



# The Communications Market in England

## 5 Telecoms and networks

# 5.1 Telecoms and networks

## 5.1.1 Recent developments in England

### National next-generation roll-out, products and services

The past 12 months have seen considerable activity surrounding next-generation networks. BT has made a number of announcements<sup>61</sup> in areas<sup>62</sup> where it plans to roll out super-fast broadband services, either via fibre-to-the-cabinet, or fibre-to-the-premises. It had previously announced that it intends to invest up to £1.5bn in order to deliver super-fast broadband to 10 million lines - about 40% of the BT network - by mid-2012. In May 2010 BT announced an extension to these plans, whereby it intends to roll out super-fast broadband to 66% of its network by 2015, with an additional investment of £1bn.

Across the UK, BT now expects to make fibre-based broadband available to 4 million premises by the end of 2010.<sup>63</sup> It has said that it will focus initially on next-generation investment on densely populated areas, as these are the places where the company believes that the return on its investment will be highest.

In December 2008 cable operator Virgin Media became the first UK network provider to offer speeds of up to 50Mbit/s; this was available across its entire network by July 2009<sup>64</sup>. By the end of the first quarter of 2010 the company reported 57,900 50Mbit/s subscribers, up by 40% compared to the fourth quarter of 2009.<sup>65</sup> At the same time, it announced plans to roll out a 100Mbit/s service by the end of the year, and to continue trialling a 200Mbit/s downstream / 20Mb upstream service.<sup>66</sup> A trial is also under way using telegraph poles<sup>67</sup> to bring 'up to 50Mbit/s' broadband to consumers who live beyond the reach of Virgin's existing fibre optic network.

### Regional networks

NorthernNet<sup>68</sup>, a secure high-speed digital network offering transfer speeds of up to 1GB/s, is now in use for businesses across the North. NorthernNet is funded by a partnership between the North West Development Agency, Yorkshire Forward and One North East. It is supported by Northern Way (a partnership encompassing the NE, NW and Yorkshire & Humber) and is managed and coordinated by NorthernNet from bases in Newcastle and Salford.

The project is part of a £9.1m investment to develop physical premises - and a high-speed telecommunications network - across the North of England via a number of pay-as-you-go media access Bureaux located throughout the region.

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<sup>61</sup> [http://regmedia.co.uk/2010/03/30/bt\\_upgrades.html](http://regmedia.co.uk/2010/03/30/bt_upgrades.html)

<sup>62</sup> [http://www.openreach.co.uk/orpg/products/nga/downloads/FTTC\\_%20pot\\_exchs.pdf](http://www.openreach.co.uk/orpg/products/nga/downloads/FTTC_%20pot_exchs.pdf)

<sup>63</sup> <http://www.btplc.com/News/Articles/ShowArticle.cfm?ArticleID=FD7AF15E-4B97-4DE1-BBA0-996AE0981AF5>

<sup>64</sup> <http://pressoffice.virginmedia.com/phoenix.zhtml?c=205406&p=irol-newsArticle&ID=1307695&highlight=>

<sup>65</sup> <http://investors.virginmedia.com/phoenix.zhtml?c=135485&p=irol-newsArticle&ID=1418904&highlight=>

<sup>66</sup> <http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9NDMwMDN8Q2hpbGRJRDR0tMXxUeXBIPtM=&t=1>

<sup>67</sup> <http://pressoffice.virginmedia.com/phoenix.zhtml?c=205406&p=irol-newsArticle&ID=1401380&highlight=>

<sup>68</sup> <http://www.northernnet.co.uk/>

In May 2010, the creative potential of the network was demonstrated during a '4-Hour Film Challenge'<sup>69</sup> which saw 15 teams, from Newcastle, Liverpool and Leeds, battle it out to make a four-minute film in just four hours. Film makers met at the Tyneside Cinema in Newcastle, the FACT Picturehouse in Liverpool and the Round Foundry Media Centre in Leeds, where they were each given a working title and two professional actors with whom to collaborate. Films were then devised, written, filmed and edited in four hours, before being transmitted to cinemas in each of these three cities, in time for a screening in front of a live audience<sup>70</sup>.

The government's 2009 budget statement included Ministerial approval for 'Digital Region', a £100m project led by Yorkshire Forward that will roll out next-generation broadband to South Yorkshire.<sup>71</sup> Covering the city, towns and villages of Sheffield, Doncaster, Barnsley and Rotherham, the project is anticipated to provide super-fast broadband - including speeds of up to 25Mbit/s – to a population of over 1.3 million people, 546,000 homes and 40,000 businesses.

The project has been driven by a partnership between Yorkshire Forward, Sheffield Council, Barnsley Council, Rotherham Council and Doncaster Council. It also has substantial European funding and support.<sup>72</sup>

### **Community broadband**

In addition to the large national and regional super-fast broadband initiatives rolled out in England over the past year, a number of smaller scale community-led initiatives are also in place, or are being developed.

The Communications Consumer Panel produced an initial report in January 2009<sup>73</sup> looking at many of these different schemes. This report was updated and revised in October 2009.<sup>74</sup> Both papers demonstrated the range of solutions, schemes and aspirations of the various communities that are seeking to unlock the potential of next-generation networks.

While many community schemes stem from the grass-roots, the South West Regional Development Agency successfully secured £700,000 of EC funding<sup>75</sup> to support rural community broadband pilot projects. The fund will not cover projects for the region's towns, or Cornwall and the Isles of Scilly, as these are already attracting other funding; instead, the new initiatives are being supported as part of the European Economic Recovery Plan, and will be delivered by the Rural Development Programme for England.

In the East of England the Regional Development Agency, EEDA, has published its NGA Strategy<sup>76</sup> and is focusing its energies on a new initiative called the Eastern Region Broadband Uplift Scheme (EREBUS)<sup>77</sup>. This seeks to capture demand - and demonstrate the need - for commercial investment in NGA. EEDA is also exploring the possibility of working with a range of public sector funders to reach those rural areas which are unlikely to be reached by commercial providers. This scheme, known as SONGBIRD, (Supporting Open Next Generation Broadband in Rural Districts) will aim to take fibre as deep as

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<sup>69</sup> <http://www.northernnet.co.uk/news/4-hour-film-challenge-11220>

<sup>70</sup> The winning films are hosted on YouTube at: <http://www.youtube.com/user/4hourfilm>

<sup>71</sup> [http://www.hm-treasury.gov.uk/bud\\_bud09\\_press01.htm](http://www.hm-treasury.gov.uk/bud_bud09_press01.htm)

<sup>72</sup> <http://www.digitalregion.co.uk/whatisdr.html>

<sup>73</sup> <http://www.communicationsconsumerpanel.org.uk/Local%20initiatives%20on%20Next%20Generation%20Access%20in%20the%20UK.pdf>

<sup>74</sup> <http://www.communicationsconsumerpanel.org.uk/CCP%20Local%20initiatives%20on%20NGA%20in%20UK%20update%20oct092.pdf>

<sup>75</sup> [http://www.southwestrda.org.uk/news\\_and\\_events/2009/october/improving\\_rural\\_broadband.aspx](http://www.southwestrda.org.uk/news_and_events/2009/october/improving_rural_broadband.aspx)

<sup>76</sup> <http://migration.eeda.org.uk/4607.asp>

<sup>77</sup> <http://www.erebusonline.org.uk/>

possible into the countryside - into areas where the market has no interest in delivering an effective, affordable product.

### City networks

The Manchester Digital Development Agency (MDDA), has awarded a contract to Geo to deliver its next-generation fibre-optic broadband project in the Oxford Road area of Manchester.<sup>78</sup> The initial phase will provide fibre-to-the-premises connectivity to 200 homes and businesses in an area known as 'the Corridor'.<sup>79</sup>

Corridor Manchester is a partnership between Manchester City Council, Manchester Metropolitan University, The University of Manchester and Central Manchester University Hospitals NHS Foundation Trust. It covers an area of 240 hectares stretching from St Peter's Square in the city centre, south along Oxford Road to Whitworth Park.

The NGA project is funded by the North West Regional Development Agency (NWDA), with the aspiration that once the first stage has been finished, the fibre optic network will be expanded via metrolink lines. The network will be open access, allowing any service provider to lease the optical fibre from Geo. It is anticipated that the network will offer users an 'up to 100Mbit/s' service.

### Rutland Telecom

Residents of three villages in Rutland have established a 'micro telco' – Rutland Telecom - after raising £37,000 to provide faster broadband connections in an area which was not part of the next generation plans of existing operators. Launched on 13<sup>th</sup> April, Rutland Telecom claimed that this was the first time many residents could watch streaming HD TV, BBC iPlayer and other digital online services. Previously, broadband connections had been too slow for these services to be a reality for most consumers. 11 local people invested £3,000 each to establish the company and village residents pay £30 a month in order to use the voice and broadband services the company offers.

The system, which has seen villagers transferred from a BT to a Rutland Telecom-owned street cabinet, means their voice and data services are delivered from what is effectively a new village mini-telephone exchange. The launch attracted attention from a range of media outlets including the BBC<sup>80</sup> and the Daily Telegraph<sup>81</sup> as well as specialist press<sup>82</sup> and the company plans to add Sky TV later this year to the portfolio of services they offer their customers.

Rutland Telecom has since announced that it will use the same technology and business model as in Lyddington for the Welsh 'not-spot' area of Erbistock, near Wrexham, to deliver speeds up to 40Mbps for residents and businesses.

<sup>78</sup> <http://www.samknows.com/broadband/news/100mbits-fibre-optic-broadband-in-manchester-super-information-corridor-10306.html>

<sup>79</sup> <http://www.corridormanchester.com/>

<sup>80</sup> <http://news.bbc.co.uk/1/hi/technology/8619114.stm> / <http://news.bbc.co.uk/1/hi/technology/8618507.stm>

<sup>81</sup> <http://www.telegraph.co.uk/technology/broadband/7586651/First-village-to-get-superfast-broadband.html>

<sup>82</sup> <http://www.zdnet.co.uk/news/networking/2010/04/15/rutland-villagers-fund-their-own-high-speed-broadband-40088637/> and <http://www.itpro.co.uk/622354/village-builds-its-own-fibre-network-after-bt-says-no>

## 5.1.2 Availability of telecoms services

### Fixed voice telephony and narrowband internet availability

Fixed voice telephony over the public switched telephony network (PSTN) is available to all of the UK population under the universal service obligation (USO) which is provided by BT and Kingston Communications, the incumbent operator in Kingston upon Hull. Under the USO, BT and Kingston Communications are required to provide a connection to the fixed telephony network upon reasonable request, meaning that all households have access to a fixed line, although where installation will cost over £3,400 the customer is required to pay the excess costs (plus the standard connection charge).

