

The value of telecoms services: UK



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Foreword

In a year of soaring inflation, global conflict, and political instability, almost everyone will have seen prices increase. While all sectors of the economy have been asked to consider their role in limiting the impact, the pricing mechanism of telecoms operators in particular has come under the spotlight.

In this report we consider the relative value for money UK consumers continue to receive from fixed and mobile services given the increased usage and the investment in networks their providers have been making. We find this to be in stark contrast to other regulated industries (such as energy and water), where bills continue to rise but where there has been no increase in the quality of the service provided.

This continued investment by telecoms operators, which has given way to faster services and increased use, must be considered as part of a wider value equation, and in the context of meeting the UK's connectivity ambitions.

We will soon present how UK consumers fare against their peers in Europe (France, Germany, Italy, Spain) and also in Japan and the US.

About this study

Following an independent analysis in 2022 of the value of telecoms services in the UK, we have repeated the previous Virgin Media O2 commissioned study on behalf of the wider industry (BT/EE, Virgin Media O2, Vodafone) using the latest data. As before, we have looked to compare pricing and usage in the UK, plus an overview of additional measures (including social tariffs) operators have put in place to support financially vulnerable customers.

About Assembly

Assembly provides independent custom and subscription-based information, analysis and opinion on regulatory, policy and legislative developments that affect communications markets and the wider digital economy.

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Key messages

1. **Even as inflationary pressures begin to ease, consumers continue to face financial challenges.** While inflation is falling, access to affordable and high quality fixed and mobile services remains crucial for households and businesses across the UK. Given the importance of connectivity to the economy and to society more broadly, we consider developments in the price and value of telecoms services over the past five years, and highlight the efforts of operators to support customers being squeezed by the cost of living crisis.
2. **Competition and investment in the UK's telecoms sector continue to deliver positive outcomes for consumers.** Operator capex is rising and has reached £7.2bn per year, with the majority going into the rollout of gigabit-capable broadband. Persistent industry investment is driving network performance upwards, with both fixed and mobile download speeds having more than doubled since 2017 and 2019, respectively. Meanwhile, average monthly mobile data usage has more than trebled in the last five years to 7GB, while fixed data consumption per capita has increased three-fold, from 74GB to over 220GB.
3. **UK operators are providing clear value for money for their customers.** The average monthly price of a typical basket of telecoms services has fallen by over a fifth since 2017. When broadband prices are considered relative to usage per capita, the UK consistently paints an improving picture over time. Similarly, the cost of 1GB of data has decreased significantly as consumers use mobile services more intensively. Over time, consumers are therefore paying less relative to the data they use, while benefiting from improved network quality and coverage.

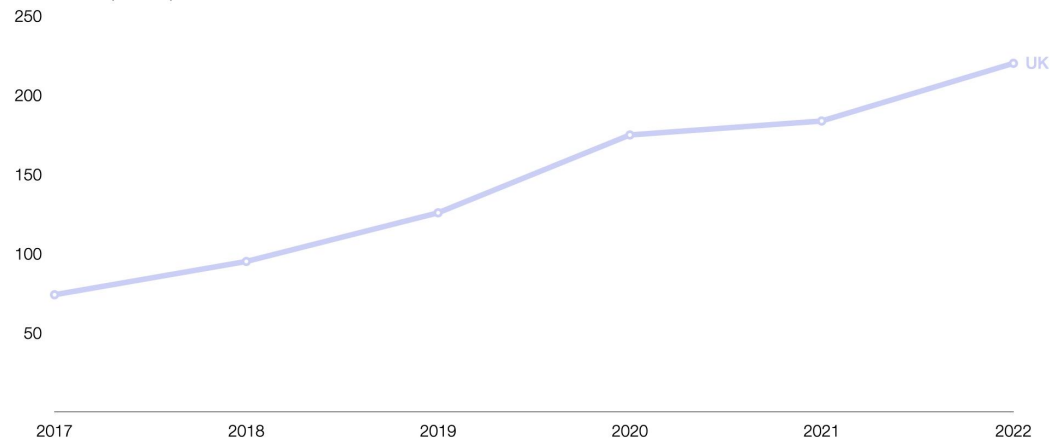
4. **Telecoms services make up a small and declining share of household outgoings, representing just 3.5% of average monthly spend.** Even when taking into account recent price rises, telecoms represented only 0.09 percentage points of the overall change in the annual rate of inflation. Water companies are planning to pass on an average 34p per day price rise to consumers to pay for maintenance. Comparatively, telecoms customers have not seen an average daily price rise of more than 13p despite the rising levels of network investment by operators.
5. **Operators have offered support to the tune of £290m to those in financial difficulty.** Contributions of over £290m were made by operators to support for consumers and businesses during the height of the cost of living crisis. This support included excluding certain groups from price rises, free speed upgrades, increased contributions to the National Databank, smartphone donation and redistribution initiatives, and zero-rating of content. Over 30% (£90m) of support has sought to tackle digital exclusion through digital literacy programmes and charity partnerships. Long-running rewards schemes provide extra value for consumers at no additional cost.
6. **Operators are subsidising the provision of social tariffs by an estimated £62m a year.** Ensuring access to affordable connectivity has remained a key priority. We've identified over 30 social tariffs now available, which typically cost between £12-£20 per month and cover both fixed and mobile broadband. Compared to the current average prices of equivalent telecom services, social tariffs can offer eligible households savings of around £160 per year. With these plans offered voluntarily by industry, we estimate that operators are subsidising the provision of social tariffs by £62m a year, based on current levels of adoption.

