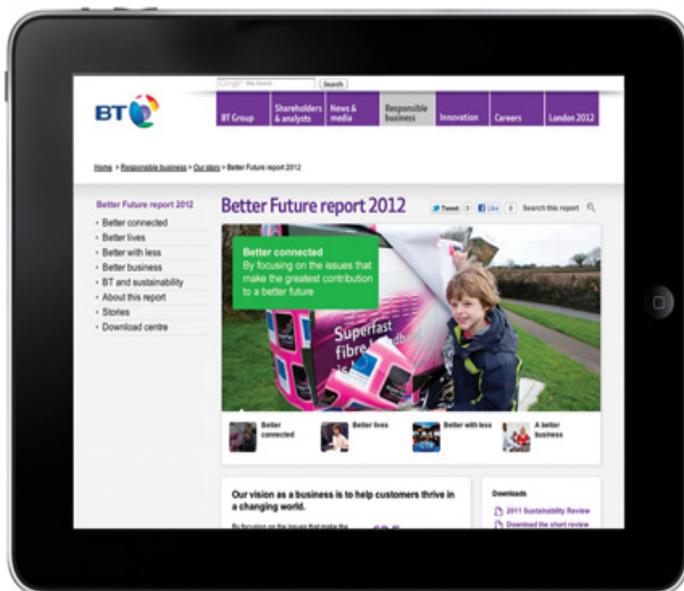


# Better Future report 2012



Our Better Future report covers progress against our goal to be a responsible and sustainable business leader.

Online Better Future report  
[www.bt.com/betterfuture](http://www.bt.com/betterfuture)



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# Better with less

While we have been actively reducing our own carbon footprint since the early 1990s, we recognise that we can also make a big difference by working with customers and suppliers to deliver services with less dependence on natural resources.

We're engaging our customers and commercial partners in reducing their environmental impacts through innovative approaches to energy generation, water use, product design and lifecycle management, carbon emissions, waste management, travel and transport.

**Related content:**

[Case study: Positively influencing suppliers' environmental policies](#)

## Targets

Start	End	Description	Update	Target Status
April 2012	March 2013	BT will reduce its global net carbon emissions by 1.3% against 2011/12 outturn.		New
April 2011	March 2012	BT will reduce its refrigerant lost to atmosphere (kg) from 1.6% to 1.5% of its installed quantity (a reduction of 7%) from that lost during 2010/11.	We achieved 1.08% year to date based on routines completed. We will continue to monitor and report on our emissions as part of our environmental certification.	Failed

## Helping our customers reduce their impacts

We believe that our biggest impact lies in providing our customers with lower impact solutions. We offer a range of products and services that help our customers reduce their environmental footprint.

## Supporting the transition to a low carbon economy

The information and communications technology (ICT) industry will play a key role in the transition to a low carbon economy – estimates suggest there is the potential to reduce global carbon dioxide emissions by 15% for 2020.

ICT will enable other sectors to become more efficient, by streamlining their processes and providing transparent data for managing energy use.

Incentives for businesses to take advantage of ICT are growing, as government initiatives such as the UK Carbon Reduction Commitment Energy Efficiency Scheme require larger companies to monitor and report their energy use and purchase annual energy allowances based on this information.

BT already offers products and services that help customers to reduce their carbon footprint. For instance, services which help reduce business travel, such as video and audio conferencing, are well-established parts of our portfolio. More recent offers include energy management systems.

## Helping our customers

We have provided an automated energy saving system for Banca Civica's 350 branches across Spain. The system controls air conditioning systems, lighting, computers, and other infrastructure inside buildings. It has achieved a 25 per cent reduction in CO2 output while cutting the bank's electricity bill by an average of €4 per branch per day – or €400,000 (£346,000) a year.

**Miguel Ángel Castro, Director of Efficiency, Banca Civica**

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Implementation of an inmotics system results in several benefits for Banca Civica. First of all, it demonstrates our company's commitment to care for the environment. Second, it reduces our exposure to increases in the price of electricity. Over the past two years alone, the price per unit went up by somewhere in the region of 33 per cent. The new system reduces levels of consumption by an average of 25 per cent depending on the branch – an excellent result.

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## Our Sustainability Portfolio for business customers

During the first half of the year, the Sustainability Practice within BT Global Services has refined its "Build a Sustainable Organisation" portfolio of products and services. This aims to help business customers cut costs, power use and carbon dioxide (CO2) emissions.

The portfolio includes the following existing and emerging products and services:



## Key highlights of the Sustainability portfolio include:

- video and audio conferencing services that enable employees to meet without travelling, cutting costs and CO2 emissions
- our Field Force automation solution, which provides real-time information and work schedules to employees 'on the road', helping to reduce journeys and related CO2 emissions by up to 20%
- services that make customer ICT more efficient, such as our virtual data centres. These provide efficient, on-demand virtual computing services for customers without the need for them to invest in their own infrastructure, cutting costs, power use and CO2 emissions
- flexible working solutions that improve customer service and reduce office space needs. Based on our own experience, customers can avoid up to 1.4 tonnes of CO2 emissions for every employee who works from home. This case study on the Smart 2020 website provides details
- intelligent buildings and energy management services, which centralise customers' building services to cut operational costs, improve environmental performance, and provide a more secure and comfortable workplace
- transport and supply chain solutions have recently been added to the portfolio, based around RFID technologies to drive efficiencies, visibility and maximising re-use of stock and assets.

New areas within Sustainability portfolio development include:

- Smart cities and communities
- wellbeing.

Our global professional services organisation, [BT Advise](#), has now established a sustainability advisory services consultancy specialism as part of its "business as usual" professional services offerings to our customers. The sustainability portfolio is being aligned and adopted into our global

portfolio, moving sustainability from a “cottage industry incubator” into an industrial strength delivery capability.

## Smart metering

In 2010, BT along with Arqiva and Detica created SmartReach, a collaboration formed to respond to the UK government’s intention to bring smart meters to 28 million homes and small businesses in Great Britain by 2019.

These will enable residential and small business customers to monitor and reduce their gas and electricity use and help utility companies improve efficiency in their networks.

SmartReach, working with Sensus (a US-based provider of specialist radio technology) is currently taking part in the procurement programme led by the Department of Energy and Climate Change. This programme will seek the solutions to underpin Smart Meter rollout in Great Britain, with the first deployments taking place from 2014. The unique SmartReach proposition includes a dedicated and secure long range radio network, proven in other Smart Meter applications. Trials with utilities (for water and electricity) in the UK have yielded very encouraging results for coverage to typical meter locations found in the UK, a key part of the requirement.

Smart Grids also continue to develop momentum. BT is engaged with key utility network operators and industry bodies in a number of countries to develop solutions to enable low carbon supply grids for the future.

## Smart cities

In the UK, our existing networks and plans to provide two thirds of UK homes and businesses with access to fibre broadband by end 2014 make BT ideally placed BT to help cities, communities and citizens become smarter and reduce emissions from workplaces, homes and transport. We can provide wireless and fibre telecommunications, remote sensor and machine-to-machine technologies, ‘cloud’-based services, conferencing and web technologies to transform the way people live, work, travel and use services.

BT’s recognises that ICT is a key enabler for Smart cities and hence we are engaging with lead cities on the deployment of BT’s ICT spine and applications capability.

BT is already partnering with the

[Milton Keynes Low Carbon Living programme](#) ,

## 66

Milton Keynes has ambitious Low Carbon Living and Smart City programmes. These initiatives involve working with a range of public and commercial partners to develop whole city strategies and innovative pilot schemes. We are grateful to BT for their continued, enthusiastic support, including the expert input that has helped us envision the possibilities and address the practicalities.

## 99

**Geoff Snelson , Director of Strategy, Corporate Core, Milton Keynes Council**

And the [Sustainable Glasgow](#) campaign to help them raise awareness of sustainability and encourage local businesses and residents to reduce emissions.

We hope this work will provide a model for the development of sustainable cities, which we can roll out with other partners in future.

### **Related content:**

[Smart 2020 \(website\).](#)

[Switch to paper-free billing \(website\).](#)

[BT Conferencing](#)

[Flexible working \(BT Business website\).](#)

## Product stewardship

**Product stewardship is the term we use to describe how we are reducing the environmental and social impacts of our products and services.**

Product stewardship is not just good for the environment; it benefits our customers, our business and our suppliers. It also cuts costs by reducing the use of energy and other resources and waste disposal charges.

Product stewardship is an integral part of our environmental management system and involves making sure the products we buy, use and sell have the lowest possible impact on the environment when they are designed, manufactured, used and disposed of.

Our approach to product stewardship complements our business priorities from product idea to launch, sales lead to confirmed business, and customer problem to resolution.

A dedicated team coordinates product stewardship, supported by a business wide Forum. The Forum meets quarterly to discuss legal compliance with product related environmental legislation, to monitor and to manage and measure compliance processes and associated risks.

## Product stewardship in practice

We are engaged in a number of product stewardship activities across BT, including:

- influencing our suppliers to consider, for example, their choice of materials and measures to reduce energy consumption
- extending end-of-life take back beyond legislative requirements and ensuring network equipment, such as routers is reused and recycled where possible
- ensuring the products and services we source on behalf of customers meet the latest regulatory standards
- advising current customers on product reuse, recycling and disposal
- ensuring that energy, material and waste concerns are considered in strategic product launches
- making our products and services accessible to as many people as possible, including older people and people with disabilities through our [Including You](#) portfolio.

## Product stewardship in the supply chain

Our supply chain generic standards set the standards that we expect of our suppliers in regards to material content and environmental attributes of products.

Our product stewardship standard, Generic Standard 19 (GS19), is an integral part of our supplier sourcing process. GS19 also includes a blacklist of banned materials and a grey list of materials giving cause for concern, and suppliers must confirm whether they use these substances.

### Related content:

[BT is supporting the Ellen McArthur Foundation work on the circular economy.](#)  
[Our Environmental Management System](#)  
[Product related environmental legislation](#)  
[Our supplier sourcing process](#)

## Targets

Start	End	Description	Update	Target Status
April 2012	March 2013	BT will review and drive improvements in methodologies used for its product stewardship reporting obligations.		New

## Design for the future

**The design stage offers the greatest opportunity to improve a product's lifecycle environmental performance and credentials. Good design helps manufacturers to use fewer raw materials and avoid undesirable substances.**

Designers also strongly influence how much energy a product will use during its life, and whether it can be easily reused, recycled or safely disposed of at the end of its life.

## **BT and the circular economy**

The “**Take-Make-Dispose**” model of production and consumption is no longer feasible on a planet with finite natural resources and a growing population. BT recognises that organisations need to adopt an understanding of how smarter design can help eradicate waste.

Global consumption of key industrial materials is approaching critical levels. Furthermore, industrial and consumer waste generation is escalating faster than approaches to deal with it.

The [circular economy](#) – a phrase coined to explain how this challenge can be addressed – considers that our industrial systems should work like organisms, processing ‘nutrients’ (i.e. waste) that can be fed back into the manufacture/consumer cycle, adding and retaining value.

According to the circular economy approach, the biological and technical component parts of any product can have another useful life, thereby reducing reliance on precious – and finite – virgin raw materials.

It is ultimately a vision for a world in which waste is designed out of the manufacturing process. This is achieved through end-to-end lifecycle planning, where “closed loops” are created to protect the value of the material components used in a product.

We have been working closely with leading edge polymer recyclers, eco-packaging and industrial design agents, universities and other companies in the pursuit of trialling advanced recycled materials.

### **Our partnership with the Ellen MacArthur Foundation**

We are a founding member together with Cisco, B&Q, Renault and the National Grid, of the Ellen MacArthur Foundation (EMF). The EMF is a charitable organisation which aims to accelerate the transition to a circular economy and through this inspire a generation to rethink, to redesign and build a positive future. The Foundation focuses on the three areas of education, communication and catalysing business innovation.

In January 2012, EMF issued a [report](#) on the potential of a circular economic model. The research, which includes analytics by McKinsey & Company, outlines major opportunities, both immediate and long-term.