A narrowband internet connection is defined as one which has a connection speed of less than 128kbit/s, which is not 'always on' and which does not allow simultaneous voice calls. The USO also includes the provision of a narrowband connection capable of 'functional internet access', i.e. a connection speed of at least 28.8kbit/s.

As the requirements to connect to the internet using a narrowband connection are a standard fixed telephony line, a suitably equipped PC and a narrowband account with an internet service provider, the availability of narrowband internet access is virtually identical to that of fixed telephony services, and there are no significant issues regarding the availability of narrowband internet services in the UK.

### Broadband internet availability

Narrowband internet connections have largely been superseded by higher-bandwidth broadband connections, and we estimate that at the end of 2009 around 92% of UK residential internet connections were broadband, compared to 42% five years earlier.

In the UK the two main technologies for supplying broadband internet services are: digital subscriber line (DSL) over a standard copper telephone line connected to a DSL or LLU-enabled local exchange, or via cable modem using a cable provider's hybrid fibre-coaxial network. The first UK fibre deployments are currently being rolled out, although these account for only a small proportion of total UK broadband connections, as do those using satellite and fixed wireless technologies which are typically used in remote areas or to fill coverage not-spots (see the explanation on the next page and page 33).

### DSL broadband availability

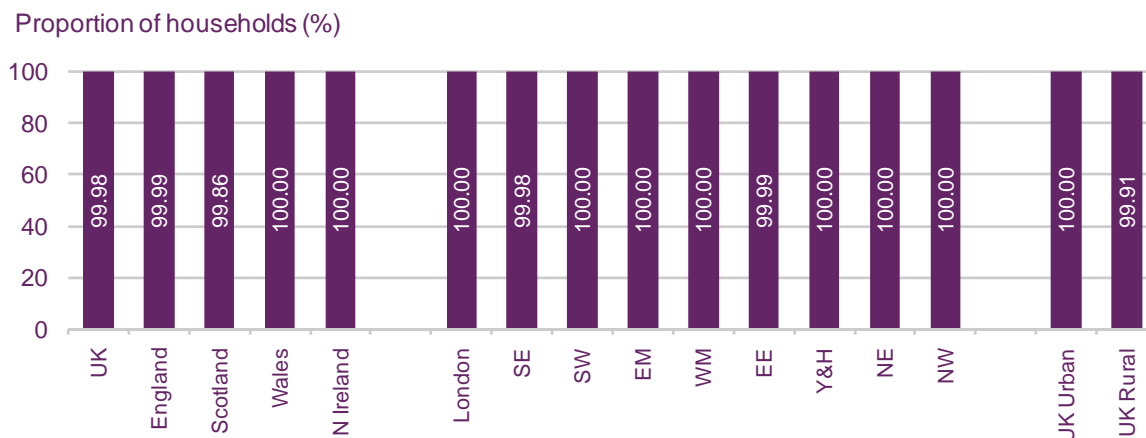
**Over 99.9% of homes in England are connected to a DSL-enabled local exchange but not all of these will be able to receive broadband**

As the UK availability of DSL broadband is higher than that of cable-based services, it provides a good proxy for overall broadband availability. At the end of December 2009 over 99.9% of UK households were connected to a DSL-enabled BT local exchange (Figure 5.1), and only 27 of BT's 5,587 local exchanges were not DSL-enabled (down from 28 at the end of 2008).

In England almost all homes were connected to a DSL-enabled local exchange at the end of 2009, a slightly higher proportion than the UK average of 99.98%. Wales and Northern Ireland were the only nations where all local exchanges were DSL-enabled, and Scotland had the lowest proportion of households that were connected to a DSL-enabled exchange. Among the English regions, the South East and East of England were the only areas where less than 100% of exchanges were DSL-enabled.

However, not every household served by a DSL-enabled exchange is able to receive broadband services, or may only be able to do so at low speeds. This is due to factors such as the distance from the exchange, poor network quality and local technicalities. People living in these areas (known as not-spots) will not be able to benefit fully from the rapidly growing number of online services that require higher connection speeds, such as streaming audio-visual content. Not-spots are considered in more depth on page 33 of this report.

**Figure 5.1 Proportion of households connected to a DSL-enabled BT exchange**



Source: Ofcom / BT, December 2009 data

### LLU broadband availability

Under LLU an alternative provider sites its own equipment in the BT (or Kingston Communications) local exchange. This is then connected to the LLU provider's core network and to the end-user's premises using the local loop, which is leased from either BT or Kingston Communications and is used to provide DSL broadband services (and fixed voice services in the case of full LLU). The three main benefits of LLU are:

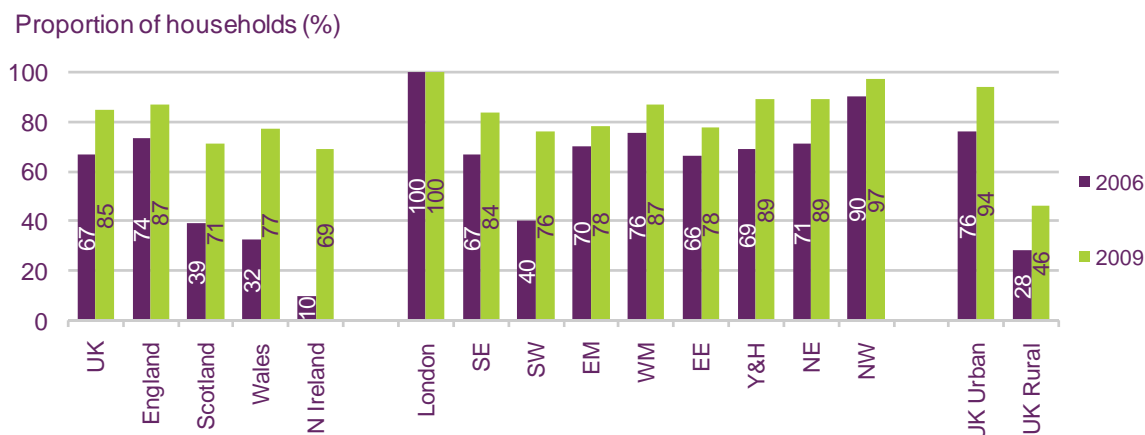
- it allows the LLU provider to take advantage of economies of scale that are not available to it when using wholesale services from BT or Kingston Communications when purchased on a per-unit basis;
- it enables LLU providers to be more innovative with their products and tariffing; and
- it increases the choice of services available to the end-user.

At the end of 2009 LLU-based connections accounted for 35% of all UK non-corporate broadband connections, up from 32% a year previously, and LLU accounted for 90% of net non-corporate broadband additions in 2009.

### 85% of UK homes are connected to an LLU-enabled local exchange

At the end of December 2009 85% of UK households were connected to an LLU-enabled local exchange (Figure 5.2), less than one percentage point higher than the figure at the end of 2008 and up from 67% three years previously. England had the highest proportion (87%) of households connected to an LLU-enabled exchange, of all the UK nations, at the end of December 2009. This represented a 13 percentage point increase since the end of 2006, the lowest growth among the UK nations over the period.

**Figure 5.2 Proportion of households connected to an unbundled exchange, 2006 and 2009**



Source: Ofcom / BT, data as at December of each year

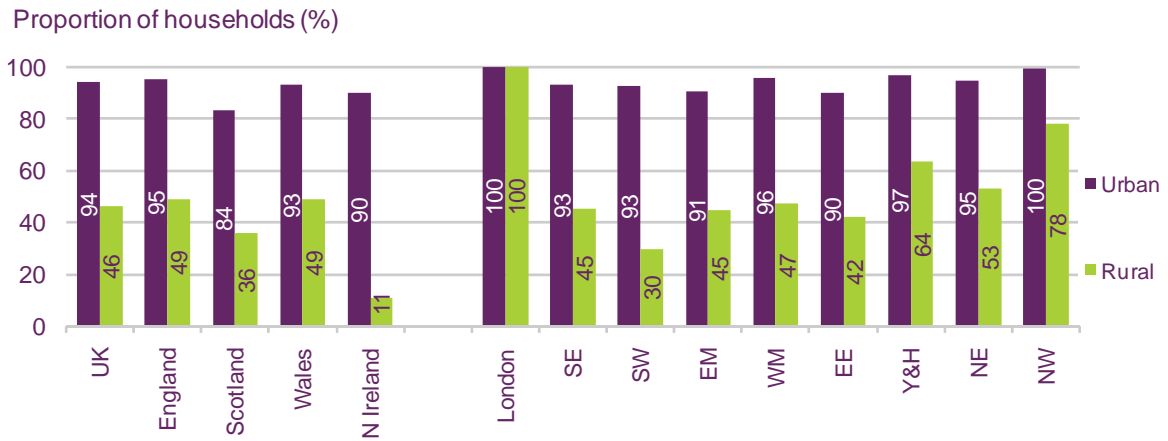
### Urban households more than twice as likely as rural ones to be able to access LLU broadband services

The availability of LLU-based DSL broadband services is higher in urban areas than rural ones. This is for two reasons: firstly, LLU deployment is characterised by high up-front costs and low per-unit costs, so operators have targeted exchanges with a large number of delivery points (which tend to be in urban areas). Secondly, because the maximum distance over which LLU broadband equipment can be backhauled to an operators' core network is approximately 40km (around 25 miles). The effect of this can be seen in Figure 5.3, which shows that at the end of December 2009 homes in urban areas were more than twice as likely as those in rural ones to be able to get LLU-based broadband services, with 94% of urban UK homes being in an unbundled area, compared to 46% in rural areas.

The availability of LLU broadband services is higher in urban than in rural areas in all of the UK's nations and regions with the exception of London. The analysis used in this report designates an exchange area as being urban or rural according to where the exchange is sited, and in some cases this designation will differ from that of the area covered by the exchange. This is why several urban areas of London are classed as being rural in our analysis.

Among the UK nations, the proportion of urban homes connected to an LLU-enabled exchange ranged from 84% in Scotland to 95% in England, while in rural areas the proportion was lowest in Northern Ireland at 11% and highest in England and Wales at 49%. In the English regions urban LLU availability was 100% in London and the North West, as was rural LLU availability in London. Urban LLU availability was lowest in the East of England (90%), and rural availability lowest in the South West (30%).