The price and demand for connectivity over time

Continued investment underpins rising data consumption and network performance

Operators across Europe are upgrading networks (in terms of both speeds and reliability) to meet growing consumer demands for fixed and mobile data. Average actual fixed broadband download speeds in the UK have more than doubled since 2017 to 103Mbps,¹ while mobile download speeds have also doubled, from 22Mbps in 2019 to 44Mbps today.² In parallel, take-up of higher quality connectivity is also driving data consumption as consumers spend more time online and increasingly adopt bandwidth-hungry services such as video and gaming. In the UK, average monthly data usage has risen to 7GB, an increase of 40% in the last year, and more than trebling in the last five years.³ The country also remains a world leader in terms of fixed data consumption per capita, with monthly usage increasing three-fold between 2017 and 2022 (see *Figure 1*).⁴

Figure 1
Fixed data usage
GB/month per capita



Source: Assembly, Ofcom

Regulation governing the telecoms sector in Europe continues to promote competition, with the result that consumers experience some of the lowest

¹ Communications Market Report 2023: Interactive data, Ofcom, 2023

² Speedtest Intelligence, Ookla, 2023

³ Communications Market Report 2023: Interactive data, Ofcom, 2023

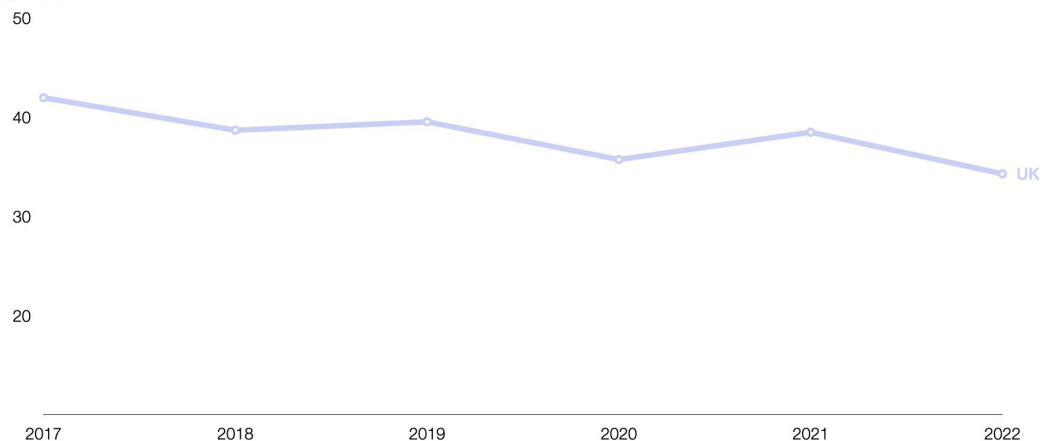
⁴ The International Broadband Scorecard 2018-2022, Ofcom, 2018-2022

retail prices in the world. At the same time, operators remain staunchly pro-investment, dedicating significant capex to upgrading and/or deploying new infrastructure. In the UK, annual telecoms network investment is rising and has now reached £7.2bn, equivalent to an 11% real-terms increase year-on-year.⁵ Currently, the majority (£4.6bn) goes into fixed networks (largely fibre), with £2bn spent on mobile networks and the remaining £0.6bn used for other infrastructure needed for the provision of these services. As a result, consumers are benefiting from faster, higher quality telecoms services, in more places, which they are using more intensively.

The average price for the most common fixed broadband speed tier in the UK has fallen by nearly a fifth

Across multiple different speed tiers, when adjusted for inflation, UK consumers have seen fixed broadband prices fall over the last five years.⁶ 30-100Mbps is currently the most popular range in the country, representing almost six out of every 10 residential connections. For broadband tariffs in this range, the average monthly price has fallen by more than 18% since 2017 (see *Figure 2*).