**Gavin Patterson, Chief Executive, BT Retail explains,**

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The concept of the circular economy tallies completely with our thinking at BT about the importance of providing goods and services sustainably. As a company, we feel intimately involved with these ideas, because digital technology will play a crucial role in providing the information needed to create iterative logistics and restorative systems.

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Click [here](#) to see Jon Snow interviewing Ellen MacArthur about the work of the Foundation.

## Designing Our Tomorrow toolkit

Optimising material usage and waste across the product life-cycle can enable carbon reductions by conserving the energy (and associated carbon emissions) required to make materials and by reducing the energy required to treat waste.



**Prof John Clarkson, Director, University of Cambridge Engineering Design Centre says,**

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Design is about solving real problems. Humankind faces the unprecedented challenge of creating a sustainable future, so that we can leave our planet as we would like to find it. The University of Cambridge, Engineering Design Centre is proud to partner with BT in leading a consortium to develop a toolkit for Designing Our Tomorrow, which will publicly launch in April 2013.

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Designing Our Tomorrow is about taking account of life-cycle impacts, with a particular focus on carbon emissions, and waste materials, and embedding these considerations into 'business as usual' decision making processes. This toolkit will be used to help embed circular economy principles into our product design processes.

The toolkit considers the following decision making criteria:

- **People:** is the product useful, usable, desirable and affordable? How does the product impact society, and how is this perceived?
- **Profit:** do the life-cycle costs to the business meet return on investment and risk criteria? Does the product conform to and enhance the brand?
- **Planet:** does the life-cycle of the product encourage and enable sustainable use of

materials and resources, control of toxicity and emissions and efficient energy use?

To date, research has focused on trialling high recycled-content materials and innovative packaging concepts for our products, as well as developing techniques to assess lifecycle impacts and identify opportunities for improvement.

**Related content:**

[Watch an introductory circular economy animation](#)  
[Watch our CSO talking about the need for change.](#)

## Product reuse and recycling

**We aim to reduce all forms of waste, looking at ways to extend the life of network infrastructure and equipment first, and recycling equipment that cannot be reused.**

### Promoting reuse and recycling

BT is committed to reusing and recycling products. Where practical we repair and refurbish our UK network equipment which includes kit used in our exchanges and by our engineers.

### For business customers

Our Global Customer Premises Equipment team works with companies that provide and maintain equipment to increase reuse and recycling levels.

BT-owned equipment used on customers' premises in several European countries is now returned to a recycling specialist facility in The Netherlands, where it is stripped down and the components reused.

This activity in Europe saved BT around £2.9m in 2012, by reusing components. In the US, this reuse initiative saved around £2.9m million.

We launched new technology products in the summer of 2011. As a result, the volume of BT-owned customer premises equipment available for reuse declined in the last quarter of 2012 due to the incompatibility of reusing old technology in new technology equipment. This trend in decline is expected to continue in to 2013. We anticipate that volume for reuse will increase in 2014 and beyond.

In 2012, BT's UK network equipment repair and refurbishment initiative saved £6.8 million compared to the cost of new equipment. This is in conjunction with the Ellen MacArthur Foundation (EMF) to look at products redesign in relation to the circular economy.

### For UK consumers

We encourage our customers to return any unwanted BT Home Hubs (wireless routers) and Vision+ TV set top boxes to us for recycling. The service is free and can be arranged through our customer service number 0800 800150.

**Related content:**

[How we recover and reuse IT equipment \(video\).](#)

[How to return unwanted BT Vision box or BT Home Hub \(website\).](#)

## Our value chain footprint

**Our environmental impacts extend beyond our own operations – from the impacts across our supply chain to how our products and services are used by our customers.**

We have a long track record of managing the impacts of our operations on the environment. We are keen to understand the wider impacts that our products and services have, and have undertaken some analysis.

Read more in following sections

- to see how we are starting to measure the greenhouse gases associated with the full life cycle of products including raw materials, manufacturing, transportation, storage, use and disposal
- our analysis of the water footprint for three of our consumer products for the first time this year.

## Carbon footprint

**Carbon footprinting is an important part of BT's pursuit of carbon reduction opportunities including our supply chain and portfolio of products and services.**

Carbon footprinting enables us to understand the full life cycle emissions of our products and services and identify the elements of a solution which are responsible for the highest carbon emissions.

### What is carbon footprinting?

Carbon footprinting describes a process whereby BT's organisational, product and service greenhouse gas emissions are estimated. It gives us a sense of the size and scale of the carbon impact and allows us to focus our carbon reduction activities on where they will make the most difference.

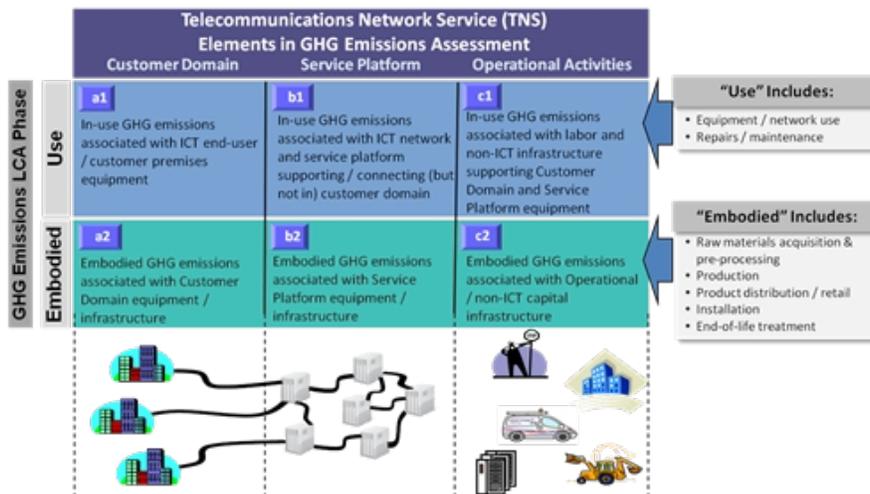
Carbon footprinting also enables assessment of the 'lost potential' when materials that take a lot of energy to create are thrown into landfill. This issue is considered in more detail within the [design for the future](#) section.

Where possible we consider:

- use-phase emissions from energy used while the equipment is operational
- embodied emissions associated with the manufacture, distribution and disposal of equipment
- emissions associated with the operational activities related to the service deployment and maintenance.

This enables us to understand the full carbon impact of our design decisions.

The diagram below shows the use stage and embodied emissions associated with a telecommunications network service.



## Carbon footprint - services

### BT's communication solution for the London 2012 Olympics

We have estimated the carbon footprint of the communications services that we are providing to the London 2012 Olympic and Paralympic Games. See our case study.

We are building on this methodology to use it when estimating carbon footprints for other large customers. We are also working on developing common global approaches and methodologies for carbon footprinting of ICT services.

### Assessing the carbon impact of superfast broadband

Funded by the EU, BT and Cornwall Council, Superfast Cornwall is an ambitious £132 million partnership bringing superfast broadband to Cornwall and the Isles of Scilly, making it one of the best connected places in the world by 2014.

The programme is managed through a partnership with BT and the Cornwall Development

Company (CDC) and aims to drive 50% take up of superfast fibre across Cornwall. It also aims to secure 4,000 new jobs, safeguard a further 2,000 and help attract new businesses to the area.

In addition to the ambitious aims of the programme and as part of Superfast Cornwall's Environmental Monitoring commitments, BT has led the development of a ground breaking study into the carbon impact of superfast. This study is aiming to quantify the net carbon impact of the superfast network by considering changes in the end users' carbon footprints from their pre-superfast base lines.

We commissioned development of online carbon calculators for both consumers and business users and are encouraging Superfast Cornwall users to start measuring the carbon emissions, as the first step towards minimising them ([www.superfastcornwall.org/carbon-calculator](http://www.superfastcornwall.org/carbon-calculator)).

We are keen to understand whether the take-up of carbon-friendly applications such as videoconferencing and cloud computing have a measurable impact on the carbon footprints of consumers and business users across the region.

Alongside this we are calculating the carbon impact of the Superfast Cornwall network itself in order to provide insights into the net impact of the superfast roll-out on the region as a whole. We hope to extend the learning from this study to other areas across the UK and, in so doing, start to deliver on the premise that ICT can play an important role in reducing carbon emissions from other sectors and activities.

## Carbon footprint - products

### Carbon footprinting in partnership with our customers

Working closely with our key suppliers, we have built a comprehensive database of power consumption data for many of the devices we specify in our customer solutions.

Our carbon footprinting tool has been used to estimate the use-phase carbon footprint of the global IT inventory we manage on behalf of one of our global customers and we have used the reports we have generated to identify the carbon hot-spots in the inventory and make recommendations which could help to lower our customer's IT carbon footprint.

We plan to revisit the carbon footprint on a 6-monthly basis to help inform our understanding of the carbon emissions resulting from our customer's IT estate. This will help us to identify targeted actions which could help to minimise these emissions in future.

### Carbon Trust verification of flagship products

BT has become the first company in the world to have product carbon footprints independently verified by the Carbon Trust to the new GHG Protocol Product Standard.

The independent verification covers three of BT's most popular consumer products; the BT Home Hub, the BT Vision+ digital set-top box and the BT Graphite 2500 DECT phone. This latest achievement marks a further milestone in BT's commitment to carbon reduction.

The carbon footprints covered all stages of the products lifecycle from 'cradle to grave'. All the

products assessed showed that the majority of the carbon emissions are from the electricity consumed when they are being used in the home.

The remaining carbon emissions, often referred to as ‘embodied’, occur in the upstream and downstream processes such as raw material acquisition and component production, manufacturing, distribution, and end of life treatment.

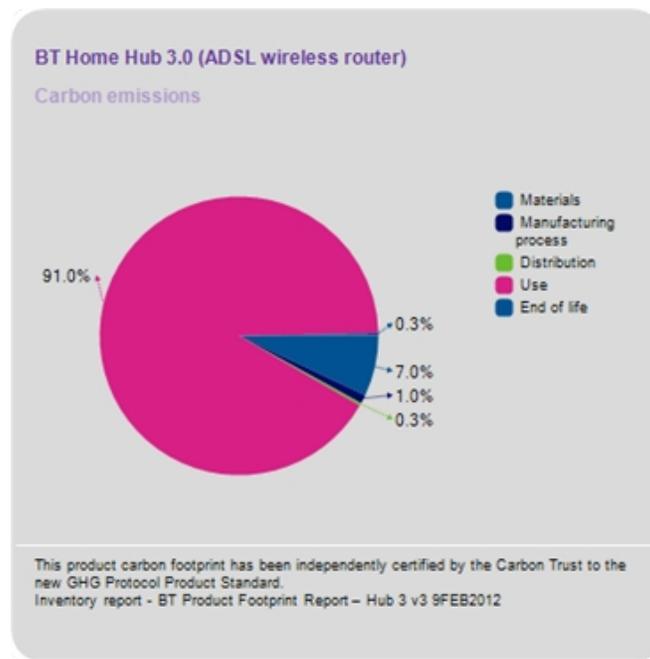
The carbon emissions for each product can be summarised as follows:

Product	Total lifetime carbon emissions (kg CO2e)	Ratio of in-use to embodied carbon emissions
BT Home Hub (3.0)	164	92% in-use, 8% embodied
BT Vision+ digital set-top box	354	87% in-use, 13% embodied
BT Graphite 2500 DECT phone	23	75% in-use, 25% embodied

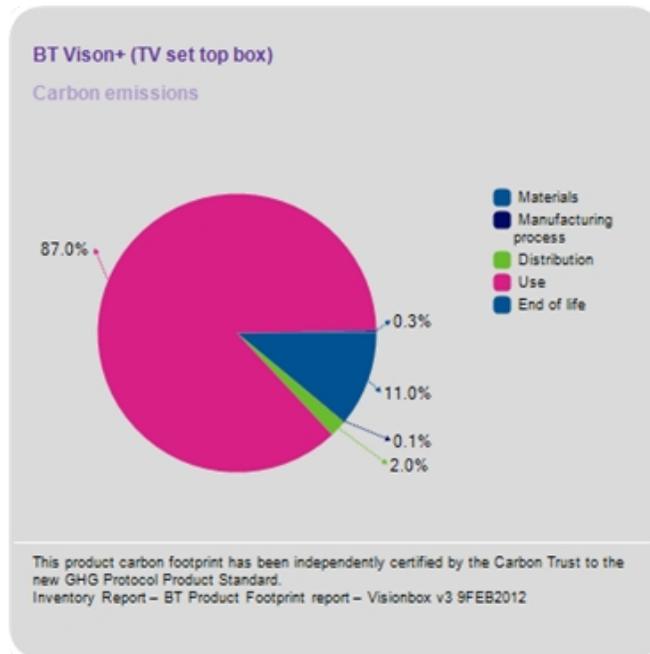
Note: A 5 year lifespan was assumed for the BT Home Hub 3.0 and Graphite 2500 DECT Phone and a 4 year lifespan for the BT Vision+ Set Top Box

A more detailed breakdown of the carbon emissions per year by lifecycle stage is shown below. [Contact us](#) for more information on our approach.