**Figure 5.3 Proportion of households in urban and rural areas connected to an unbundled exchange**



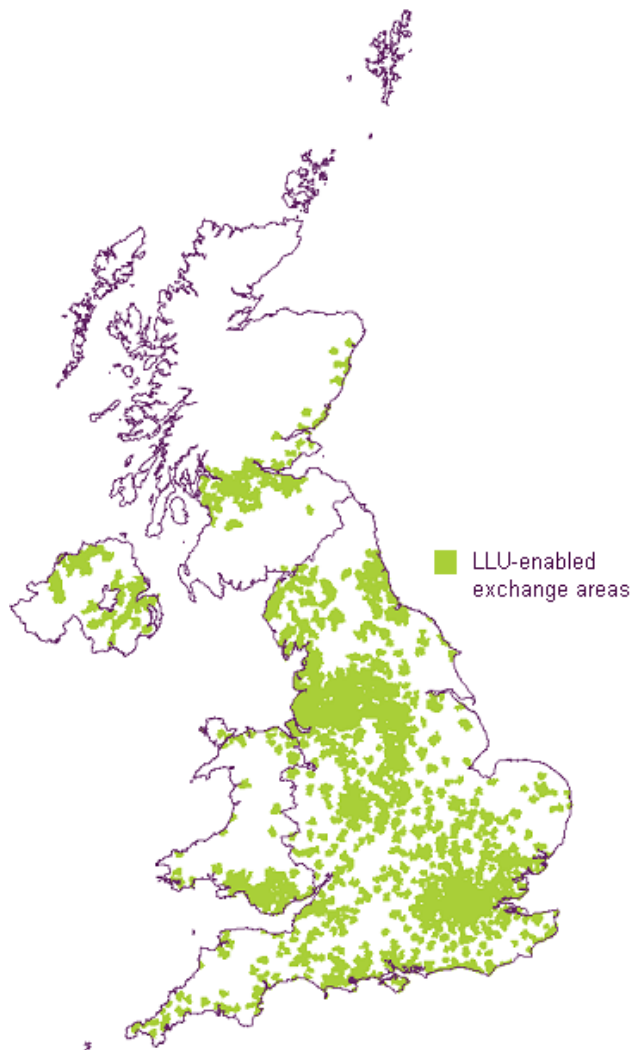
Source: Ofcom / BT, December 2009 data

**Map of LLU DSL availability reflects higher availability in urban areas**

The map in Figure 5.4 shows that the areas served by unbundled local exchanges tend to be in urban locations.



**Figure 5.4** Map showing areas served by unbundled local exchanges



Source: Ofcom / BT, September 2009 data

### **Cable broadband availability**

#### **England had the highest cable broadband availability among the UK nations at the end of 2009**

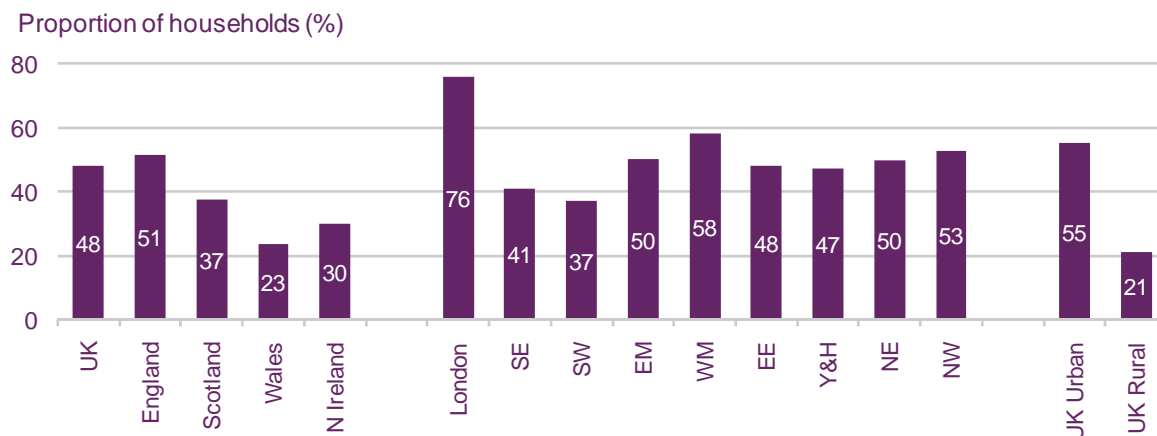
Just under half of all UK households (48%) were passed by Virgin Media's broadband-enabled cable network at the end of December 2009 (Figure 5.5). This figure has remained relatively stable over the past few years, as the high costs related to cable network roll-out have meant that Virgin Media has concentrated its efforts on upgrades to its existing network and increasing take-up in cabled areas. However, it is investing £100m on expanding its network to a further 500,000 homes and has announced<sup>83</sup> that it is to trial delivering broadband services over telegraph poles, having identified more than a million UK homes that could benefit from such deployments.

Among the UK nations, England had the highest proportion of homes passed by Virgin Media's broadband network at the end of 2009, at 51%, while the proportion was lowest in Wales at 23%. A trial of Virgin Media's future network roll-out using telegraph poles is taking

<sup>83</sup> <http://pressoffice.virginmedia.com/phoenix.zhtml?c=205406&p=irol-newsArticle&ID=1401380&highlight=>

place in Woolhampton in Berkshire<sup>84</sup>. Among the English regions the proportion of homes passed by Virgin Media's cable broadband network ranges from 37% in the South West to 76% in London.

**Figure 5.5 Proportion of households passed by Virgin Media broadband**



Source: Ofcom / Virgin Media, December 2009 data

**England has the highest proportion of both urban and rural homes passed by Virgin Media's cable broadband network**

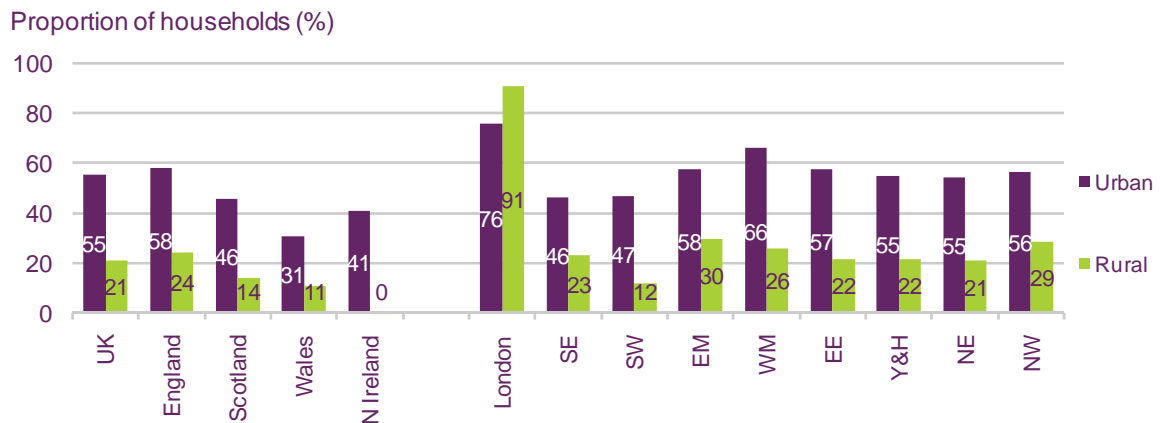
The majority of cable network roll-out in the UK took place in the 1980s and 1990s and was concentrated in urban areas in order to maximise the number of homes and businesses covered, and therefore turnover, for the operator's network spend. This is reflected in Figure 5.6, which shows that while 55% of UK households in urban areas were passed by Virgin Media's broadband network at the end of 2009, it passed only 21% of those in rural areas.

In all of the UK nations and regions except London, broadband availability was higher in urban areas than rural areas (for the data categorisation reasons identified previously).

Among the UK nations, the proportion of urban households passed by Virgin Media's cable broadband network was highest at 58% in England and lowest at 31% in Wales. Similarly, the proportion in rural areas ranges from 24% in England to 0% in Northern Ireland. Among the English regions both urban and rural household cable broadband availability were highest in London at 76% and 91% respectively, while urban availability was lowest in the South East at 46% and rural in the South West at 12%.

<sup>84</sup> <http://pressoffice.virginmedia.com/phoenix.zhtml?c=205406&p=irol-newsArticle&ID=1401380&highlight=>

**Figure 5.6 Proportion of households in urban and rural areas passed by Virgin Media broadband**

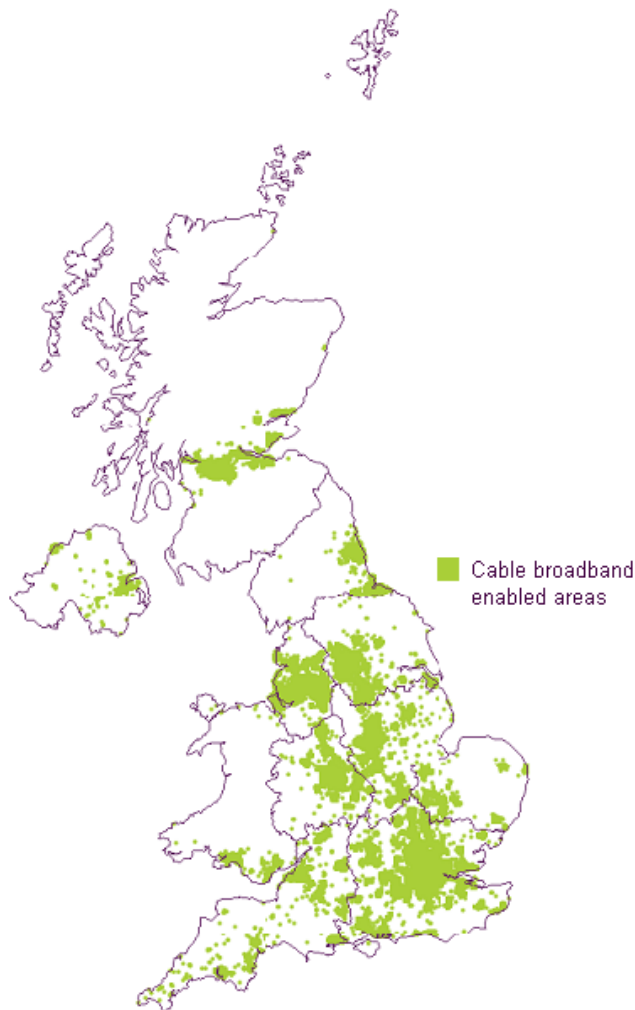


Source: Ofcom / Virgin Media, December 2009 data

**As with LLU DSL, cable broadband availability is concentrated in urban areas**

Similarly, the map in Figure 5.7 below shows that cable availability is concentrated in urban areas.