Figure 2
Average price of a 30-100Mbps fixed broadband service
£/month



Source: Assembly, Ofcom

Mobile broadband prices have decreased as service quality and coverage have witnessed marked improvements

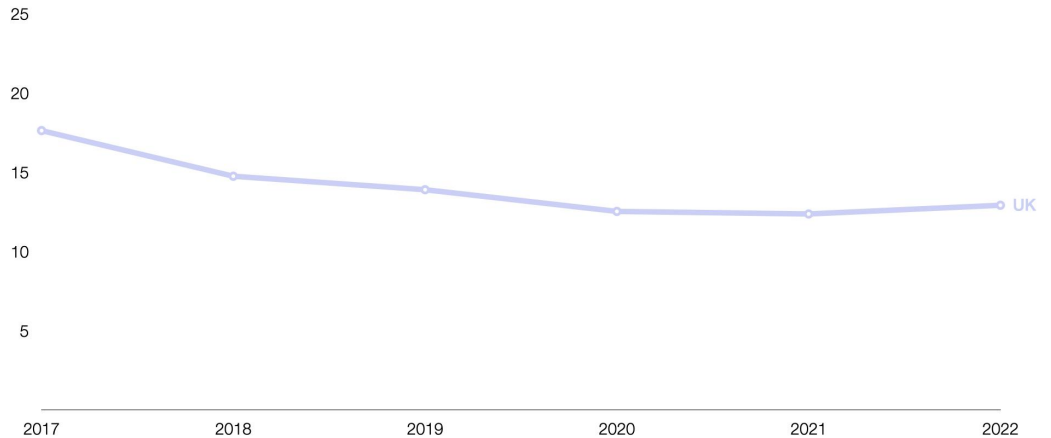
As mobile data usage has surged, reflected in the greater adoption of larger data allowances, prices for more expansive plans (e.g. 10GB+ per month) have seen a significant decline recently.⁷ There has been a considerable fall too in respect of tariffs in the 1GB-10GB range, which most closely represents data consumption of the average mobile user in the UK. Despite a marginal uplift since 2021, average prices have fallen almost 27% over the last five years (see *Figure 3*), while mobile broadband coverage and throughput have also both improved.

⁵ Connected Nations 2022, Ofcom, 2022

⁶ Communications Market Report 2023: Interactive data, Ofcom, 2023

⁷ Communications Market Report 2023: Interactive data, Ofcom, 2023

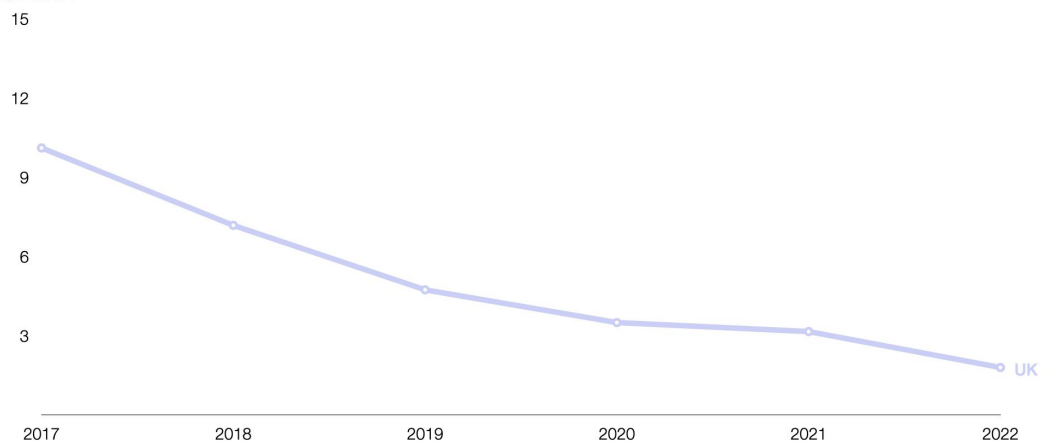
Figure 3
Average price of a SIM-only tariff with 1GB-10GB of mobile data
£/month



Source: Assembly, Ofcom

The UK again exhibits a positive trend when average real-terms prices of mobile services are considered in the context of rising data usage (see *Figure 4*). In each year since 2017, consumers have been paying less for 1GB of mobile data, the average monthly price of which has fallen 82% during that time.