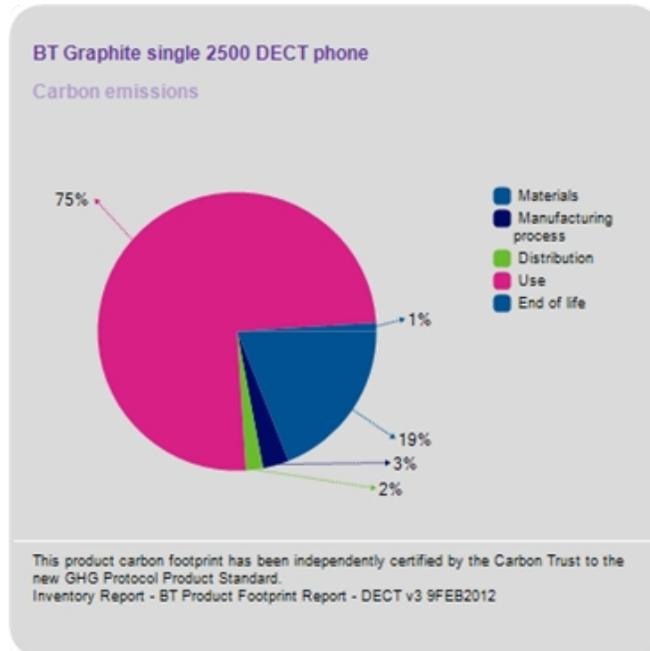
### New generation Home Hub (wireless router)



## New generation BT Vision (set top box)



## New generation DECT telephone



## International collaboration

## **Greenhouse Gas (GHG) Protocol initiative**

We have been working for a number of years with the Greenhouse Gas (GHG) Protocol initiative. In March 2011, we were one of the companies instrumental in setting up an initiative to develop guidance on how to assess the greenhouse gas emissions of various information ICT services, such as telecommunications network services and desktop managed services.

Our rationale for involvement in the development of carbon footprinting standards is to develop and seek global agreement on a methodology that we can use when our large customers are asking for carbon footprinting information. A common approach to footprinting also promotes transparency and allows companies to prioritise reduction efforts.

The GHG Protocol ICT sector guidance initiative was set up to provide specific guidance on the GHG Protocol Product Life Cycle Accounting and Reporting Standard (the Product Standard). The objective is to provide a consistent approach for assessing the life cycle GHG impacts of ICT products and services.

The ICT sector guidance is jointly convened through the World Resources Institute (WRI), the World Business Council for Sustainable Development (WBCSD), the Carbon Trust and the Global e-Sustainability Initiative (GeSI).

BT, together with Alcatel Lucent, has been co-chairing the working group developing guidance for assessing the greenhouse gas emissions of telecommunications network services. Draft versions of this guidance document were released for public comment in early 2012.

## **European Commission**

BT has been involved in a European Commission (EC) pilot to test various carbon footprinting methodologies. BT is participating in this pilot in a consortium together with our partners Alcatel Lucent and Cisco.

In order to undertake the EC pilot, BT's Wholesale Broadband Connect (WBC) service was used as a case study – notably because this makes use of ICT equipment from Alcatel Lucent, Cisco and BT and allows the footprinting methodologies to be fully exercised on a complex network service.

This study showed that the highest carbon impact per customer connection was the home router and the majority of that in the use phase.

### **Related content:**

[Carbon footprint of London 2012 \(case study\).](#)  
[The carbon footprint of our supply chain.](#)

## **Water footprint**

**BT recognises the challenge of water scarcity and increasing stakeholder concern around responsible water use.**

Consistent with our approach to understanding and reducing carbon emissions for our customers as part of our climate change strategy, we believe there is also benefit in understanding the 'virtual water' footprint associated with our products and services.

## Understanding the water footprint of our products

BT worked with environmental consultancy URS to complete a water footprint of two of our leading consumer products – the Home Hub and the Vision+ digital TV box.

In line with the Water Footprint Network guidance, a lifecycle approach was undertaken to water footprinting.

The study showed that the calculated water footprint of a:

- Vision+ box is 2,200 litres
- Home Hub 2 is 1,600 litres
- Home Hub 3 is 1,200 litres

It also highlighted the following as significant contributors to the product water footprint:

- water 'embedded' in raw materials such as metals, plastics and packaging
- the water consumed, and more significantly, the impact of wastewater discharged during the manufacture of the electronic components.

## Understanding water risks in our supply chain

As is the case for many businesses, the water footprint from BT's supply chain is much larger than for our direct operations.

To understand our supply chain water footprint, URS carried out a high level study to understand and identify potential water supply and business continuity risks associated with 20 of BT's broader Tier 1 suppliers.

A key intended outcome from a water footprint, in contrast to a carbon footprint, is not necessarily to reduce water use, but to focus actions in locations where water resources are already, or are going to be, constrained.

Based on this study, it has been identified that a number of BT's component manufacturers are located in parts of Asia classified as low water availability which is expected to become more water scarce. Also, parts of Southern China which although currently classified as water sufficient, have a water quality issue restricting actual usable quantities.

The study also highlighted the need to work with our Tier 1 suppliers to:

- improve our understanding and traceability of priority component/equipment suppliers and
- engage with key equipment/component suppliers on water scarcity/climate change and water pollution risks.

The life cycle approach we have taken to water footprinting helps us understand the tangible and direct business continuity impacts that may be associated with water use in different areas of the world. It also enables us to begin to engage in the water debate at an early stage.

We intend to continue to raise awareness of water issues throughout our supply chain and build relationships with key suppliers. In the longer term we hope to be able to influence positive changes in respect of water use and conservation, particularly in water stressed regions.

We also intend to include water impact considerations into risk plans for flagship products and key suppliers of network equipment.

This study has informed our thinking and understanding on key water impact areas such as packaging and will be used to help influence our future design requirements.

**Related content:**

[Design for the future](#)

[Water footprint network \(website\).](#)

## Product related environmental legislation

**We are affected by a number of European Union directives and regulations designed to reduce the environmental impacts of electrical and electronic equipment (EEE).**

These include,

- The Waste Electrical and Electronic Equipment (WEEE) Directive
- The Restriction of the use of Certain Hazardous Substances (RoHS) Directive
- Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation
- Batteries and Accumulators and Waste Batteries and Accumulators Directive
- Eco-Design Requirements for Energy-related Products (ErP) Directive.

We monitor and manage these legislative risks through our Product Stewardship Forum, which brings together people from across the business and meets quarterly. The forum reviews and reports on product related environmental legal risks, raises awareness of product stewardship issues among our employees, and monitors and improves our product stewardship processes.

We manage risks from product related environmental legislation by:

- training our buyers in product stewardship, and offer computer-based EEE related product stewardship training for product managers
- running focused forums on topical issues as necessary to help our people have a deeper understanding of policy and legislation
- providing our Product Stewardship Generic Standard 19 (GS19) to potential suppliers during our tender process

- including in GS19, a blacklist of banned materials and a grey list of materials giving cause for concern, and suppliers must confirm whether they use these substances. The grey list provides a link to the REACH candidate list via the European Chemicals Agency website
- continuing to monitor reviews of EU legislation, such as the revision of the recent RoHS directive and any implications for our products.

## Continual improvement

As part of our continuous improvement process we have identified opportunities to improve our product stewardship reporting systems. To address this we have initialised a full review to determine how best to improve our systems and processes. We have notified the relevant stakeholders that this review is underway.

## Informing regulation

We work with industry bodies such as the UK Industry Council for Electronic Equipment Recycling (ICER) and the Information Technology, Telecommunications and Electronics Industries Association (INTELLECT) to monitor and inform the development of new and existing regulation.

### Related content:

[Read more about our environmental management system.](#)  
[Our Supply Chain standards \(BT Procurement website\).](#)

## Reducing our environmental impacts

**Good environmental management saves money and improves business efficiency, as well as ensuring we do all we can to reduce the environmental impacts which result from our operations.**

## Our Environmental Management System (EMS)

Our EMS provides the structured framework for the management of the company's environmental impacts,

In the UK our EMS has been certified to the international standard ISO 14001 since 1999. Since then, we have extended certification to BT Belgium, BT Ireland, BT Germany, BT Netherlands, BT Italy and BT Spain. BT Spain is also certified to the European Eco-management and Audit Scheme (EMAS).

ISO 14001 requires us to demonstrate compliance with environmental laws and regulations, control environmental risks, and enhance our EMS through continual improvement. To ensure that we improve our performance we set improvement targets, and report publicly on our achievements and challenges.

Our EMS is regularly audited by external assessors Lloyds Register Quality Assurance (LRQA), and we are pleased to report that during the 2012 we maintained ISO 14001 certification across all operations that currently hold the standard. We also carry out our own internal environmental audits across all our operations on an annual basis.

## Management system tool

Demonstrating that environmental impacts are adequately managed is a requirement of any EMS. To facilitate this, we use a web-based environmental management tool for internal management reporting and compliance called enviroMANAGER™.

The system records relevant environmental information, allowing us to record compliance with legislation, carry out risk assessments and document our environmental management processes and procedures.

The system is regularly updated with new and forthcoming environmental legislation, allowing us to consider any potential impact on current and future business operations and plan accordingly.

## Keeping our people informed

We communicate our environmental policy and EMS requirements to our people by a variety of internal communications and engagement processes. This includes management forums with responsibility for different aspects of our environmental obligations. Recognising that our most significant impacts are energy related, this year we have focussed our communication and engagement activities with our people and our suppliers on this.

## EMS improvements

### Worldwide environmental reporting

BT was one of the first UK companies to publish an environment report in 1992. As BT's operations support a worldwide customer base, in 2008 we took the decision to include reporting on our international operations. This is essential as we seek to improve our environmental performance by setting targets designed to minimise the environmental impact of our business activities worldwide.

We collect and assess data from 19 countries, including the UK, where BT has a significant business presence. We've chosen these countries as over 97% of our people are based in them. We are focusing on minimising our energy use and carbon emissions as these are material issues to ourselves and our stakeholders.

### Increasing the scope of our environmental reporting

We collect and analyse a wide range of environmental data from our international operations including waste and recycling, emissions to air, energy, fuel use and business travel. This will

provide the foundation to improve our measurement and reporting processes. In 2012 we have extended recording of individual buildings data for most of our these countries. As a result, we are increasingly able to monitor changes within different areas of the business such as data centres, office buildings and network operations.

To ensure data is accurate, we request supporting evidence for the data provided, for example electricity bills, green energy certificates or waste collection invoices.

## External verification

We review our reporting processes regularly with our data providers to ensure it remains current and fit for purpose. LRQA has for the second year provided a high level of assurance for the 2012 data, published in this report.

LRQA has acknowledged the improvements we have made in both reported data quantity and quality from our non-UK operations.

## Environmental prosecutions

The number of environmental prosecutions can be used as an indication of how we management our environmental impacts. We are pleased to report that in 2012, BT received no environmental prosecutions.