**Figure 5.7 Map of the availability of Virgin Media cable broadband**



Source: Ofcom / Virgin Media, September 2009 data

## Mobile

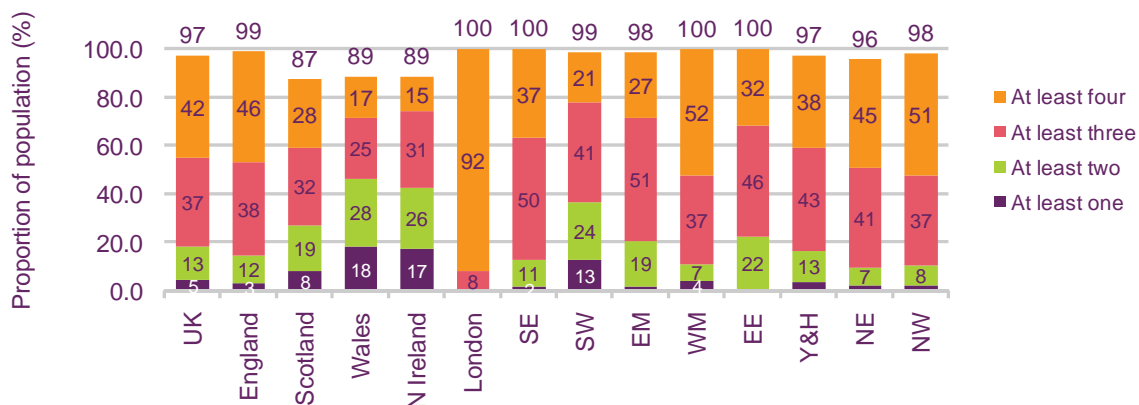
### 2G

As discussed in our coverage of not-spots (page 33) we evaluate the availability of mobile telephony across the UK by examining the number of mobile networks with second-generation (2G) and third-generation (3G) coverage in each postcode district.

Figure 5.8 shows that 99% of the population in England lived in a postcode district with at least 90% 3G area coverage from one or more of the mobile networks in Q2 2010. This is higher than the UK overall (97%), Northern Ireland (89%), Wales (89%) and Scotland (87%).

Within those areas in England that have at least 90% coverage, nearly half (46%) have the choice of at least four operators providing area coverage above the threshold, while only 15% are limited to one or two operators.

**Figure 5.8 2G mobile phone population coverage, by number of operators**



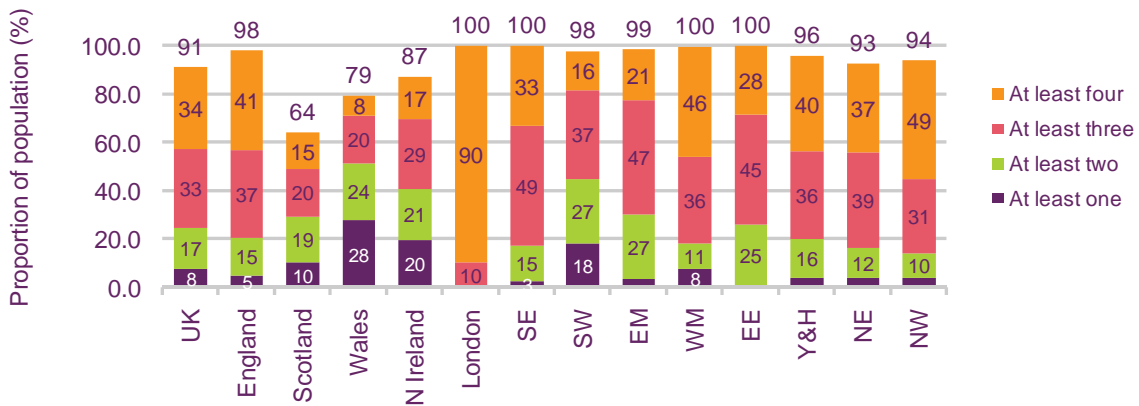
Source: Ofcom/ GSM Association / Europa Technologies; Q2 2010

Note: Figures show the percentage of population within postcode districts where at least one, two, three, four or five operators had at least 90% 2G area coverage; data not directly comparable to those published in the 2009 report.

Figure 5.9 shows the geographic coverage of 2G services (using the same 90% area coverage threshold) with 98% of postcode districts within England covered by one or more mobile networks; one percentage point lower than population coverage. England had the highest geographic coverage among the nations, above Northern Ireland (87%), Wales (79%) and Scotland (64%).

One in five postcode districts with 90% area coverage in England were served by only one or two providers, with 80% receiving 2G area coverage from three or four providers.

**Figure 5.9 2G mobile phone geographic coverage, by number of operators**



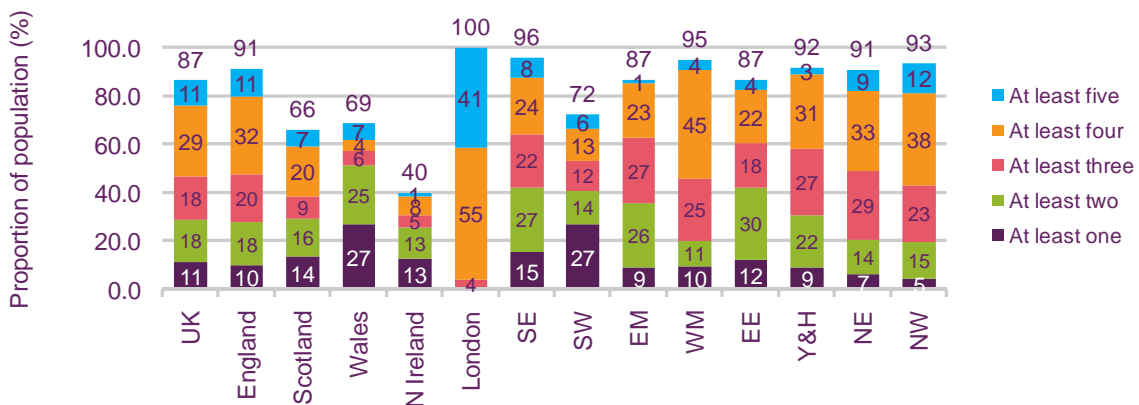
Source: Ofcom/ GSM Association / Europa Technologies; Q2 2010

Note: Figures show the percentage of postcode districts where at least one, two, three, four or five operators had at least 90% 2G area coverage; data not directly comparable to those published in the 2009 report.

### 3G

Figure 5.10 shows that 91% of the population in England lived in a postcode district with at least 90% 3G area coverage from one or more of the mobile networks in Q2 2010; higher than Wales (69%), Scotland (66%) and Northern Ireland (40%). Just under one-third (31%) of those covered in England were limited to one or two providers exceeding the threshold, while the remainder were living in an area where three or more providers offered 90% 3G area coverage.

**Figure 5.10 3G mobile phone population coverage, by number of operators**



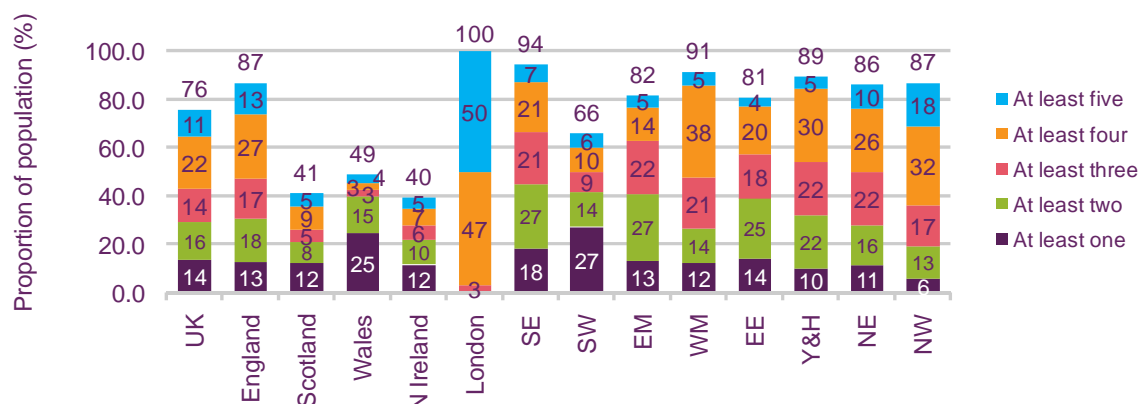
Source: Ofcom/ GSM Association / Europa Technologies; Q2 2010

Note: Figures show the percentage of population within postcode districts where at least one, two, three, four or five operators had at least 90% 3G area coverage; data not directly comparable to those published in the 2009 report.

Figure 5.11 shows the geographic coverage of 3G services by one or more mobile networks above the 90% threshold. Eighty-seven per cent of postcode districts in England had 3G area coverage from one or more mobile networks, higher than the UK overall (76%), Wales (49%), Scotland (41%) and Northern Ireland (40%).

Only 15% of the covered districts in England had 3G coverage at a 90% area threshold from just one 3G network, while just under a half (46%) had coverage from four operators or more.

**Figure 5.11 3G mobile phone geographic coverage, by number of operators**



Source: Ofcom/ GSM Association / Europa Technologies; Q2 2010

Note: Figures show the percentage of postcode districts where at least one, two, three, four or five operators had at least 90% 3G area coverage; data not directly comparable to those published in the 2009 report.

### 5.1.3 Service take-up

Overall, England had some of the highest levels of communications service ownership across the UK. Ninety per cent of people in England used a mobile phone themselves (comparable to Wales and Northern Ireland, but lower than in Scotland). Seventy-five per cent had internet access and 73% had a broadband connection, with 15% using mobile broadband and 66% using fixed broadband (Figure 5.12).

Households in rural areas were more likely than those in urban areas to have a fixed-line telephone (eight percentage points higher than urban areas, at 93%), and to have a higher level of fixed broadband take-up (nine percentage points higher, at 74%). However, adults in urban areas were more likely to have mobile broadband access (16% in urban areas compared to 10% in rural areas); this is more likely to be their only means of accessing the internet, particularly in London.