Figure 4
Average price of 1GB of mobile data
£/month

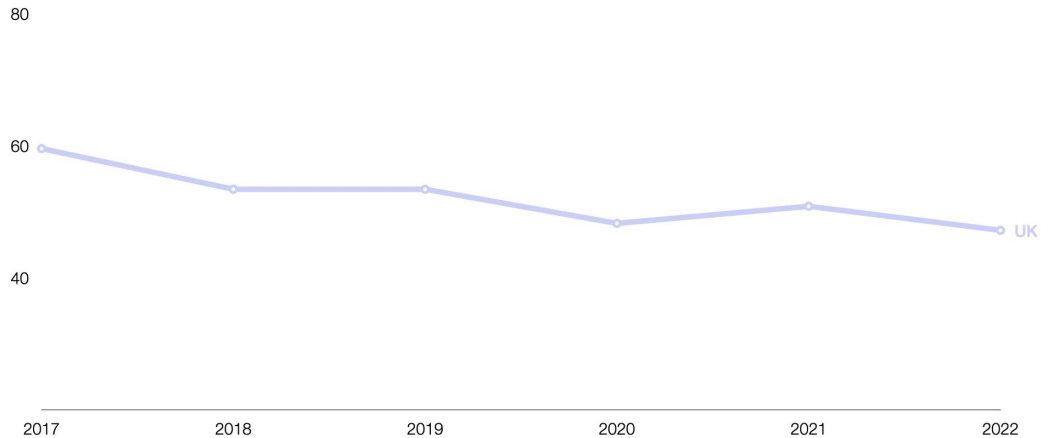


Source: Assembly, Ofcom

The cost of a typical basket of telecoms services has declined almost every year since 2017

Based on current adoption and usage levels, a 30-100Mbps fixed broadband service and a 1GB-10GB mobile data allowance provides a good representation of the average telecoms consumer in the UK today. Since 2017, the monthly price of this typical package of services has declined by over a fifth, saving households money (see *Figure 5*).

Figure 5
 Combined basket of fixed and mobile services
 £/month

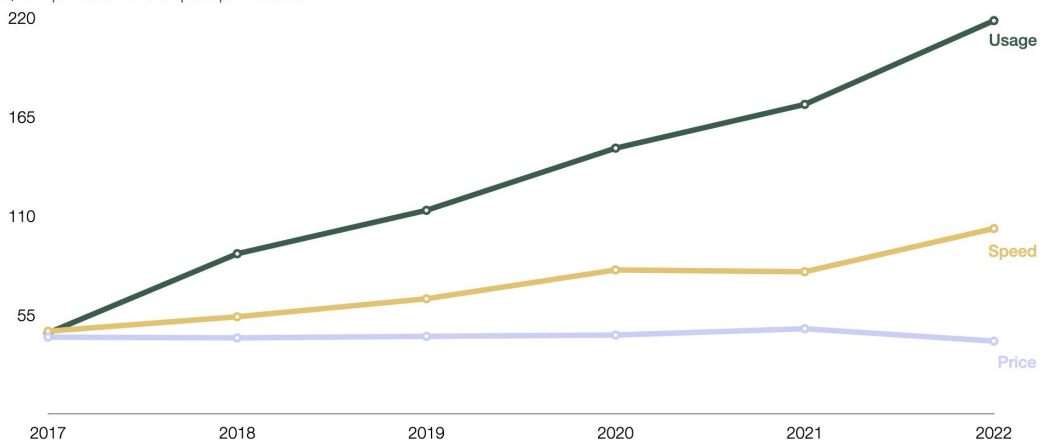


Source: Assembly, Ofcom

Operators are consistently delivering better value for money for their customers

To illustrate the overall value enjoyed by consumers, we consider the amount of data they are using and the speeds they are receiving. Many mobile users in the UK are now getting more data at a lower cost, especially those with 1GB-100GB tariffs.⁸ All the while, they are enjoying enhanced network performance, with often no premium charged when upgrading to 5G. With the rise of mobile download speeds, the average consumer is now paying 62% less per Mbps than in 2019. In respect of fixed broadband, average prices (adjusted for inflation) have fallen over the past five years, while download speeds and data consumption have increased, and at a much faster rate (see *Figure 6*).