### Related content:

[Our environmental policy \(pdf\)](#)

[Engaging our people.](#)

[Engaging our suppliers.](#)

## Targets

Start	End	Description	Update	Target Status
April 2012	March 2013	BT will reduce its global net carbon emissions by 1.3% againgst our 2011/12 outturn.		New
April 2012	March 2013	BT will reduce its global net carbon emissions by 1.3% against 2011/12 outturn.		New

## Carbon emissions

**It is 20 years since we set our first carbon dioxide emissions reduction target**

## A proud track record of carbon reduction

In our first environment report in 1992 we calculated our carbon emissions for the use of energy to power our networks and building at 2 million tonnes. We also set our first target to stabilise energy related emissions by 1995.

Back then we were a large UK company with no international footprint. A lot has changed since then.

## Performance against targets

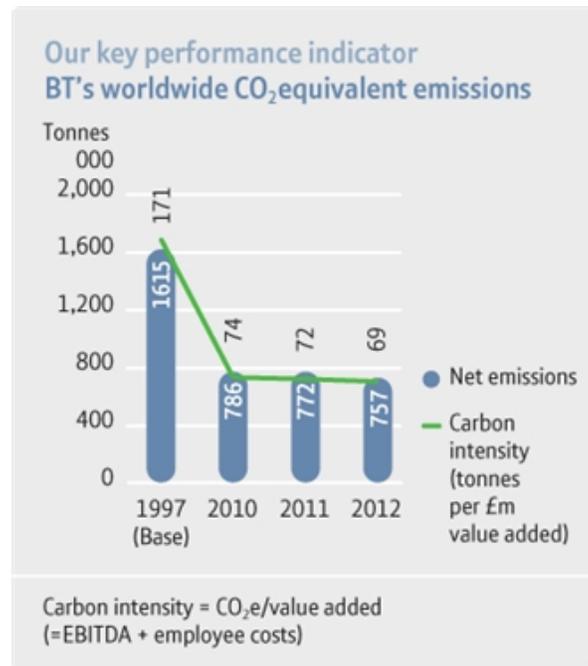
We have 2 targets related to our carbon emissions performance an absolute target for our UK emissions (set in 2007) and an intensity target (KPI) for our global emissions (set in 2008).

For full transparency, our carbon accounts this year show our gross footprint based on the 'grid average' carbon content of purchased electricity, and our net footprint which takes account of the carbon reductions achieved with the purchase of low and zero carbon electricity.

**KPI: Reduce the carbon dioxide equivalent (CO<sub>2</sub>e) intensity of our worldwide business by 80%, from 1997 levels, by December 2020.**

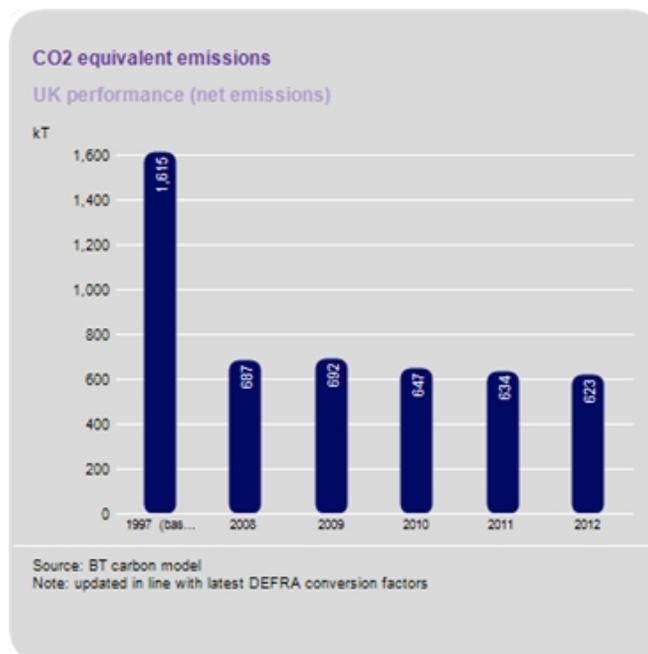
Update: In 2012 our worldwide emissions intensity (after the purchase of low and zero carbon electricity) was 69 tonnes CO<sub>2</sub>e per £ million value added (EBIDA = employee costs), a 60% reduction from our base year.

Our Climate Stabilising Intensity (CSI) approach associates our emissions with the contribution our profits and employment costs make to the world economy. The CSI model is based on a converging scientific consensus that, from a 1990 base-year, CO<sub>2</sub>e emissions worldwide need to be reduced by around 50% by 2050.



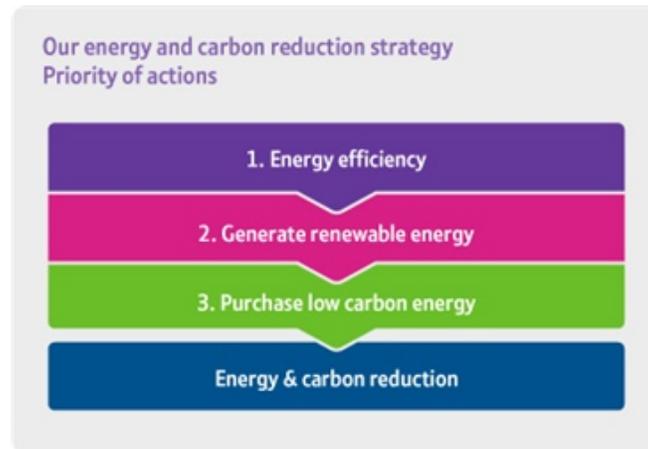
**Target: To reduce our UK carbon dioxide emissions to 80% below 1997 levels by December 2016.**

Update: In 2012 our UK emissions (after the purchase of low and zero carbon electricity) was 623 kilotonnes, a 61% reduction from our base year.



See our [carbon emissions](#) model for more details

## Actions to reduce our energy emissions



### Energy efficiency

The purchase of electricity, including from zero and low carbon intensity sources, makes up over 70% of our direct carbon emissions.

Last year, our energy efficiency programme succeeded in decoupling energy use from business growth. We reduced our energy consumption by 3.3% against our 2% target for 2011. The energy saving programme delivered savings worth £21.9m per year.

A number of initiatives contributed to this reduction, including the installation of more sophisticated smart meters in 1,900 BT sites, and in part through the ongoing efforts of our 1,500 energy champions. Overall, our carbon emissions intensity has reduced by 60% since 1997.

### Investing in renewable energy generation

We aim to generate 25% of our energy consumption directly from renewables by 2016. Providing energy from wind, solar and biomass will reduce our carbon emissions and mitigate energy price rises.

The continuing uncertainty in UK policy on renewable energy is adversely affecting our planned investments in wind and solar electricity generation, as well as the impact of potential changes in government carbon reporting measures that will discourage companies from specifying low carbon energy supplies. An unambiguous government policy that supports efforts to produce and increase demand for low carbon energy is needed given our ambition to reduce our CO<sub>2</sub> emissions by 80% by 2020 against our 1997 baseline.

### Purchase low carbon energy

BT's renewable energy purchasing is significant, an annual global spend of around £256 million.

Over 84% of our energy is consumed within the UK, with the majority used to power our networks and data centres. We meet approximately 41% of our electricity needs in the UK by purchasing renewable energy, and have extended this contract until 2014. 54% of our electricity comes from

combined heat and power generation. The limited supply of renewable energy in the UK means that we pay a premium for this energy.

However, we believe that this situation could be addressed if the Government changed the way energy utility companies sold energy to businesses and homes.

It is BT's view that energy is not accurately classified or labelled according to its actual carbon emissions at the point of production. The result is a largely crude categorisation of energy as either 'brown energy' (from fossil fuels) or green energy (from zero or low carbon sources) with no specification as to the 'grade' of green energy.

We believe that this inhibits the growth of the renewable energy market because there is little financial incentive for purchasers to buy greener forms of energy. This also compounds the complexity for organisations reporting on their carbon emissions in particular how to account for the purchase of energy with differing carbon emissions intensity at point of generation.

We are working closely with governments to help develop a consistent approach to reporting, and labelling at source, the carbon content of electricity. The certification of electricity at point of generation would provide consumers of carbon with the power and incentive to influence investments by suppliers using the usual market mechanism of exercising consumer choice through purchasing decisions. A coding system similar to energy labels for white goods or buildings, where a rating of A to G (high to low performance), would be easily understood by the businesses and consumers.

In the UK, we have had direct meetings with ministers and government including DECC, DEFRA, Treasury and Cabinet Office to discuss the idea of electricity labelling. We are also working with the Aldersgate Group (a coalition of environment agencies, NGOs, think tanks and industry representatives) to help create more buy-in to the idea across industry.

One of the challenges we face is engaging multiple policy stakeholders on this issue. Furthermore, we are aware that governments have their own energy priorities, such as the Energy Market Review in the UK.

**Richard Tarboton, BT Operate, Director of Energy and Carbon explains;**

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Given these challenges, we believe the best way to fast track the debate on energy labelling is to develop a voluntary labelling scheme in collaboration with energy providers, to trial the concept and work through the practicalities of implementing a solution. BT is committed to exploring a range of avenues in relation to carbon rating electricity at source. We are aware that the task at hand is an inherently complex one, but remain focused on developing a solution which works for businesses, government and the energy industry.

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## Other emissions

Read our [travel and transport](#) section to see how we are reducing our impacts through use of audio and videoconferencing and trialling alternative fuel vehicles for example.

## Reporting our wider carbon footprint

Increasingly businesses recognise that the impact of their business decisions impact downstream in its supply chain and upstream in its customer base. We are exploring our indirect carbon footprint – a measure of the indirect CO2 emissions from the whole lifecycle of products we use – from their manufacture and eventual disposal.

BT has developed a pioneering approach to estimate the carbon footprint of our telecoms network services. We used this approach to assess the emissions associated with the communications solution we are providing to the London 2012 Olympic Games and we are continuing to use it when estimating carbon footprints for other large customers.

## Our plans

We continue to look for ways to innovate within the business and for our customers in ways to reduce the carbon intensity of our operations and their work and business lives. We have set a new energy target for 2013 and continue to deliver on our plans to meet both our UK and worldwide carbon emissions targets.

### Related content:

[Carbon footprint - products and services.](#)

[Carbon footprint - supply chain](#)

[Carbon footprint - London 2012 \(case study\).](#)

[Energy](#)

## Targets

Start	End	Description	Update	Target Status
April 2012	March 2013	BT will reduce its global net carbon emissions by 1.3% against our 2011/12 outturn.		New
April 2012	March 2013	BT will reduce its global net carbon emissions by 1.3% against our 2011/12 outturn.		New
April 2012	March 2013	BT will reduce its global net carbon emissions by 1.3% against 2011/12 outturn.		New
April 2012	March 2013	We will reduce our, worldwide, absolute carbon emissions (after purchase of low and zero carbon energy) by 1.3% from 2012 levels.		New
April 2008	December 2020	BT Group will reduce its CO2e emission intensity by 80% against 1997 levels by December 2020. (KPI)	2012 update - we have reduced our CO2e emissions intensity by 60% from our 1997 base year.	On Target
April 2007	December 2016	BT will reduce its UK carbon dioxide emissions (measured in tonnes CO2 equivalent) to 80% below 1997 levels.	2012 update - we have reduced by 61% from our 1997 base year.	On Target

## BT's CO2e emissions statement

We have reported our carbon emissions since 1992 and have followed the Climate Disclosure Standards Board (CDSB) framework which builds on the World Resource Institute/World Business Council for Sustainable Development Greenhouse Gas Protocol (GHGP).