While some of the differences in take-up may be attributed to availability (for example, mobile broadband availability is higher in urban than in rural areas), the different socio-demographic profiles of urban and rural areas are the major driver of variations in take-up. Households in urban areas are more likely to fall into the DE social group than those in rural areas, are more likely to fall into the lowest income bands, are over-represented among areas of medium and high deprivation and are, on average, younger. Among the regions, the South East had the highest levels of PC, internet and broadband penetration, while the West Midlands showed lower than average service take-up in these areas. Mobile penetration was highest in London, East Midlands and East of England (at 92%), compared to 85% in the West Midlands.

**Figure 5.12 Take-up of communications services, by nation and region, 2009**

		UK	England	Scotland	Wales	N Ireland	Eng urban	Eng rural	London	SE	SW	EM	WM	EE	Y&H	NE	NE
<b>Individual</b>																	
<b>Voice telephony</b>	Fixed Line	85%	86%	79%	79%	81%	85%	93%	84%	92%	90%	85%	83%	92%	84%	82%	82%
	Mobile	89%	90%	85%	89%	88%	90%	91%	92%	90%	89%	92%	85%	92%	91%	87%	88%
<b>Internet</b>	PC	76%	77%	66%	70%	75%	76%	83%	79%	84%	82%	78%	65%	81%	75%	71%	70%
	Total Internet	73%	75%	64%	66%	73%	74%	79%	75%	83%	79%	77%	62%	77%	73%	69%	69%
	Broadband (fixed and mobile)	71%	73%	61%	64%	70%	72%	78%	74%	80%	77%	75%	62%	76%	71%	67%	66%
	Fixed Broadband	65%	66%	54%	57%	62%	65%	74%	63%	74%	72%	69%	58%	72%	64%	63%	60%
	Mobile Broadband	15%	15%	12%	16%	14%	16%	10%	19%	18%	13%	14%	12%	12%	15%	15%	16%

Source: Ofcom research, Q1 2010

Base: All adults aged 15+ (n = 9013 UK, 5709 England, 1468 Scotland, 1075 Wales, 761 Northern Ireland)

**Figure 5.13 Take-up of communications services within region, 2009**

		England	Inner London	Outer London	Metropolitan WM	G'tr Manchester Met	W Yorkshire Met
<b>Individual</b>							
<b>Voice telephony</b>	Fixed Line	86%	79%	87%	76%	83%	80%
	Mobile	90%	94%	91%	87%	90%	87%
<b>Internet</b>	PC	77%	75%	81%	64%	75%	70%
	Total Internet	75%	73%	77%	61%	74%	67%
	Broadband (fixed and mobile)	73%	72%	76%	61%	72%	64%
	Fixed Broadband	66%	51%	70%	54%	65%	57%
	Mobile Broadband	15%	27%	13%	11%	15%	13%

Source: Ofcom research, Q1 2010

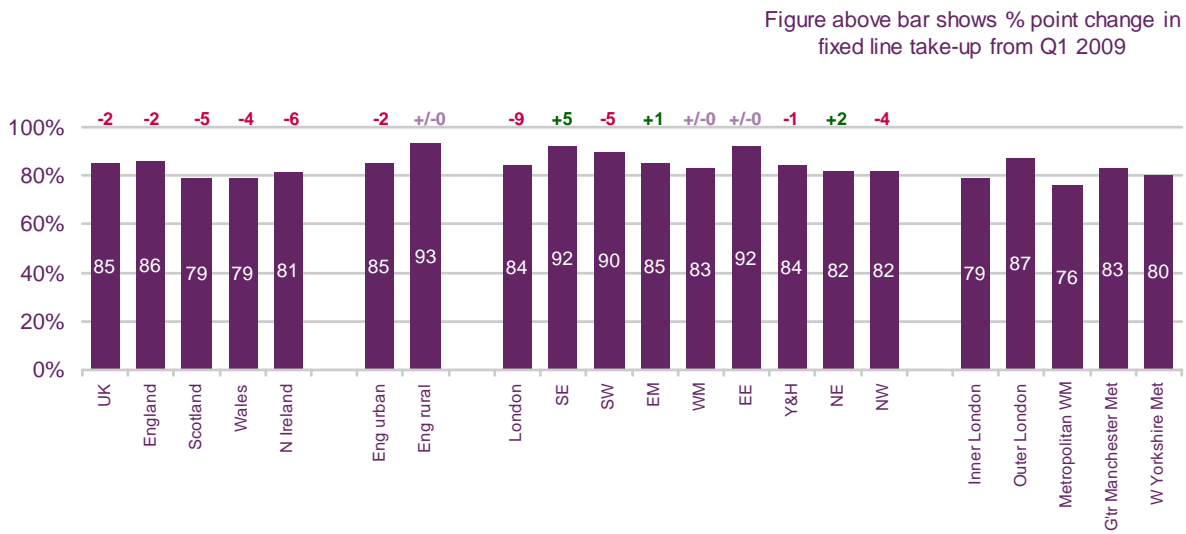
Base: All adults aged 15+ (n = 5709 England)

## Fixed-line

England had the highest level of fixed-line (or landline) ownership (86%) across the nations (see Figure 5.14), with comparable levels of landline ownership across Northern Ireland (81%), Scotland (79%) and Wales (79%). Take-up was higher in rural areas than in urban areas (93% vs 85%).

The highest levels of landline ownership were in the South East (92%), the East of England (92%) and the South West (90%). The lowest reported levels of landline ownership were in the metropolitan West Midlands area (76%) and in inner London (79%). London also had the biggest year-on-year drop in penetration.

**Figure 5.14 Fixed-line take-up**



Source: Ofcom research, Q1 2010

Base: All adults aged 15+ (n = 9013 UK, 5709 England)

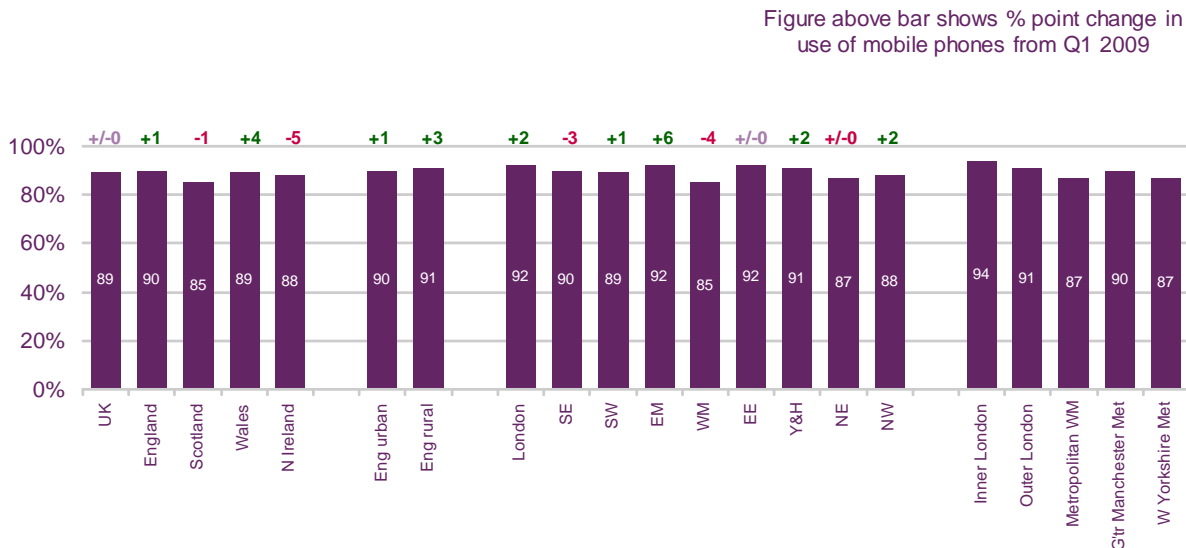
QC1. Is there a landline phone in your home that can be used to make and receive calls?

**Mobile**

**Ninety per cent of households in England now have a mobile phone connection**

Take-up of mobile phones has continued to rise steadily in England and by Q1 2010 90% of households had a mobile phone connection (Figure 5.15). The highest growth in mobile take-up was in the East Midlands (up by six percentage points to 92%).

**Figure 5.15 Mobile take-up**



Source: Ofcom research, Q1 2010

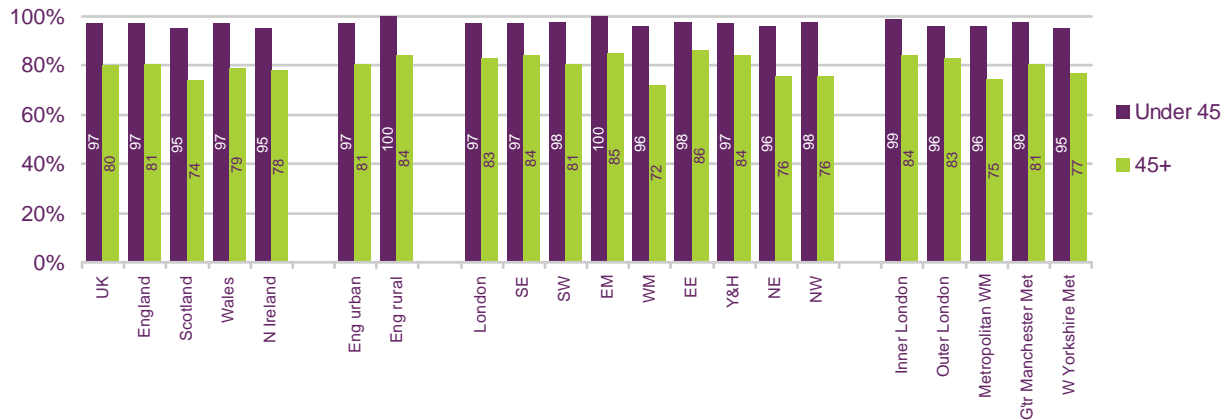
Base: All adults aged 15+ (n = 9013 UK, 5709 England, 1468 Scotland, 1075 Wales, 761 Northern Ireland)

QD2. Do you personally use a mobile phone?



Figure 5.16 shows that lower than average mobile phone take-up in the West Midlands, North East and North West is largely driven by lower take-up levels among older age groups (45+).