Figure 6
 Average fixed broadband price, speed and usage in the UK
 £, Mbps and GB/capita per month

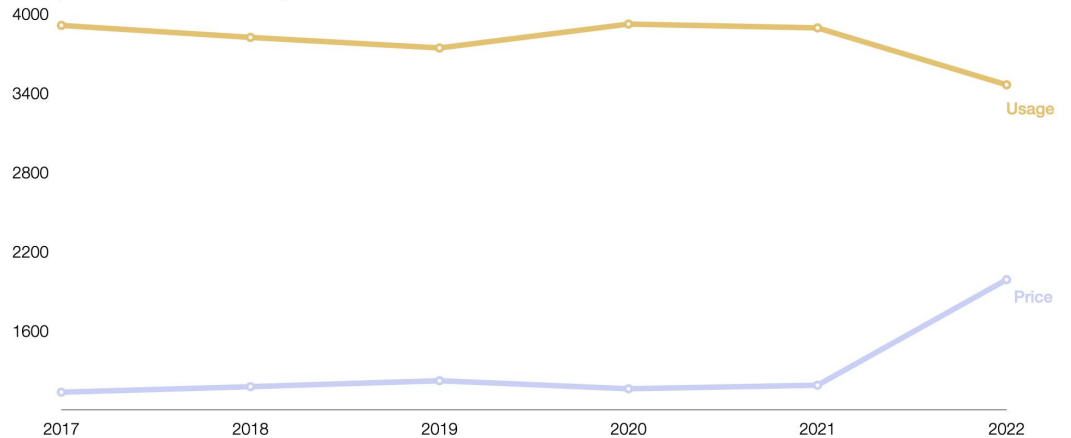


Source: Assembly, Ofcom

Conversely, in the energy sector, consumption has declined over time, while average bills have seen a sharp rise since 2021 (see *Figure 7*).

⁸ Pricing trends for communications services in the UK, Ofcom, 2022

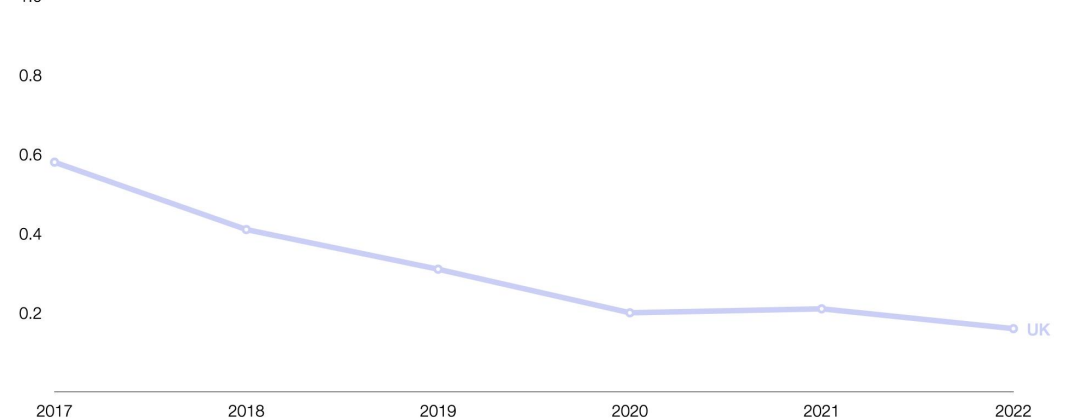
Figure 7
Changes in energy consumption and average energy bills
kWh per household, £ annually



Source: Assembly, Ofgem

When average fixed broadband prices across all speed tiers are considered relative to usage per capita, the UK exhibits a strong downward trend (see *Figure 8*). This illustrates how each year consumers are paying less for the data they use. Similarly, when the same prices are considered in the context of download speeds there is again a pronounced downward trend. The UK's average fixed broadband download speed has increased 124% over the last five years (from 46Mbps in 2017 to 103Mbps in 2022), while the price of fixed broadband per Mbps has fallen almost 58% over the same period. Value for money is therefore clear, with consumers seeing a relative drop in prices at the same time as benefiting from higher quality and faster services.

Figure 8
Fixed broadband value
£/GB per capita



Source: Assembly, Ofcom

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The research above provides an overview of developments in the UK telecoms sector in isolation. Research providing a cross-country analysis of the UK against key comparator markets will follow.