### Our 2012 carbon emissions model

See the [methodology section](#) of our report for further details

## Carbon emissions model 2012

Emissions source (CO2e kilotonnes)	1997 (Base)	2008	2009	2010	2011	2012
<b>Scope 1 - Stationary Combustion</b>						
Oil Combustion - Electricity Generation	12	4	2	2	2	4
Gas Combustion	108	80	81	71	69	56
Oil Combustion - Heating	67	10	11	10	9	7
Refrigeration Gases (HFCs and SF6 only)	1	3	6	5	5	4
Commercial Fleet Diesel	167	124	115	101	103	104
Commercial Fleet Petrol	18	0.66	0.05	0.01	0.01	0.02
Company Car Diesel	24	29	30	21	17	19
Company Car Petrol	16	6	4	3	2	2
<b>Total Scope 1 emissions</b>	<b>414</b>	<b>256</b>	<b>249</b>	<b>213</b>	<b>206</b>	<b>196</b>
<b>Scope 2- Purchased Electricity</b>						
At grid average intensity (gross) - excludes 3rd party consumption	1,144	1,435	1,382	1,272	1,338	1,302
<b>Less purchases of;</b>						
Renewable electricity	na	528	577	516	547	529
CHP low carbon electricity	na	353	299	233	273	259
<b>Scope 2 emissions (net)</b>	<b>1,144</b>	<b>555</b>	<b>506</b>	<b>523</b>	<b>517</b>	<b>514</b>
<b>Combined Scope 1 &amp; 2 emissions (net) - excludes 3rd party consumption</b>	<b>1,558</b>	<b>811</b>	<b>755</b>	<b>737</b>	<b>724</b>	<b>710</b>
<b>Scope 3 - Other indirect emissions</b>						
Homeworker emissions (estimate)	na	6	6	4	4	4
Cars on BT Business (Diesel)	1	13	11	9	8	8
Cars/ Motorcycles on BT Business (petrol)	5	0.02	1	0.02	0.02	0.02

Refrigeration Gases (CFCs and HCFCs only)	13	5	7	6	4	2
Rail travel	11	7	7	5	5	6
Air Travel (Domestic)	na	9	8	7	7	6
Air Travel (short haul)	8	5	3	2	2	3
Air Travel (long haul)	8	21	19	10	13	12
Hire Cars (All Fuels)	11	14	11	5	5	6
<b>Total Scope 3 emissions</b>	<b>58</b>	<b>79</b>	<b>73</b>	<b>49</b>	<b>49</b>	<b>46</b>
<b>Total CO2e emissions (net)</b>	<b>1,615</b>	<b>890</b>	<b>828</b>	<b>786</b>	<b>772</b>	<b>757</b>
<b>Percentage change from base (net)</b>		<b>-45%</b>	<b>-49%</b>	<b>-51%</b>	<b>-52%</b>	<b>-53%</b>
na - not available						

## Targets

Start	End	Description	Update	Target Status
April 2008	December 2020	BT Group will reduce its CO2e emission intensity by 80% against 1997 levels by December 2020. (KPI)	2012 update - we have reduced our CO2e emissions intensity by 60% from our 1997 base year.	On Target
April 2007	December 2016	BT will reduce its UK carbon dioxide emissions (measured in tonnes CO2 equivalent) to 80% below 1997 levels.	2012 update - we have reduced by 61% from our 1997 base year.	On Target

## Energy

**BT consumes a significant amount of energy to operate our networks, data centres and offices – approximately 0.7% of total UK electricity consumed.**

### About BT's energy use

Over 84% of BT's energy is consumed within the UK, with the majority used to power our networks and data centres.

We meet approximately 41% of our electricity needs in the UK by purchasing renewable energy, and have extended this contract until 2014. 54% of our electricity comes from combined heat and power generation. The remaining 5% is from the grid.

Approximately 16% of energy is consumed outside the UK, and we expect this figure to increase as we expand our business globally.

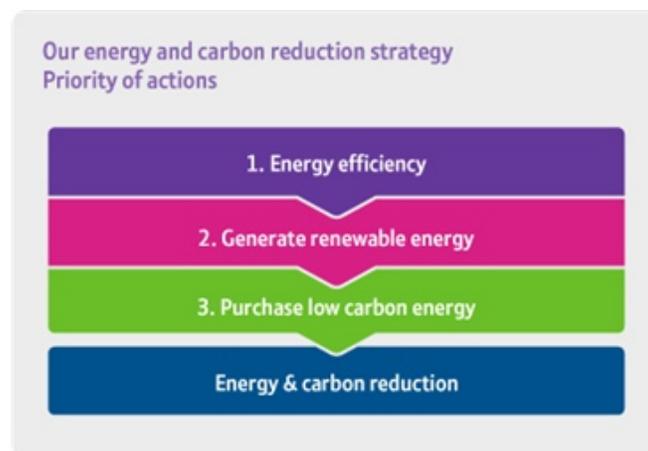
## Key achievements in 2012

In 2012 BT delivered some notable achievements in energy and carbon reduction:

- **3.3% reduction** in global energy consumption
- 21MW consented of renewable energy supply
- a smart energy control network across 1,900 operational sites
- 1,500 energy champions across the world helped to promote energy saving
- Over **£21 million cost savings** per annum through energy efficiency.

## Our energy and carbon strategy

Our energy and carbon strategy consists of three elements:

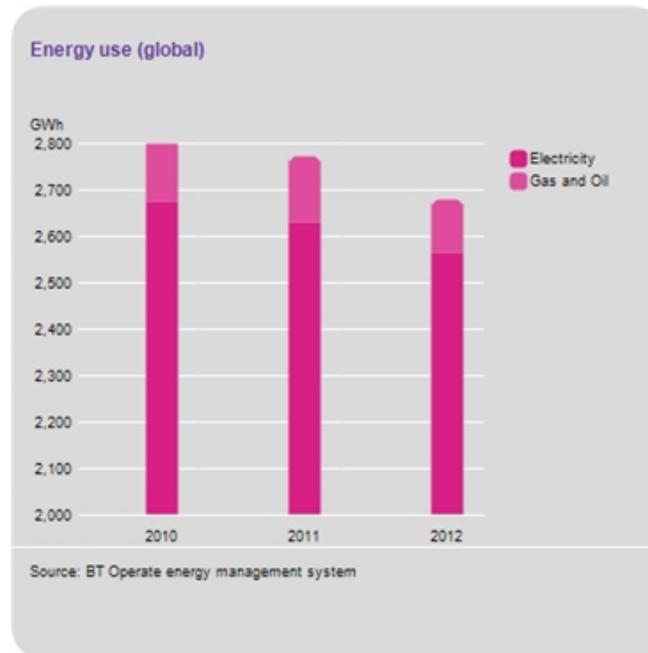


1. Reducing consumption and improving energy efficiency in our buildings and equipment is our highest priority.
2. Next we look for opportunities to generate new renewable energy either on site or through wind farms, adding to the renewable supplies available.
3. We purchase our electricity from existing renewable and low carbon energy sources.

We have short and long-term targets for reducing our energy use and the associated impact on climate change by improving energy efficiency and using renewable energy. As well as benefiting the environment, reducing energy use helps us cut costs and secure supplies of energy in the long-term.

## Global energy consumption

BT has reduced global energy consumption by 3.3% this year with our total energy consumption (excluding metered tenants in BT UK properties) decreasing to 2,677GWh. This is in excess of our 2% target for the year and is the third consecutive year that we have reduced global consumption, despite additional business as usual growth driven by the introduction of new services and technologies.



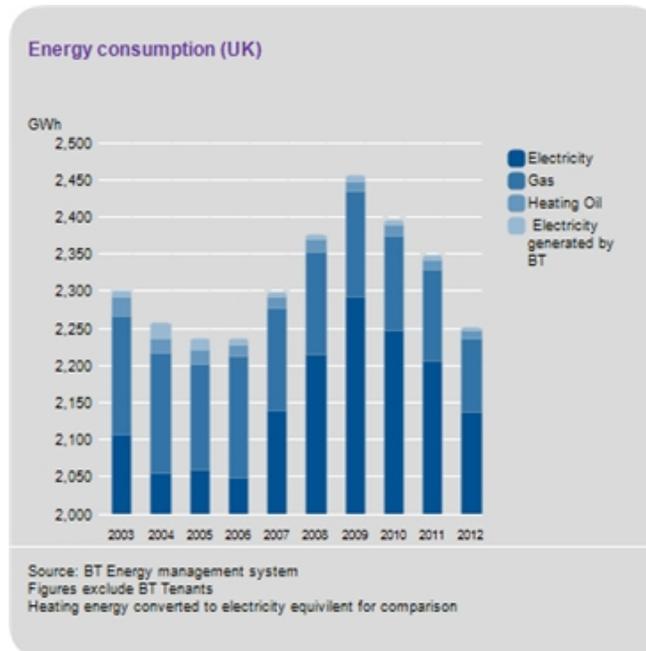
Our new target is to reduce absolute usage by 1.5% by the end of 2013 compared to 2012.

Outside the UK, we collect energy data from 18 countries where electricity usage is significant (currently greater than 250 MWh per annum per country). In 2012, we used 426 GWh of energy at these sites.

Energy reduction projects and investments will have saved us £21.9m per annum.

## UK energy consumption

Energy use in our UK network and estate (excluding metered tenants) decreased by 4% during 2012, to 2,251 GWh. This is the third consecutive year that BT has reduced UK energy consumption.



## Carbon Reduction Commitment (CRC) Energy Efficiency league table

BT has been ranked the leading UK telecommunications company in the Carbon Reduction Commitment (CRC) Energy Efficiency league table, published by the UK government.

We achieved a score of 95 out of a maximum 100 points, and ranked 44th out of 2,103 organisations for our energy efficiency, carbon management and implementation of smart metering.

## Carbon Trust Standard

BT UK Operations has been recertified with the Carbon Trust Standard for successfully measuring, managing and reducing carbon emissions. BT has held the Carbon Trust Standard for the last three years. The award is valid for two years.

The Standard was developed by the Carbon Trust in 2008 to encourage good practice in carbon measurement, management and reduction by businesses and public sector organisations.



### Related content:

[Read out more about our commitment to renewable energy.](#)

## Targets

Start	End	Description	Update	Target Status
April 2012	March 2013	BT will reduce its global net carbon emissions by 1.3% against our 2011/12 outturn.		New
April 2011	March 2012	BT will reduce its global energy consumption by 2% compared to 2011 outturn.	Last year, our energy efficiency programme succeeded in decoupling energy use from business growth, meaning that even though our business grew, we were able to reduce global consumption by 3.3% saving £21.9m per year.	Completed

## Reducing our energy demand

**Reducing energy use is a fundamental part of our carbon reduction strategy. It helps us to reduce our bottom line costs while supporting the UK's transition to a low carbon economy. It also ensures we meet our obligations under the UK Government's Carbon Reduction Commitment Energy Efficiency Scheme.**

### Our approach

Reducing energy consumption in our buildings, networks and data centres is business as usual at BT. We do this by implementing solutions to increase energy efficiency, encouraging employee behaviour change, improving and upgrading existing plant machinery and investing in new technology.

We also closely monitor energy consumption from electricity, gas and fuel oil in all our UK buildings and operations by using a network of electricity and gas smart-meter systems to collect and analyse data at half-hourly intervals from over 28,000 meters in the UK.

In addition to this, over 12,500 electricity sub-meters allow us to accurately monitor electricity consumption, to identify waste and give our operations detailed feedback about their usage.

### Reducing energy demand

Our continued investment in energy reduction has enabled BT to reduce global energy consumption on an absolute basis while our business continues to grow.

Despite this growth, our global energy use reduced by 3.3% due to energy efficiency measures and investment in energy reductions in our networks, data centres and offices and our BT's energy reduction and investment programme.

In 2012, we delivered energy saving projects with savings worth £21.9m per year. We achieved these savings largely by switching off old network equipment, using server virtualisation, reducing office space and auditing building energy use to identify areas for action.

Our energy reduction programme has three main pillars which span our networks, data centres and buildings estate. These pillars are:

### **1. Smart energy control and equipment replacement**

During 2012, our SMART control initiatives delivered savings of £11.37m per annum. The majority of BT's electricity consumption is now monitored through SMART meters giving us real time data on how much energy is being consumed and enabling us to identify and resolve any energy waste issues.

Key achievements this year included:

- delivering Building Energy Management Systems (BEMS) to an additional 1,651 of our largest sites. This is set to reduce energy costs by a total £8.6m per annum. BT is now investigating rolling out equivalent micro BEMS to smaller buildings.
- improved boiler controls and analysing the data from 1,252 smart gas meters
- during the winter we ran 211 backup generators to reduce the electricity demand on the national grid. We are developing further remote control capabilities to participate in other demand response schemes (e.g. Short Term Operating Reserve), which will reduce carbon emissions in the UK power sector.

### **2. Infrastructure rationalisation**

Through de-powering legacy IT systems and network equipment, optimising server utilisation and equipment cooling and rationalising our office estate we have saved £10.4m in energy reductions per annum.