**Figure 5.16 Personal use of mobile phones, by age**



Source: Ofcom research, Q1 2010

Base: All adults aged 15+ (n = 9013 UK, 5709 England, 1468 Scotland, 1075 Wales, 761 Northern Ireland)

QD2. Do you personally use a mobile phone?

Although at an overall level there has been limited change in the proportion of adults in England relying solely on a mobile phone at home (13%), we can observe some changes at a regional level. In particular, there has been an increase of ten percentage points in the proportion of mobile-only users in London (see Figure 5.17).

Adults living in urban areas of England continue to be more likely to rely solely on a mobile phone for all their telephony (14%) than those in rural areas (7%). Metropolitan West Midlands, inner London and the West Yorkshire metropolitan areas have the highest levels of sole reliance on mobile phones (23%, 21% and 20% respectively).

**Figure 5.17 Cross-ownership of household telephony services**



Source: Ofcom research, Q1 2010

Base: All adults aged 15+ (n = 9013 UK, 5709 England, 1468 Scotland, 1075 Wales, 761 Northern Ireland)

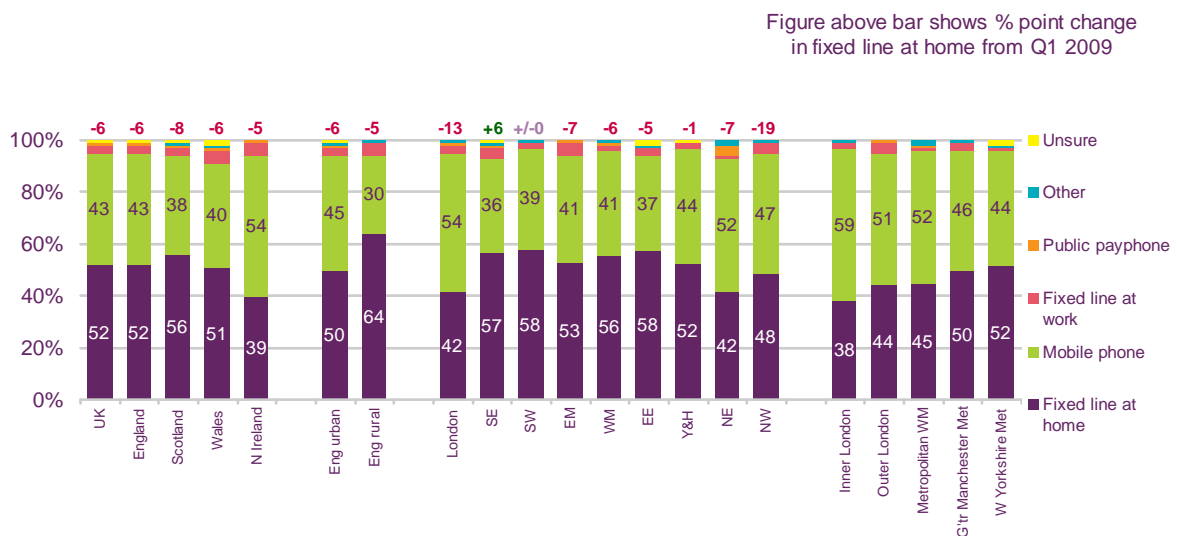
Q. Is there a landline in your home? How many mobile phones in total do members of your household use?

## Main method of making calls

Figure 5.18 shows that the majority of adults in England (52%), and in the UK as a whole, continue to use their fixed-line home phone as their main method of making and receiving calls. However, compared to last year, there was a six percentage point decrease in the proportion of adults in England who said that their main method of making calls was a fixed-line phone.

Consumers in urban areas were more likely to use their mobile as their main method of telephony than those in rural areas (45% vs. 30% respectively). In London and the metropolitan West Midlands, mobiles have overtaken landlines, with 54% and 52% respectively saying that their mobile phone is their main method of making and receiving calls. This rises to 59% in inner London.

**Figure 5.18 Main method of making and receiving calls**



Source: Ofcom research, Q1 2010

Base: All adults aged 15+ (n = 9013 UK, 5709 England, 1468 Scotland, 1075 Wales, 761 Northern Ireland)

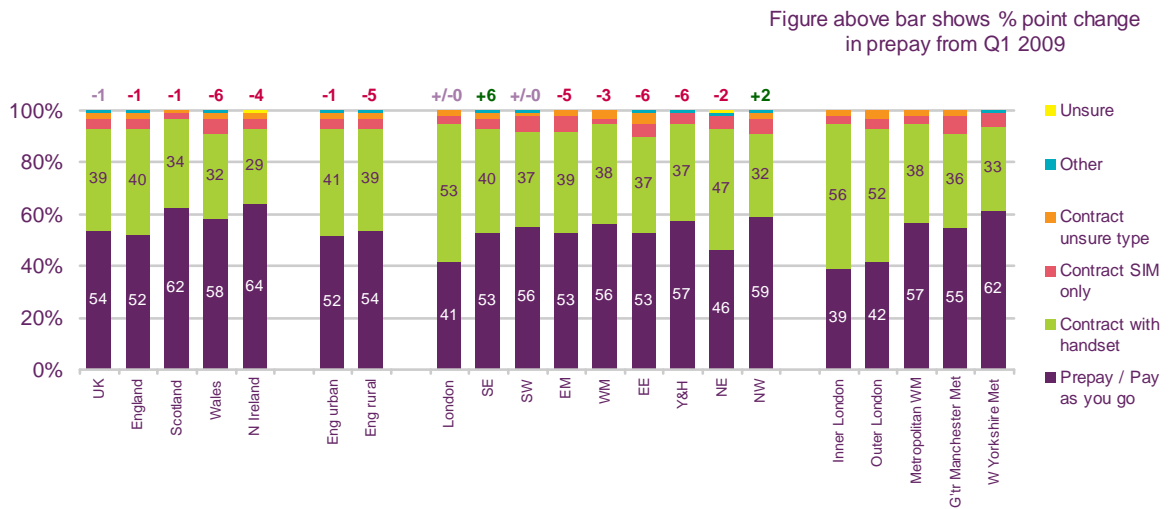
QC28. Which of these do you consider to be your main method of making and receiving voice calls?

## Type of mobile subscription

Take-up of pre-pay mobile phones appears to have stabilised, with 52% of adults in England having a pre-pay mobile phone and 40% having a contract phone. The North West has the highest proportion of pre-pay phones (59%) and London the lowest (41%) (Figure 5.19).

The level of SIM-only mobile contracts has remained unchanged since Q1 2009, at 4%. SIM-only is a relatively recent introduction to the mobile market, in which users enter into short/rolling contracts; they purchase a SIM card only for a particular network and do not get a subsidised handset.

**Figure 5.19 Type of mobile subscription**



Source: Ofcom research, Q1 2010

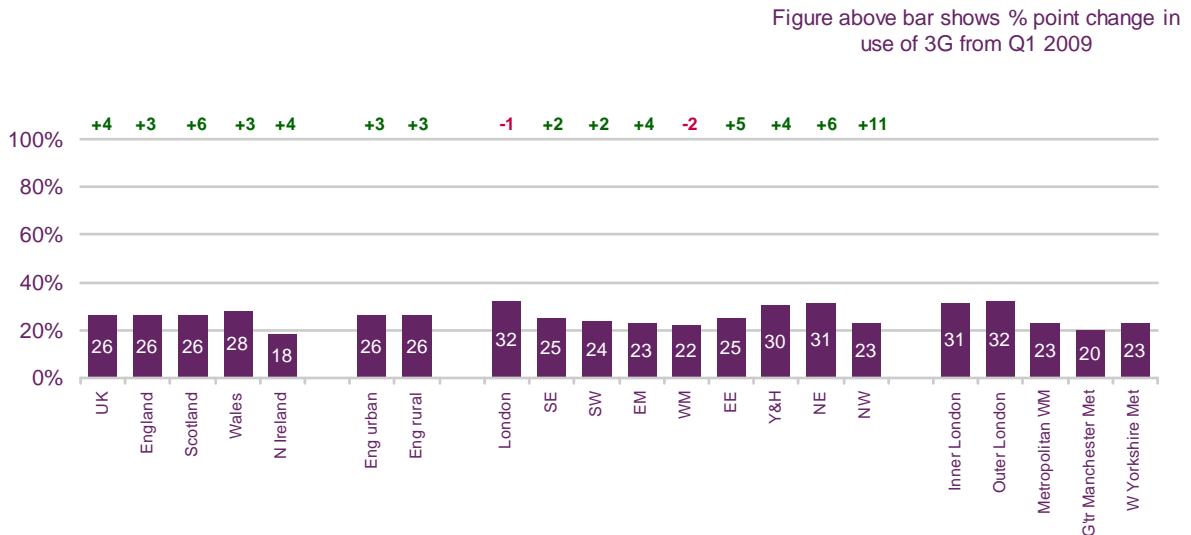
Base: All adults aged 15+ (n = 7826 UK, 5008 England, 1237 Scotland, 923 Wales, 658 Northern Ireland)

QD11. Which of these best describes the mobile package you personally use most often?

**3G take-up**

Claimed 3G ownership in England increased by three percentage points between Q1 2009 and Q1 2010 to reach 26%. with the highest levels of take-up in London (see Figure 5.20), where a third of adults use a 3G handset themselves. However, these numbers should be treated with some caution as it is unclear whether consumers are accurately reporting their type of handset.

**Figure 5.20 Take-up of 3G services**



Source: Ofcom research, Q1 2010

Base: All adults aged 15+ (n = 9013 UK, 5709 England, 1468 Scotland, 1075 Wales, 761 Northern Ireland)

QD24B: Do you personally use a 3G mobile handset – third generation mobile phones allow you to send and receive data at high speeds, allowing you to carry out activities such as making and receiving video calls – this might be for business or personal use?