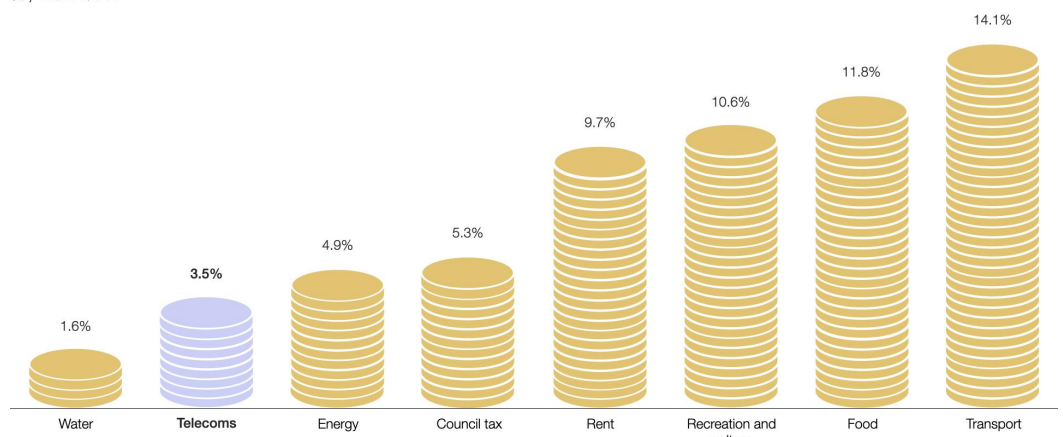
Putting telecoms spend in perspective

The five-year downward trend in telecoms bills continues

As speeds and quality of service continue to improve, so do the prices consumers pay. After accounting for inflation, UK household spend on telecoms services has fallen by £24 per month (or over 23%) since 2017, down from £104.34. Last year, it accounted for £79.73 of average monthly outgoings, which is £4.81 (5.7%) less than in 2021 (£84.54), when adjusted for inflation. Mobile continues to be the driving force behind this decline, with monthly spend (£37.31) now being two thirds of what it was five years ago (£56.26).⁹

The share of household expenditure on telecoms services continues to fall, in line with trends from prior years, representing just 3.5% in 2021/22 (see *Figure 9*). This figure is 0.3 percentage points less than the previous year (3.8%). Telecoms also continues to account for a smaller proportion of total spending than most other household essentials, such as energy (4.9%) and food (11.8%). UK household spending on telecoms services is just a quarter of that spent on transport (14.1%).¹⁰

Figure 9
Share of UK households' weekly expenditure
%, 2021/22



Source: Assembly, ONS

⁹ Communications Market Report 2023: Interactive data, Ofcom, 2023

¹⁰ Family spending in the UK: April 2021 to March, ONS, 2022

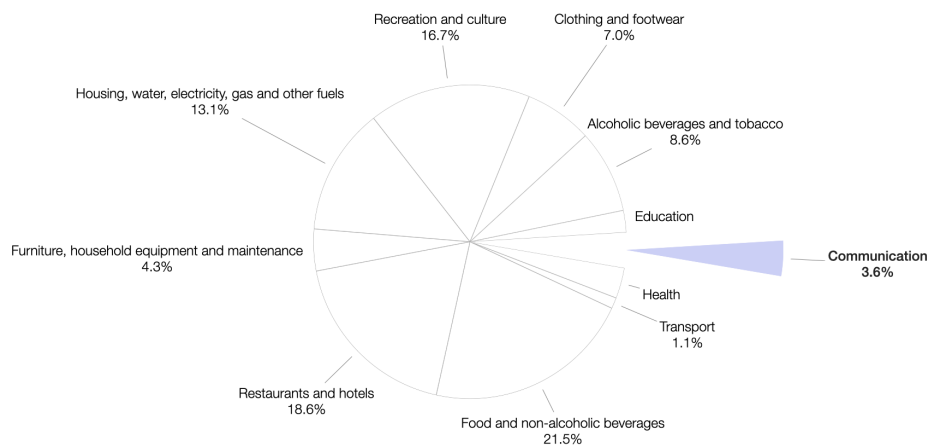
Recent price rises have only made a very limited contribution to headline inflation

Competition in the UK telecoms market is intense, providing not only a variety of choice for consumers but also improved connectivity across the UK. 4G coverage is now widespread and will extend further into rural areas through the completion of the Shared Rural Network (SRN). In respect of 5G, the demand for data has driven operators to plan for an expansive network rollout to meet capacity needs.¹¹

In the fixed market, gigabit-capable broadband is available to 75% of all UK homes, while, full fibre coverage has reached 52% of households – a rapid expansion of 15 percentage points (from 37%) in 2022.¹² As a result, the telecoms sector’s role in driving inflation has been limited as consumers are able to shop around, discover cheaper alternatives and switch providers with ease. While rising prices in the telecoms sector have made a limited contribution to headline inflation, consumers continue to spend less for better quality service, as demonstrated by the continuing drop in household spend from year to year.