Key achievements this year included:

- removing data centre equipment to save over £2.86m per annum in energy costs
- by rationalising our buildings estate we saved over £3.06m per annum
- by removing Network equipment and improving cooling efficiency we will save over £4.50m per annum

### **3. Employee awareness**

Changing the way we live and work is essential if we are to tackle serious environmental challenges such as climate change. As a major employer, we can raise awareness among over 90,000 people directly, and reach many more by encouraging our people to pass on the message to their families and local communities.

Find out more about BT's employee engagement initiatives to reduce energy consumption [here](#).

## Targets

Start	End	Description	Update	Target Status
April 2012	March 2013	BT will reduce its global energy consumption by 1.5% compared to 2012.		New

## Supply from renewable sources

**Renewable and low-carbon energy are important elements of our strategy for tackling climate change and securing future energy supplies.**

We look for opportunities to generate renewable energy and purchase a high proportion of our electricity from renewable or low-carbon sources.

### Purchasing renewable energy

We meet approximately 41% of our electricity needs in the UK by purchasing renewable energy, and have extended this contract until 2014. We have progressed to having low-carbon energy contracts in Germany, Italy, Belgium and Spain.

54% of our electricity comes from combined heat and power generation. The remaining 5% is from the grid.

In 2012, our use of renewable and low-carbon energy in the UK avoided approximately 830,000 tonnes of carbon dioxide emissions.

### Generating renewable energy

BT's renewable energy programme aims to deliver on our publicly stated commitment to generate 25% of our consumption directly from renewables by 2016. Providing energy from wind, solar and biomass will reduce our carbon emissions and mitigate energy price rises.

Generating electricity on site is the most effective way of securing supplies and reducing carbon emissions. For example:

- our site in El Segundo, California, has installed photovoltaic (PV) solar panels, some of which move with the sun to maximise their output. The panels are designed to produce around 1,000 MWh of energy each year
- our Colombo House site in London generates renewable energy using a 15kW PV solar array. We are using the data to assess the potential of installing PV solar power at other BT

buildings. We currently have planning consent for a large solar array on one of our main central London buildings

- we have been granted planning consent for biomass generators at three large BT sites in the UK.

It is not always possible to generate electricity at our own sites and we have looked for suitable locations elsewhere in the UK. Since 2007 we have been developing a series of small wind farms that can supply electricity for use by BT.

We have gained planning consent for 6 turbines at our Red Gap wind farm in Teesside and our Heysham site near Lancaster. These sites will produce 1.6% of our UK electricity needs, and we have started work to build these wind farms.

We have a pipe-line of other sites being brought forward to deliver part of our 25% target.

**Related content:**

[BT renewables \(website\).](#)

## Employee awareness

**Changing the way we live and work is essential if we are to help tackle environmental challenges such as climate change.**

As a major employer, we can raise awareness of energy and climate change issues to over 90,000 people directly, and reach many more by encouraging our people to pass on the message to their families and local communities.

### Our approach

We know that BT people already feel strongly about environmental issues. Our annual employee survey revealed that 87% of our employees thought that reducing BT's overall environmental impacts was important.

We constantly look for ways to inspire our employees to take action and make a difference. With the help of feedback from our employees, we review our engagement strategy to make sure that it is effective, inspiring and in line with our business priorities.

### Energy employee engagement target

We have committed to working with our people to achieve major cuts in carbon dioxide (CO<sub>2</sub>) emissions. Our target is for 20% of employees to be actively engaged in reducing their carbon footprint at work and at home by December 2012.

As we were well ahead on this target last year, from 1 April 2011 we adopted a more challenging approach focused on BT people taking action on climate change by reducing BT's energy

consumption. We measure engagement with energy saving via the CARE survey, a BT wide quarterly survey on employee satisfaction.

## Energy champions

Our key employee awareness focus this year is the Switch to Saving Energy campaign which encourages all BT employees to help reduce energy waste through raising awareness of the environmental, social and financial implications.

The campaign now has over 1,500 Energy Champions who help to raise awareness and reduce energy use by switching-off lights and unnecessary equipment, reporting energy faults, such as faulty lighting, auditing energy use in their buildings and by networking and sharing ideas and best practices.

The Switch to Saving Energy campaign remains a key component of BT's overall target to reduce global energy consumption by 1.5%.

## BT Energy Star

Another initiative which helps to drive engagement with our employees on energy issues is Energy Star. A BT Energy Star is someone who is committed and enthusiastic about saving energy at work. Individuals can nominate themselves or be nominated by a colleague.

The first BT Energy Star was Simon Jones from service development in BT Operate. Simon's colleague Paul Rudland, nominated him for always going the extra mile on energy saving.

Simon's successes included,

- Regularly reporting building faults that waste energy
- Arranging for unnecessary cosmetic lighting and daytime car park lighting to be switched-off
- Arranging for the installation of motion sensor operated lights in key areas.

### Related content:

[Richard Tarboton, Director of Energy and Carbon.talks to BT people about our Switch to saving energy campaign \(video\).](#)

## Targets

Start	End	Description	Update	Target Status
April 2007	December 2012	20% of BT's employees will be actively engaged in reducing carbon footprint at work and at home.	We were well ahead on this target last year, from 1 April 2011 we adopted a more challenging approach focused on BT people taking action on climate change by reducing BT's energy consumption. This is in line to help us meet our overall energy programme.	On Target

## Waste management

**Waste is an important environmental issue for BT given the quantity that we produce annually and the increasing cost of landfill tax. We are committed to waste avoidance in the first place. And when we do create waste, we aim to recycle wherever possible, supporting a circular economy model.**

### Managing BT's waste

Our waste ranges from decommissioned network equipment, cabling and telegraph poles to used paper and general office waste. Our UK business creates around 43,000 tonnes (95%) of our waste per year.

We have processes for effectively managing the production and disposal of waste. This forms a vital part of our EMS and ISO 14001 certification.

As part of our approach to waste management we identify three categories of waste – category 1 represents the least risk to the environment, category 2 moderate risk and category 3 the highest risk.

All of our waste is handled by contractors, with whom we work in partnership to ensure effective waste management that meets all legal requirements as a minimum.

We have a named person responsible for coordinating waste management processes to ensure high standards across the company. This person chairs an internal waste forum, made up of the people directly responsible for our different waste streams. The forum's role includes considering new ideas for managing waste and setting and monitoring waste targets.

### Non-hazardous waste disposal

We dispose of most of our general waste through material recovery facilities (MRFs) or waste transfer stations (WTS), which separate out recyclable materials like paper, cans, cardboard, plastic and paper cups. These recyclables are sent for reprocessing, while non-recyclable materials go to landfill.

We run schemes to collect recyclable materials at our sites. This not only reduces waste to landfill but also landfill costs and, in many cases, generates revenue, as we are paid for the materials collected.

## Hazardous waste disposal

Some types of waste can harm people and the environment if not carefully treated and properly disposed of. The management of these wastes is governed by strict regulations.

To comply with these regulations, each year we register around 2,500 sites in England and Wales with the Environment Agency. These sites are mostly telephone exchanges. Each site may produce over 500kg of hazardous waste annually. Hazardous waste produced at these sites include;

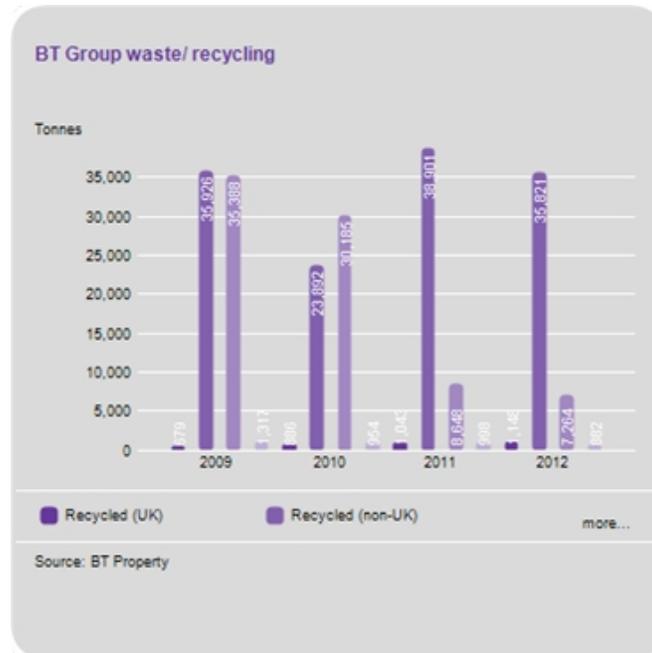
- fluorescent lighting tubes
- refrigerants
- batteries
- clinical waste
- oil
- vehicle waste
- gas cylinders.

We have rigorous processes to ensure our waste management contractors handle our hazardous waste appropriately. These contractors are externally audited under our Duty of Care obligation.

## Landfill reduction

In 2012, BT Group produced 45,115 tonnes of waste, a reduction of over 4,400 tonnes from the previous year. Of this, 8,146 tonnes went to landfill, 1,500 tonnes less than in 2011. <sup>(1)</sup> We reduced our waste sent to landfill by 16% against our target of 20%.

(1) For non-UK waste data where no actual amounts are available we assume a 40%/60% split of recycled/landfilled based on headcount and average weight produced per person based on industry standard.

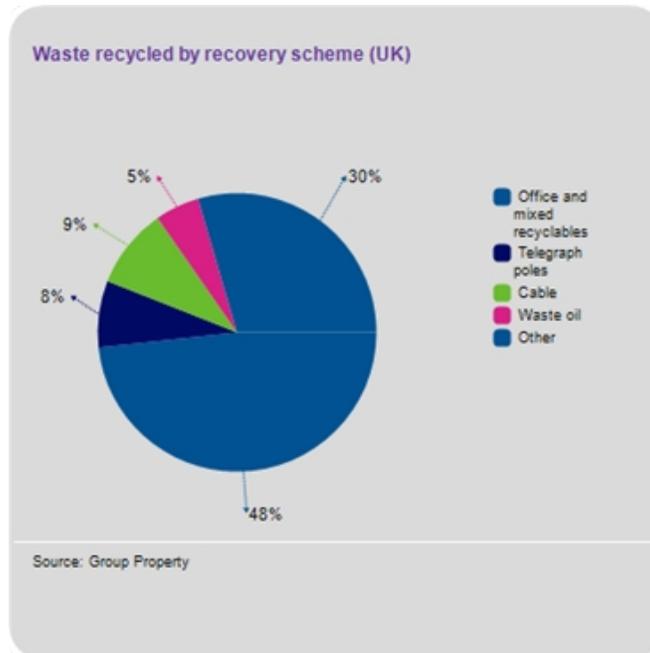


We won a Silver Category Green Apple Award from The Green Organisation in conjunction with Monterey and Biffa in recognition of our landfill reduction achievements in 2011.

In Belgium and The Netherlands zero waste is sent to landfill as all non-recyclable material is sent to plants that produce energy from waste, a total of 230 tonnes in 2012.

## Recycling and recovery

In 2012 BT Group recycled 36,969 tonnes of waste or 82% of our total waste.



To improve our recycling rates, during 2012 we;

- reviewed our collection frequencies to produce a more efficient and cost effective pattern. Our strong partnership with our facilities management provider, Monteray and their specialist recycling waste management company Biffa enabled a smooth transition, reducing landfill tonnage in the process
- increased our onsite recycling scheme to over 300 of our office buildings.

Our full waste model details our performance, and can be found in this section.

As part of a national programme, we recovered around 58,000 tonnes of redundant cable from our network. This is excluded from our recycling figures as it is part of a special project rather than business as usual.

## Waste minimisation

As part of our in-building waste minimisation programmes we reduced our office waste by 2,607 tonnes, an overall achievement of 13%.

## Our plans

- We continue to seek opportunities to further reduce the amount of waste we generate across our business. We will continue to seek opportunities to increase the amount of waste we recover for recycling
- We will continue with our plans to ensure we reduce the amount of waste we send to landfill
- We have set a target to reduce by 10%, from 2012 levels, the amount of waste that we send

to landfill.