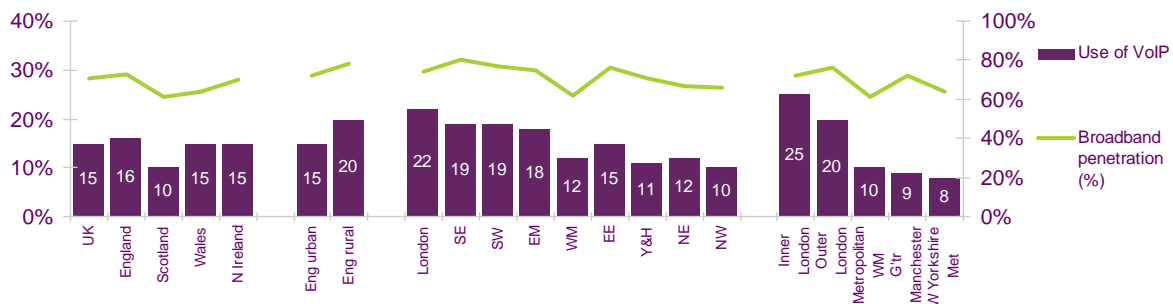
## Use of the internet to make phone calls (VoIP) higher in rural areas than in urban areas

Voice over Internet Protocol (VoIP) technology allows users to make cheap (or free) voice calls over fixed or mobile telephony networks. VoIP-only providers (e.g. Skype) and telecoms network operators (e.g. BT and Orange) provide services that make use of VoIP technology.

Figure 5.21 shows that one in six (16%) adults in England said that someone in their household had made voice calls over the internet (VoIP). Use of VoIP was at similar levels in Wales and Northern Ireland but lower in Scotland, while within England VoIP use was highest in London (22%) and lowest in the North West (10%).

Areas with higher broadband ownership tend to be those most likely to use VoIP services; this trend can be seen in rural England, with an increase in VoIP use since Q1 2009; this is likely to be driven by higher levels of broadband access.

**Figure 5.21 Proportion of adults living in a household that has used VoIP**



Source: Ofcom research, Q1 2010

Base: All adults aged 15+ (n = 9013 UK, 5709 England, 1468 Scotland, 1075 Wales, 761 Northern Ireland)

QE29. Before now, were you aware that you could make voice calls using the internet?

QE30. Have you or anyone in your household ever used one of these services to make voice calls using the internet?

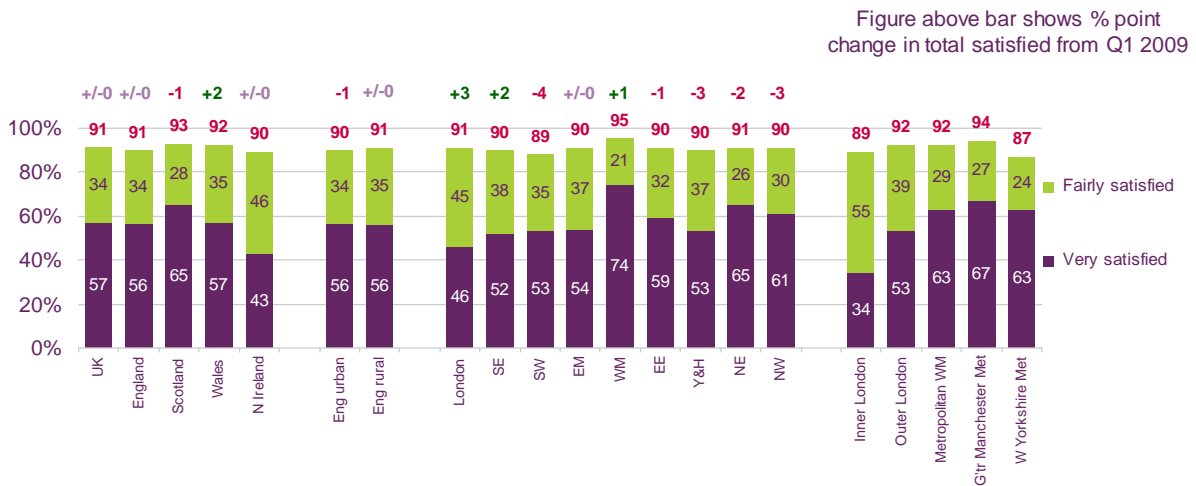
## 5.1.4 Satisfaction with telecoms services

### Fixed-line

Overall satisfaction with fixed-line services stood at 91% in England, broadly similar to the other nations and unchanged from last year (Figure 5.22).

Levels of satisfaction varied little across the regions, although the West Midlands had higher overall satisfaction (95%) and a relatively high proportion of adults who were 'very' satisfied rather than 'fairly' satisfied (74% vs 56% on average).

**Figure 5.22 Overall satisfaction with fixed-line services**



Source: Ofcom research, Q1 2010

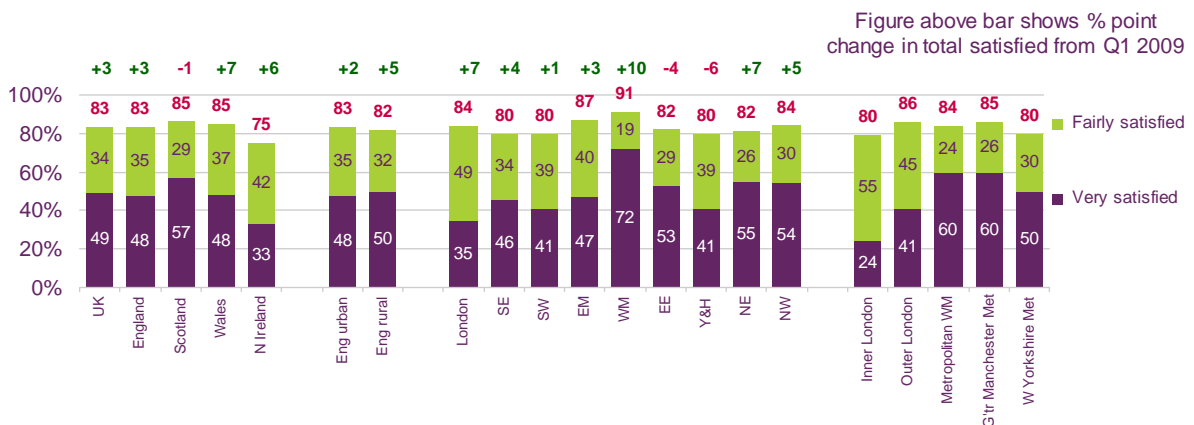
Base: Adults aged 15+ with a landline phone at home (n = 7494 UK, 4851 England, 1141 Scotland, 874 Wales, 628 Northern Ireland)

QC13a. Thinking about your home phone service only, how satisfied are you with (main supplier) for the overall service provided by (main supplier)?

Eighty-three per cent of fixed-line customers in England were satisfied with the value for money of their service (see Figure 5.23). The West Midlands had higher overall satisfaction than other regions (91%) and had seen the highest year-on-year increase, with a rise of ten percentage points.

Adults in London were the least likely to say that they were 'very' satisfied (35%) with value for money; this was lowest in inner London (24%) where people were also most likely to be reliant on their mobiles as their main way of making and receiving calls.

**Figure 5.23 Satisfaction with value for money of fixed-line services**



Source: Ofcom research, Q1 2009

Base: Adults aged 15+ with a landline phone at home (n = 7494 UK, 4851 England, 1141 Scotland, 874 Wales, 628 Northern Ireland)

QC13b. Thinking about your home phone service only, how satisfied are you with (main supplier) for the overall value for money from your service?

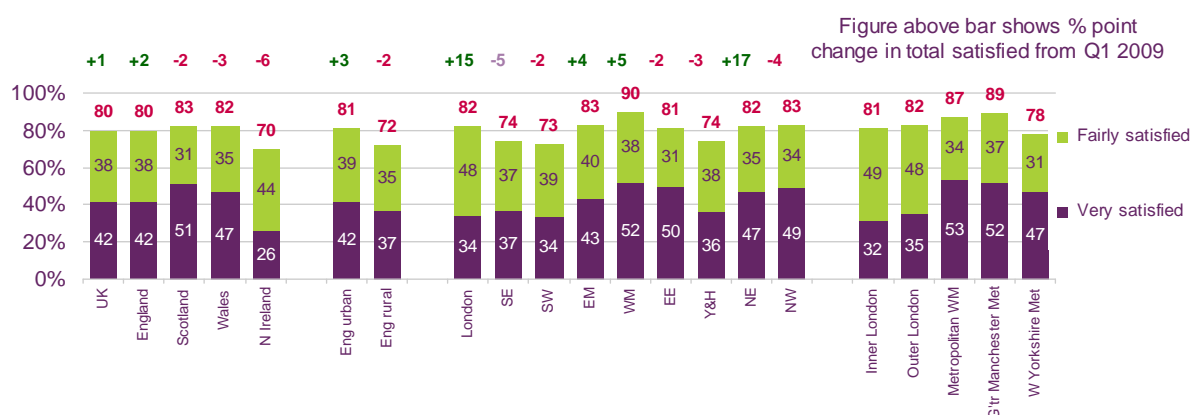
## Fixed broadband

Overall satisfaction with broadband services among broadband users in England has risen by four percentage points to 90%, almost in line with satisfaction levels in Scotland (92%) and Wales (91%).

Levels of satisfaction with speed of connection in England (80%) are comparable with those in Scotland and Wales (83% and 82% respectively), while Northern Ireland is lower (70%). Fixed broadband customers in rural areas continued to be less satisfied with their speeds (72%) than those in urban areas (81%).

Figure 5.24 shows the West Midlands had the highest level of satisfaction with speed of connection (90%), while the biggest increases in satisfaction with speed of connection were in the North East (an increase of 17 percentage points) and in London (increasing by 15 percentage points); both are now close to the average for England, at 82%.

**Figure 5.24 Satisfaction with speed of broadband connection**



Source: Ofcom research, Q1 2010

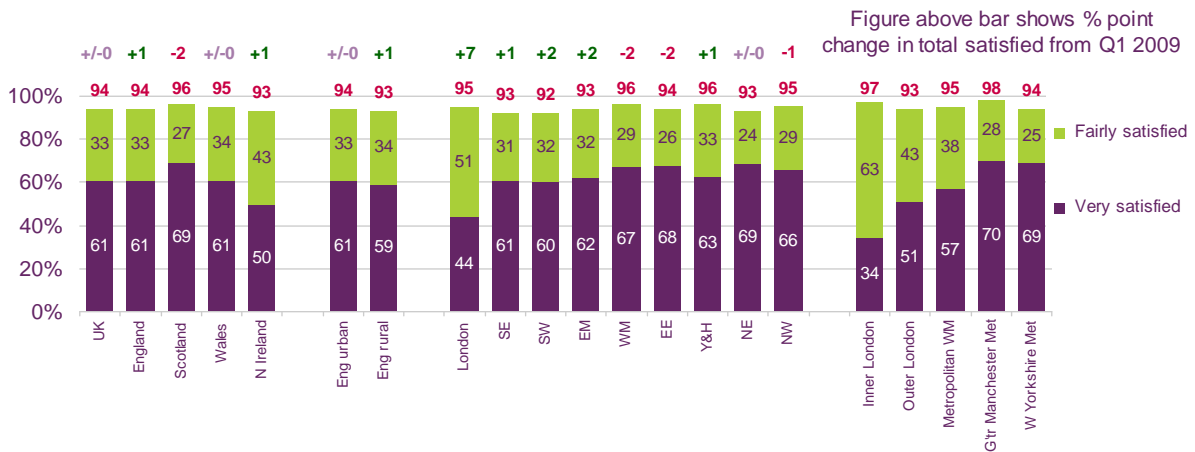
Base: Adults aged 15+ with a fixed broadband connection at home (n= 5410 UK, 3559 England, 778 Scotland, 604 Wales, 469 Northern Ireland)

QE8b. Thinking about your fixed broadband internet service, how satisfied are you with (main supplier) for the speed of your service while online (not just the connection)?