Since inflation began to fall in October 2023, ‘communication’ has contributed 3% to headline figures, up from 0.7% in April 2022 (see *Figure 10*). That increase in proportion should be understood in the context of a large drop in the contributions to inflation from housing and utilities, and transport from 2022. Even when considering inflation in April 2023 (when most UK operators implemented price changes), the telecoms sector was still only responsible for 0.09 percentage points of the change in the annual inflation rate. That figure is in line with the contribution made by transport (0.08) and less than half of that contributed by recreation and culture (0.19).¹³

Figure 10
Contributions to inflation in the UK
CPIH, as of November 2023



Source: Assembly, ONS

¹¹ Ofcom’s future approach to mobile markets: Conclusions paper, Ofcom, 2022

¹² Connected Nations update: Summer 2023, Ofcom, 2023

¹³ Consumer price inflation, UK: April 2023, ONS, 2023

Consumers will pay £123 more a year in energy standing charges even as wholesale prices have come down

In the face of soaring energy prices last year, we calculated that, had telecoms bills risen at the same rate as the price cap, then household spend on fixed and mobile services would have exceeded £400 a month at the start of this year. Thankfully wholesale energy prices have now come down; however, consumers have still faced rapidly rising standing charges from their energy suppliers. These charges are set at a flat rate by suppliers regardless of how much energy consumers use and do not correspond to any improvement in the quality of service provided, including in the infrastructure used to deliver that service. Since October 2021, these standing charges have increased by over 70%, and consumers are set to be paying over £123 more on these charges each year from January 2024.¹⁴

Households will face rising wholesale energy prices once again, with Ofgem confirming that the energy price cap will go up in January 2024 to £1,928. This increase will lead to customers in the new year facing a price cap that is £651 (51%) more than the October 2021 cap (£1,277).¹⁵ At the same time, the Government's Energy Bill Support Scheme, which provided families with £400 of support through the winter of 2022/23, has ended, leaving consumers to pay bills closer to those seen at the height of the energy crisis.

Comparatively, prices across the telecoms sector are often falling, particularly so when considered relative to increasing data usage and download speeds. Consumers have been able to shop around for alternative telecoms services as their circumstances change, as demonstrated by the 18% of consumers who made changes to their service or payment method as of April 2023.¹⁶ While consumers are unable to control a growing portion of their energy bills, they continue to find a variety of competitive options for telecoms services, including the option to take a social tariff, to better meet their needs.

Planned increases in water bills will far outpace telecoms bills despite no improvement in service

Turning to another regulated sector, water, consumers here can expect to see their spending rise dramatically up until 2030. The water sector has seen chronic underinvestment and real problems in terms of quality. Suppliers have announced £96bn in planned capex through 2030, which is set to be passed on almost entirely to consumers. On average this equates to a 34p increase in daily spend (or £24 a year) – more than a 28% increase between 2025 to 2030. For customers of Southern Water, bills are expected to top £674 by 2030, an increase of £262 (64%) compared to projected bills for 2025. By 2030, water companies, on average, will charge consumers over £124 a year more than in 2025.

Comparatively, UK telecoms operators invested a total of £7.2bn in 2021 into fixed and mobile networks.¹⁷ Had this been passed on directly to consumers in the same way that Thames Water plans to with its £18.7bn in spending, bills for combined fixed and mobile services would have risen by over 38p a day.

¹⁴ Energy price cap (default tariff): Varied, Ofgem, 2021-23

¹⁵ Energy price cap (default tariff): Varied, Ofgem, 2021-23

¹⁶ Communications Affordability Tracker: 15 September 2023, Ofcom, 2023

¹⁷ Connected Nations 2022, Ofcom, 2022

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Instead, if we consider the average telecoms price rise for consumers this year, most have not seen a rise of more than around 13p a day.

Supporting consumers with the cost of living

An improving outlook for consumers, and support remains in place

As the cost of living crisis started to bite in late 2021, operators became more understanding and supportive towards consumers and businesses that were unable to afford their bills. With recent drops in inflation, some of those pressures may have begun to lessen. Ofcom reports a four percentage point drop, to 28% since last October (32%) in UK households reporting affordability issues with communications services. Similarly, the proportion of households that have cancelled or made changes to a service has dropped five points, from 26% to 21%.¹⁸

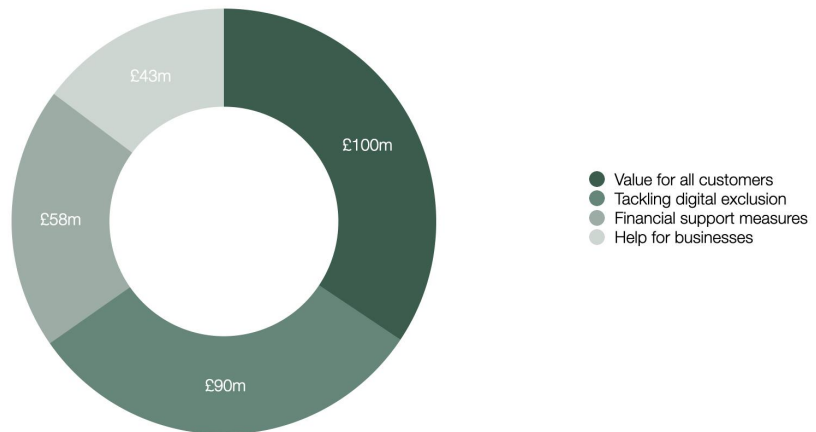
Nevertheless, the support from operators continues. The most vulnerable consumers, particularly those households receiving benefits, continue to have access to a selection of low-cost social tariffs through a range of different operators. Additionally, investments have been made to assist households through financial difficulties and to reduce digital exclusion through donations to databanks, funding digital skills programmes and zero-rating access to content, including from organisations that provide financial advice and guidance.