## **Our waste model**

## Waste arising and management

Tonnes	UK only	Worldwide			
	2008	2009	2010	2011	2012
Recycled	36,937	36,605	24,778	39,944	36,969
Landfill	42,822	36,705	31,139	9,646	8,146
Total waste	79,759	73,310	55,917	49,590	45,115
<b>Recycled (percentage)</b>	<b>46%</b>	<b>50%</b>	<b>44%</b>	<b>81%</b>	<b>82%</b>
<b>BT UK waste (recycling) model - tonnes recycled by category</b>					
	2008	2009	2010	2011	2012
Cable	8,550	7,092	3,418	3,088	3,347
Telephone exchange equipment	3,275	2,822	1,020	1,260	4,354
Office & packaging waste	9,411	8,830	5,811	19,856	17,288
Batteries	1,402	2,248	1,976	2,496	2,031
Transport related waste	1,114	1,069	909	784	825
Miscellaneous electrical equipment	1,843	1,609	536	602	20
General scrap metal	1,405	1,055	657	501	573
Telephone directories	168	120	50	17	49
Telegraph poles	4,984	8,282	8,298	4,419	2,769
Computing equipment	461	594	336	368	439
Catering oil	13	12	10	8	12
Catering equipment		3	10	15	3
Fluorescent tubes	43	36	11	9	31
Furniture	276	13	3	244	98
Waste oil	2,662	709	428	2,669	1,845
Wood		301	271	482	517

Other	1,330	1,131	148	2,083	1,620
<b>Total recycled</b>	<b>36,937</b>	<b>35,926</b>	<b>23,892</b>	<b>38,901</b>	<b>35,821</b>
<b>Financial indicators</b>					
<b>£ millions</b>		<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Income from recycling		7.42	6.65	5.65	7.89
Waste costs		-4.78	-4.75	-5.49	-7.81
Landfill tax savings		1.15	0.96	1.87	2.00
<b>Net waste savings/ (cost)</b>		<b>3.79</b>	<b>2.86</b>	<b>2.03</b>	<b>2.08</b>

**Related content:**

[More about BT and the circular economy](#)

## Targets

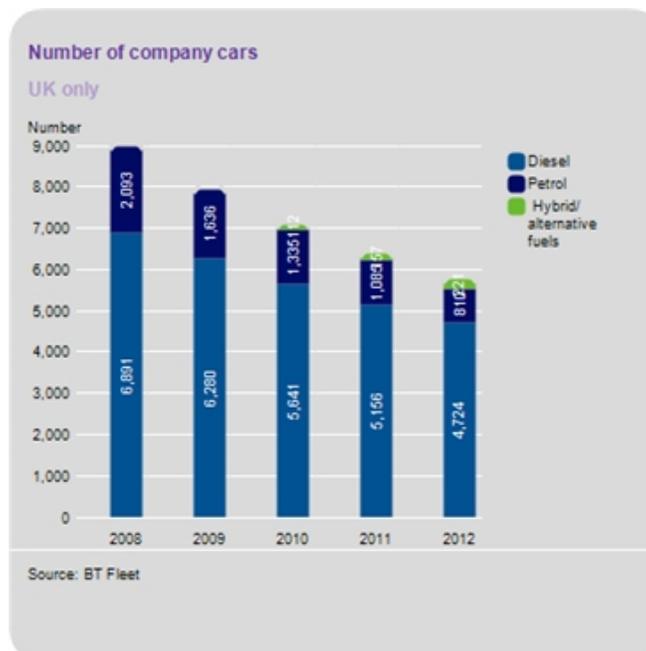
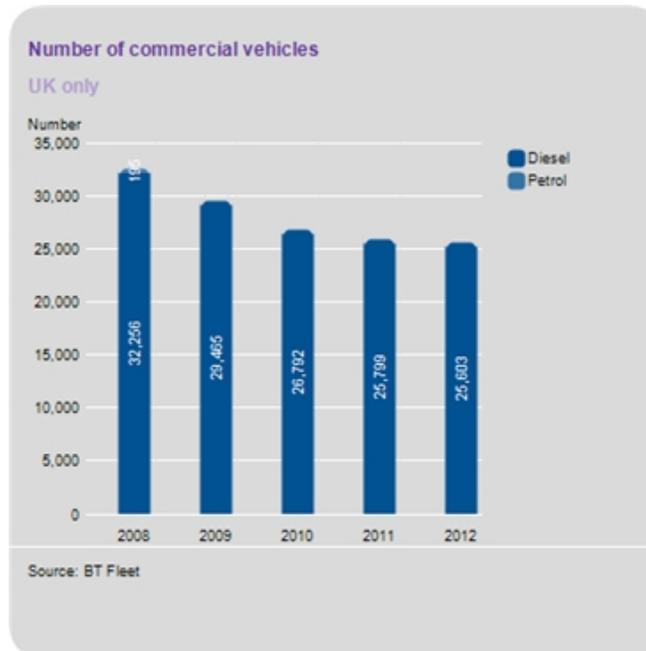
Start	End	Description	Update	Target Status
April 2012	March 2013	We will reduce the amount of waste sent to landfill by 10% based on the March 2012 outturn figure.		New
April 2011	March 2012	We will reduce the amount of waste sent to landfill by 20% based on the 2011 outturn figure.	We achieved a 16% reduction in the amount of waste sent to landfill against our target of 20%. "	Failed

## Transport and travel

**Our policy is to reduce the impact of our fleet and travel programmes by purchasing vehicles that have lower emissions and use fuel efficient technologies.**

### BT's UK vehicle fleet

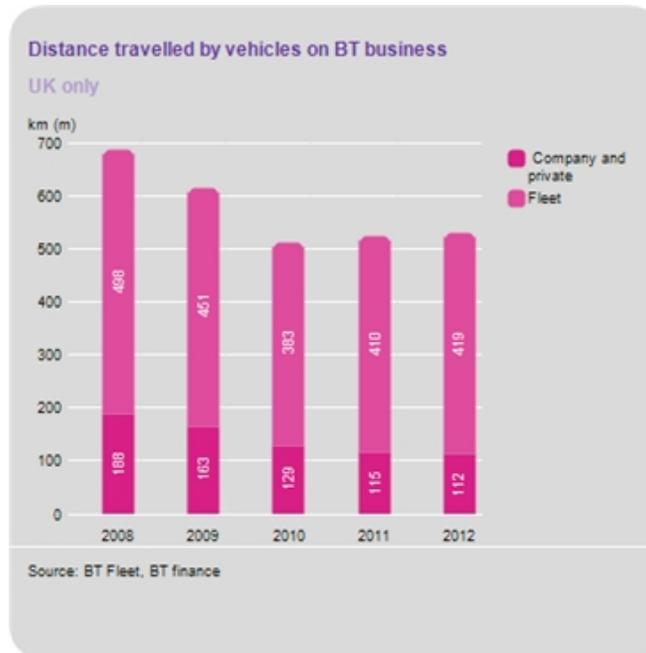
In the UK, our subsidiary BT Fleet Limited runs a fleet of 25, 609 commercial vehicles and 5,755 company cars.



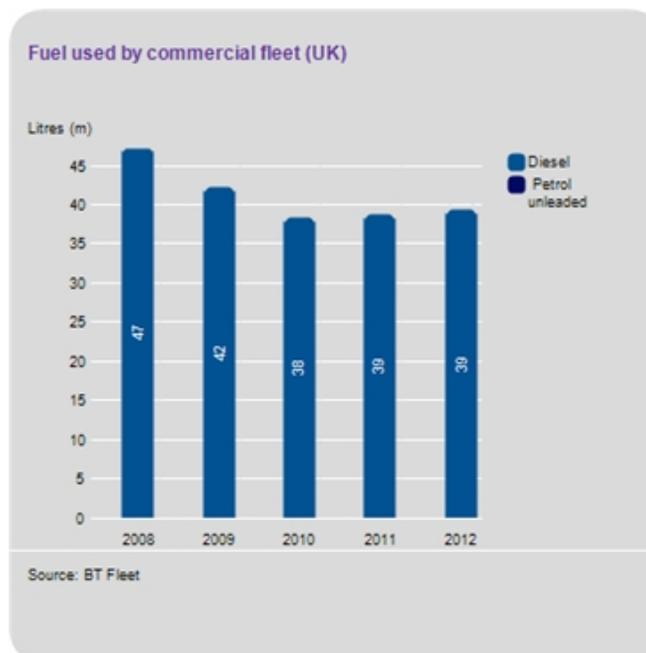
We encourage all our drivers to adopt fuel-efficient driving techniques and run a rolling driver training programme to support this.

We also have a rolling programme that replaces older vehicles with newer technologies and emission standards, ensures our fleet is efficient, reliable and requires less maintenance overall.

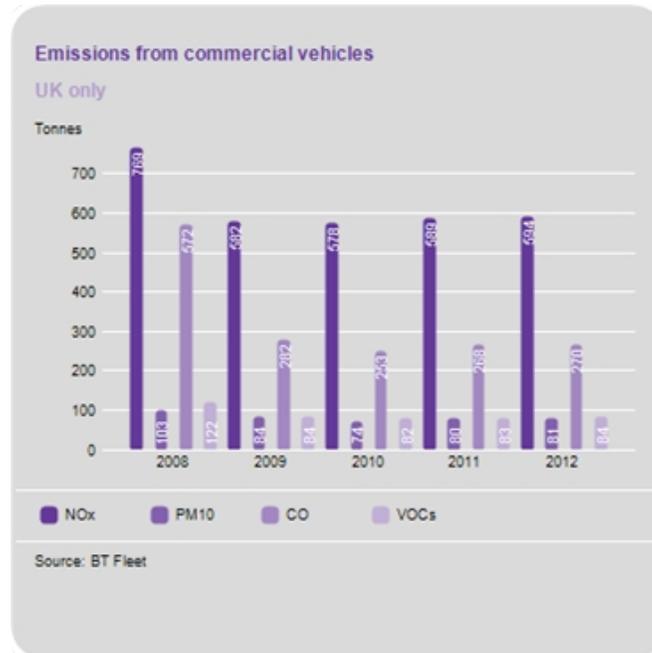
Our commercial fleet travelled 9 million more kilometres in 2012 compared with the year before, increasing fuel use by 1.6%.



We have seen increased fuel use despite a reduction in fleet size but this has been accompanied by an increase in the amount of jobs delivered. This means that we are delivering more to our customers with less vehicles, this is being achieved through careful management of work allocation and further optimisation of our fleet usage. The latter allowing us to accommodate an increase in the work force without the need for more vehicles through more effective use of our vehicle portfolio.



## Emissions from BT vehicles



## Company cars

Our company car policy supports the UK Government's emissions-based company car taxation initiative, which offers:

- cash alternative for employees who turn down a company car
- tax benefits for employees who choose lower-emission cars
- information about choosing lower-emission cars.

We have been recording the average carbon dioxide (CO<sub>2</sub>) emissions of the company cars our employees choose since 2000. The average emissions factor of vehicles chosen in 2012 was 130 grams of CO<sub>2</sub> per kilometre a 14g/ km reduction on 2010. Overall the reduction from the year 2000 is 38%.

## Reducing fleet emissions

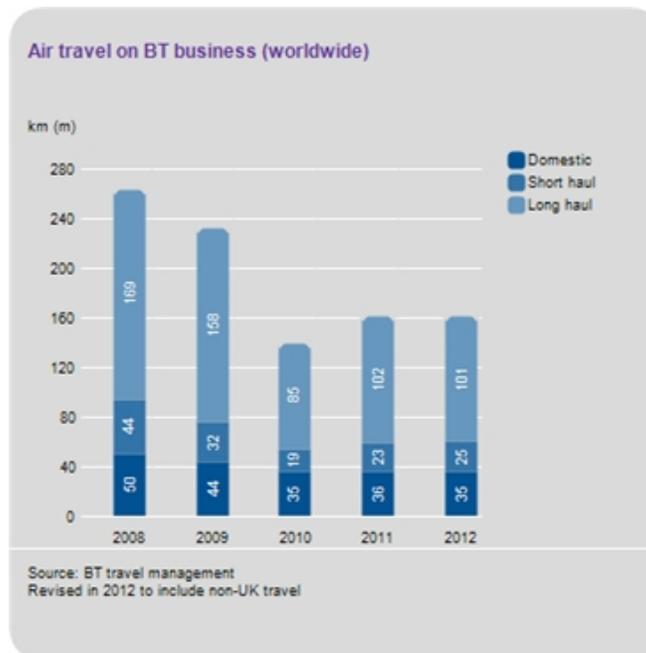
In 2012, our efforts to reduce the environmental impacts of our vehicle fleet included:

- investigating fuel saving devices and accelerated roll out of a 60mph limit
- continue to limit the maximum speed to 60 miles per hour on any new vans
- Monitoring fuel usage of litres per job by using an i-phone app

- continued trials of four all-electric vans in London, Milton Keynes, Cardiff and Belfast
- introduction of more electric and hybrid vehicles to the company car list
- continuing to promote fuel saving tips to all drivers.