## Mobile

Overall satisfaction with mobile services stood at 94% in England and was comparable with Scotland (96%), Wales (96%) and Northern Ireland (93%). There was little variation by region in Q1 2010; satisfaction levels in London rose by seven percentage points to 95% during 2009, bringing it into line with the average (see Figure 5.25).

**Figure 5.25 Overall satisfaction with mobile services**



Source: Ofcom research, Q1 2010

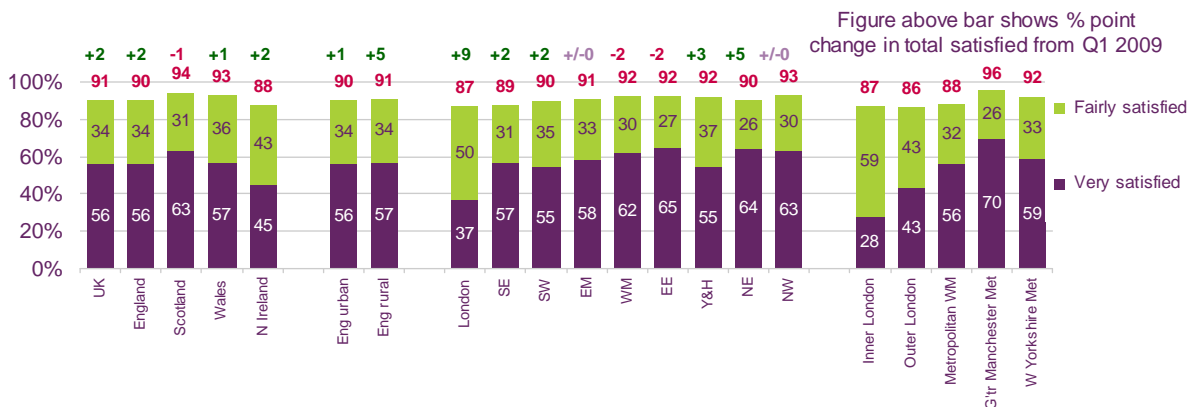
Base: Adults aged 15+ who personally use a mobile phone (n = 7826 UK, 5008 England, 1237 Scotland, 923 Wales, 658 Northern Ireland)

QD21b. Thinking about your mobile phone service only, how satisfied are you with (main supplier) for the overall value for money from your service?

Satisfaction with value for money of mobile services in England has increased by two percentage points to 90% (see Figure 5.26), but it remains lower than in Scotland and Wales. The level of variation by region has reduced over 2009, with all regions reporting levels of 87% satisfaction or above.

Mobile users in London saw the biggest increase in reported satisfaction levels, with an increase of nine percentage points between Q1 2009 and Q1 2010. However, the proportion of users who were 'very' satisfied remained relatively low in London, particularly in inner London, where reliance on mobile phones is at its highest level.

**Figure 5.26 Satisfaction with value for money of mobile services**



Source: Ofcom research, Q1 2010

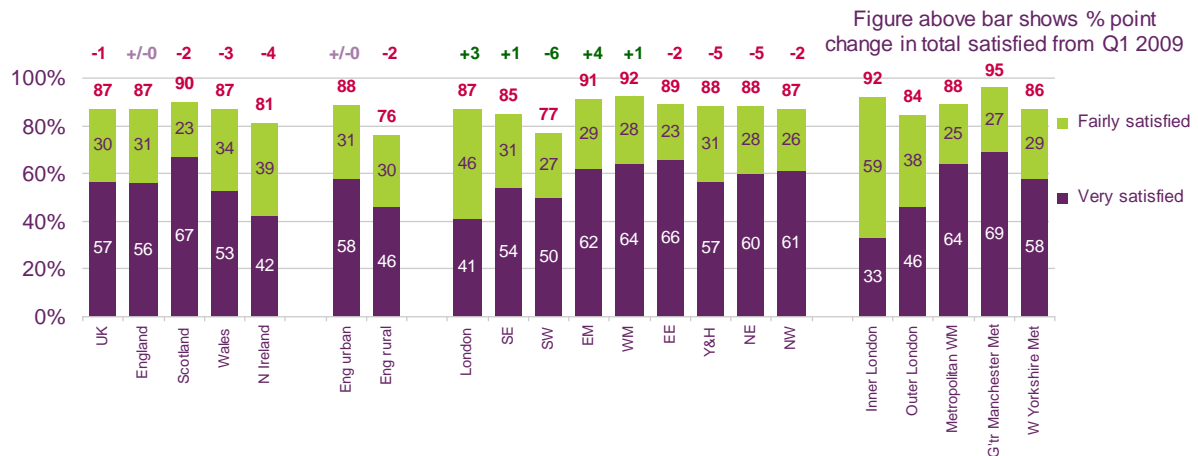
Base: Adults aged 15+ who personally use a mobile phone (n = 7826 UK, 5008 England, 1237 Scotland, 923 Wales, 658 Northern Ireland)

QD21b. Thinking about your mobile phone service only, how satisfied are you with (main supplier) for the overall value for money from your service?

Figure 5.27 shows that satisfaction with mobile reception in England stood at 87% in Q1 2010, unchanged from 2009. This is comparable to the level of satisfaction in Wales (87%) but lower than in Scotland (90%).

As in previous years, lower satisfaction with mobile reception was reported in rural parts of the UK (76% vs 88% for urban areas); despite this, there was no difference in overall satisfaction levels between urban and rural areas (94% and 93% respectively).

**Figure 5.27 Satisfaction with reception of mobile services**



Source: Ofcom research, Q1 2010

Base: Adults aged 15+ who personally use a mobile phone (n = 7826 UK, 5008 England, 1237 Scotland, 923 Wales, 658 Northern Ireland)

QD21c. Thinking about your mobile phone service only, how satisfied are you with (main supplier) for reception/ accessing network?

## Switching

As shown in Figure 5.28, the proportion of fixed-line users who have switched provider is higher in England (42%) than the UK average (41%) and any other nation in the UK.

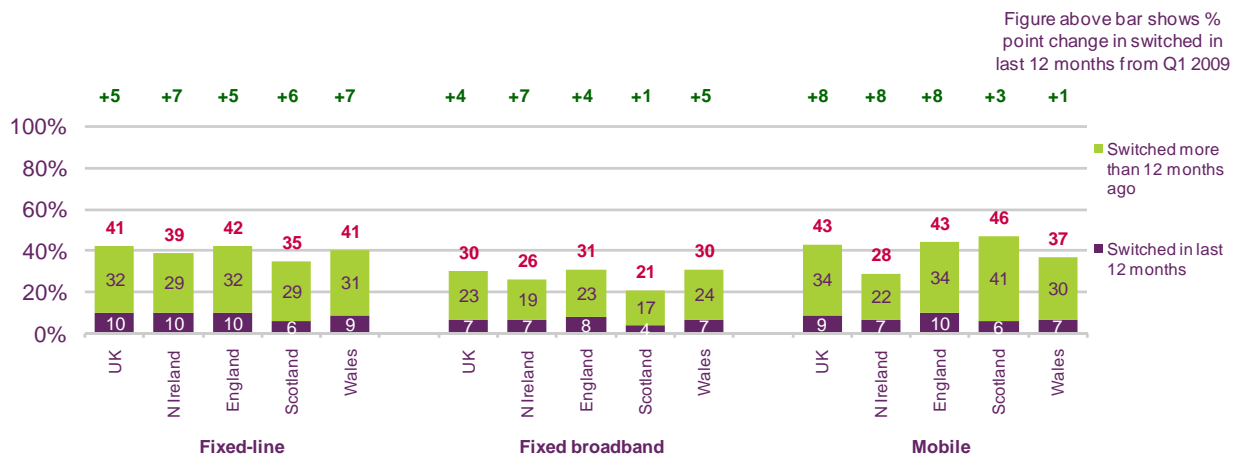
Among those who have switched their landline service within the last 12 months, people in England (10%) are as likely as those in Northern Ireland (10%) to have switched, and more likely than people in Wales (9%) or Scotland (6%).

Fixed broadband switching is higher in England (31%) than elsewhere in the UK, both as a whole (31%) and among people who have switched in the past 12 months (8%). In Scotland, the comparative figure is 21%.

However, when looking at switching levels for mobile phones, people in Scotland (46%) are more likely than people in England (43%) to have switched provider overall – although people in England have switched more in the past 12 months.



**Figure 5.28 Fixed line, fixed broadband and mobile supplier switching**



QC14a. Apart from when you moved house, have you or your household ever changed the company that provides any of your home landline phone, broadband and mobile services?

Source: Ofcom research, Q1 2010

Base: Adults aged 15+ with a landline phone at home (n = 7494 UK, 628 Northern Ireland, 4851 England, 1141 Scotland, 874 Wales, 402 Northern Ireland urban, 226 Northern Ireland rural, 291 Belfast metropolitan area, 337 rest of NI). Adults aged 15+ with a fixed broadband connection at home (n= 5410 UK, 469 Northern Ireland, 3559 England, 778 Scotland, 604 Wales, 297 Northern Ireland urban, 173 Northern Ireland rural, 230 Belfast metropolitan area, 239 rest of NI). Base: Adults aged 15+ who personally use a mobile phone (n = 7826 UK, 658 Northern Ireland, 5008 England, 1237 Scotland, 923 Wales, 428 Northern Ireland urban, 230 Northern Ireland rural, 298 Belfast metropolitan area, 360 rest of NI)

Note: Figures above chart columns indicate the proportion of people with a personal mobile phone who have ever switched supplier.