## International business travel

We encourage our employees to use low carbon travel and to use BT's conferencing facilities wherever possible to avoid travel altogether. All business flights are booked via our travel management company and all air travel is pre-authorized.



## Home working

Our conferencing services and flexible working policies have helped change our people's work styles. Home and remote working is standard business practice for many employees which helps to reduce the environmental impacts of employee commuting.

There are over 8,300 of our people in the UK (11% who are home based workers). We estimate that each home worker avoids an average of 1.4 tonnes of CO2 emissions per annum.

Read more in the [flexible working](#) section.

## Transport and travel data sheet

<b>Travel and transport</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
<b>Number of commercial vehicles (UK only)</b>					
Diesel	32,256	29,465	26,792	25,799	25,603
Petrol	195	15	4	4	6
<b>Total number of vehicles</b>	<b>32,451</b>	<b>29,480</b>	<b>26,796</b>	<b>25,803</b>	<b>25,609</b>
<b>Fuel used by UK commercial fleet (million litres)</b>					
Unleaded Petrol	0.29	0.02	0.01	0.01	0.01
Diesel	47	42	38	39	39
<b>Total fuel used</b>	<b>47</b>	<b>42</b>	<b>38</b>	<b>39</b>	<b>39</b>
<b>Total number of vehicles in UK company car fleet</b>					
Diesel	6,891	6,280	5,641	5,156	4,724
Petrol	2,093	1,636	1,335	1,085	810
Petrol/ electric	na	na	109	155	219
Disel/ electric	na	na	na	na	1
Petrol/ Bio-fuel	na	na	2	2	
Bio fuel	na	na	1	na	1
<b>Total Number of Vehicles</b>	<b>8,984</b>	<b>7,916</b>	<b>7,088</b>	<b>6,398</b>	<b>5,755</b>
<b>Distance travelled on business in the UK</b>					
Company cars & private vehicles	188	163	129	115	112
Commercial vehicles	498	451	383	410	419
<b>Total (million km)</b>	<b>686</b>	<b>614</b>	<b>512</b>	<b>525</b>	<b>531</b>
<b>Air travel (global)</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>

Domestic	50	44	35	39	35
Short haul	44	32	19	23	25
Long haul	169	158	85	102	101
<b>Total (million km)</b>	<b>263</b>	<b>233</b>	<b>140</b>	<b>164</b>	<b>161</b>
na - not available					

**Related content:**

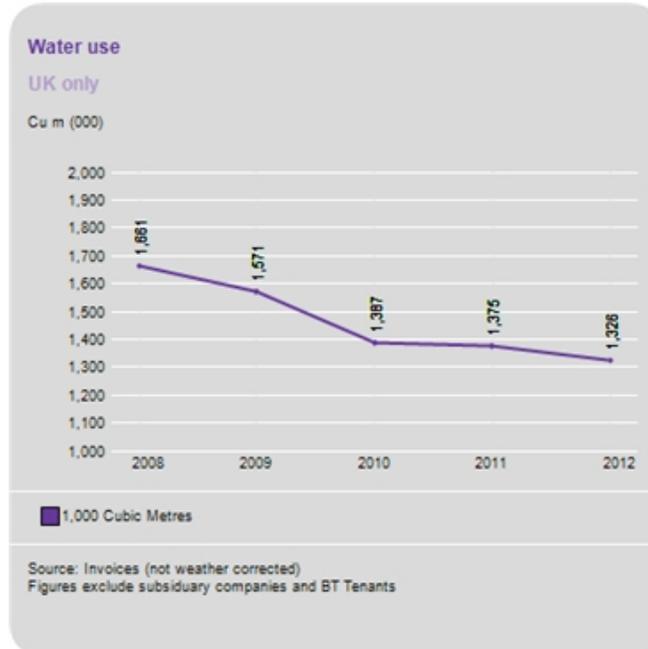
[Prince Michael International Road Safety Awards - BT is 2011 winner.](#)

## Water

**We do not use large quantities of municipal water. Our consumption is mainly confined to catering, toilet facilities and vehicle wash stations. The majority of our sites have water meters which enable us to monitor and report on usage.**

In 2012, we achieved water efficiency improvements for the tenth consecutive year, decreasing water use by 3.67%, from 1.37 million cubic metres to 1.33 million cubic metres in the UK.

The savings were achieved by reducing our office space through our building rationalisation programme and installing water management systems by working with external agencies to ensure leaks are identified and are repaired quickly.



## Targets

Start	End	Description	Update	Target Status
April 2012	March 2013	BT will reduce its UK water consumption by 1% against 2012 outturn.		New
April 2011	March 2012	BT will reduce its UK water consumption by 1% compared to 2011 outturn.	We reduced water consumption in the UK by almost 3.7% in the year.	Completed

## Emissions to air

**Gases that escape into the air from some equipment and processes can reduce local air quality and contribute to climate change.**

### Our approach

At BT, refrigerant gases that accidentally escape from air conditioning equipment are our most significant emissions to air, after carbon dioxide emissions from our energy and fuel use.

Where possible, we use fresh air to cool our data centres and network equipment. On warmer days when fresh air cooling alone does not provide adequate cooling, we also use refrigeration based air conditioning.

All the refrigerant gases used in Air Conditioning systems to cool air are believed to contribute to climate change. We set a target for minimising the amount of refrigerant gases we emit from Air Conditioning systems and review our performance and approach.

Some refrigerants also deplete the ozone layer, and we are eliminating these gases (see below) in line with regulatory requirements.

### Refrigerant replacement

We have almost entirely phased out the ozone-depleting refrigerants chlorofluorocarbons (CFCs) from our equipment, and are in the process of phasing out hydrochlorofluorocarbons (HCFCs).

European Union (EU) law forbids the purchase or use of virgin HCFCs after 31st December 2009. Reclaimed/ recovered HCFCs can be used until the end of 2014.

We are replacing HCFCs with hydrofluorocarbon (HFC) refrigerants, which do not deplete the ozone layer, but are powerful greenhouse gases. All our new refrigeration equipment uses HFC gases, and are manufactured to the new standards providing higher integrity sealed circuits to prevent leaks. We monitor the refrigerant pressure using electrical devices called transducers

instead of refrigerant analyser gauges, through which leakage can occur.

### **F-Gas Regulations**

We monitor compliance with the EU Ozone Depleting Substances and Fluorinated Gas (F-Gas) Regulations, which aim to reduce emissions of fluorinated greenhouse gases covered by the Kyoto Protocol.

We are progressing well with the training of our power field engineers to obtain the highest J11-F-Gas Cat 1 (See note) standard, and to date 82% of them have been awarded the required Construction Skills accredited certification. The remaining engineers are due to be trained by the end of 2012.

We are audited by REFCOM on an annual basis to monitor compliance with F-Gas Regulation processes such as refrigerant handling and training.

Note: J11-F Gas Category 1 certificate Holders may carry out all refrigerant handling activities for any size of Refrigerated Air Conditioning (RAC) systems containing F gases. This includes leakage checking, refrigerant recovery, installation, maintenance and servicing.

**Related content:**

[BT and climate change](#)

## **Targets**

Start	End	Description	Update	Target Status
June 2011	March 2012	We will reduce refrigerant gases lost to the atmosphere (kg) from 1.6% to 1.5% of installed quantity (a reduction of 7% from that lost during 2011).	We achieved 1.08% based on routines completed. We will continue to monitor and report on our emissions.	Failed
April 2011	March 2012	BT will control the amount of HCFC/ CFC refrigerant lost to the atmosphere to no more than 1.5% of the total installed refrigerant capacity for operational areas, including BT catering.	Replaced by consolidated target (June 2011).	Completed
April 2011	March 2012	BT will control the amount of HCFC refrigerant lost to the atmosphere to no more than 2% of the total installed refrigerant capacity for the BT UK non-operational estate.	Replaced by consolidated target (June 2011).	Completed
April 2011	March 2012	BT will control the amount of HFC refrigerant lost to the atmosphere to no more than 3% of the total installed refrigerant capacity for the BT UK non-operational estate.	Replaced by consolidated target (June 2011).	Completed
April 2011	March 2012	BT will reduce its refrigerant lost to atmosphere (kg) from 1.6% to 1.5% of its installed quantity (a reduction of 7% from that lost during 2010/11).	We achieved 1.08% year to date based on routines completed. We will continue to monitor and report on our emissions as part of our environmental certification.	Failed

## Fuel storage

## **It is important to carefully store fuels for vehicles, heating and standby generation, as leakage can cause harmful pollution to land and water sources.**

We monitor the condition of our fuel storage tanks using alarm systems, testing and inspections.

### **Stock management**

During 2012, we decommissioned 251 underground network storage tanks at 242 sites and replaced them with new above ground bunded tanks (a secondary tank surrounding the main tank to contain any leaks). A total of 251 new internal tanks at 229 sites have been installed during the same period. This leaves only 290 underground tanks remaining, which will be replaced with new internal tanks next year.

Our facilities management contractor, Monteray, inspected an additional 463 heating storage tanks and none required replacing. An additional 6 sites have been upgraded to gas heating systems and the tanks have been decommissioned.

Following an assessment of the fuel stored in all bulk oil storage tanks at our UK sites, BT has continued to remove low-grade fuels with high sulphur content and also monitor the effects of fuel dilution. These cause greater environmental pollution than low-sulphur fuels. By 31 March 2012, we had replaced or diluted fuel in over 4,000 tanks. We plan to continue the initiative and aim to either dilute or replenish with low-sulphur fuel eventually.

### **Biofuel**

Part of BT's energy reduction strategy is to generate 25% of our UK energy needs from renewable sources by 2016 we are investigating biofuel generation with the thought of adding this to our current renewables portfolio.

The technology being explored would run on an OFGEM accredited sustainable liquid biofuel source that is safe to use and easy to store and transport.

As well as delivering a sustainable source of energy, the biofuels that BT would consume are a by-product of existing waste produce, which other companies previously disposed of.

### **Incident reporting**

Although best practice is utilised when handling hazardous liquids and gases, there will be cases of accidental spillage, leaks or when foul play is involved. BT is committed to transparency around pollution incident reporting and to investigating any incidents promptly to reduce their severity. We use the lessons learned to prevent recurrence.

BT classifies environmental incidents as:

- Serious – where the spill has entered, or is likely to enter, either the drainage system or topsoil

- Significant – where the spill covers a wide area but is confined to a hard standing area only and there is no evidence of entry into the drainage system or topsoil
- Minor – where a minor spill is contained within a very small area

A specialist contractor cleans up significant and serious incidents. We inform the Environment Agency (the regulator for England and Wales) or the Scottish Environment Protection Agency of all serious incidents.

In 2012 we experienced 30 incidents which were reported within BT. There was 1 classed as serious, 7 as significant and 22 as minor.

## Targets

Start	End	Description	Update	Target Status
April 2011	March 2013	BT will replace existing underground fuel storage tanks, in the UK, through a structured programme.	The programme remains on track and we will provide a progress update in our report next year.	On Target

# Thank you

for reading what we have to say –  
now we want to listen to you.

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Email us at [crrreporting@bt.com](mailto:crrreporting@bt.com) and tell us what  
you think of this review and sustainability at BT.



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