In addition to social tariffs, UK operators provided over £290m of support to consumers

Beyond providing low-cost social tariffs, telecoms operators have introduced a range of support measures to help consumers manage the cost of living crisis (see *Figure 11*). Based on 20+ initiatives from the UK's principal operators, we estimate over £290m worth of support for consumers and businesses during the height of the crisis, some of which remains in place or will continue to have an impact for the foreseeable future. Just under £58m (20%) of support was targeted at vulnerable or low income groups. Specific measures include increased contributions to the National Databank (created by Virgin Media O2, with Three and Vodafone the other contributors) and zero-rating of content (Three, Virgin Media O2, Vodafone).

¹⁸ Communications Affordability Tracker: 15 September 2023, Ofcom, 2023

Figure 11
£290m cost of living support provided by UK operators
 Excluding the provision of social tariffs



Source: Assembly

Of the initiatives we've identified, many have sought to tackle digital exclusion through digital literacy programmes and device donation and redistribution via charity partners (BT, Three, Virgin Media O2, Vodafone), making up £90m (31%) of total support. Recognising that it is not just households struggling financially, 15% of overall support (equivalent to more than £43m) has been extended to small and medium-sized enterprises (SMEs). Measures available to all customers, e.g. free speed upgrades, represent the largest share of the overall available support – worth close to £100m, or 34%. At the same time, long-running rewards schemes (such as O2 Priority, Three+ and VeryMe Rewards) provide extra value for consumers at no incremental cost to their monthly bill, and include access to discounts, offers and prize draws.

Subsidising the provision of social tariffs costs operators an estimated £62m annually

There has been a lot of attention on the social tariffs provided voluntarily by operators. Since our last report, new and improved social tariffs have been launched, with options available across both fixed and mobile services. Due to the efforts made by operators to improve accessibility to affordable connectivity, eligible households can now choose from over 30 such tariffs, ranging from essential standalone broadband to plans including content. A selection of basic social tariffs are listed in *Table 1*. In April 2022, Vodafone (via its sub-brand VOXI) enhanced its £10 mobile social tariff, making unlimited 5G data, minutes and calls available for up to six months for anyone receiving benefits. This plan would normally cost £35 per month, representing one of the largest savings on the UK market. In January 2023, BT announced it was supporting nearly 1m customers with subsidised or discount tariffs such as 'Home Essentials', which was launched in June 2021, and that it had seen an acceleration in take-up. Then, in December, Virgin Media O2 announced the launch of a new awareness campaign around social tariffs, stating that it would be including clear information in each of its customers bills in order to further promote its 'Essential Broadband' and 'Essential Broadband Plus' plans. The

latter also includes the option to add TV (via its Stream box) for an upfront £20 fee, with no ongoing charges.

Table 1
Selection of social tariffs in the UK
 As of December 2023

| Operator and tariff | Price (per month, inc. VAT) | Average download speed |
|--|-----------------------------|------------------------|
| Sky Broadband Basics | £20 | 36 Mbps |
| Lothian Broadband Social Tariff | £19.99 | 100 Mbps |
| WightFibre Essential Broadband | £17.50 | 50 Mbps |
| BT Home Essentials | £15 | 36 Mbps |
| Country Connect Social Tariff | £15 | 50 Mbps |
| Hyperoptic Fair Fibre 50 | £15 | 50 Mbps |
| Shell Energy Essentials Fast Broadband | £15 | 11 Mbps |
| 4th Utility Social Tariff | £13.99 | 30 Mbps |
| Virgin Media Essential Broadband | £12.50 | 15 Mbps |
| EE Basics | £12 | 25 Mbps |
| SMARTY Social Tariff | £12 | 5G where available |
| Vodafone Fibre 1 Essentials | £12 | 38 Mbps |
| VOXI for now | £10 | 5G where available |

Source: Ofcom, Assembly

These discounted plans typically cost on average £12-20 per month and are available to eligible households receiving certain benefits. Compared to the current average prices of equivalent telecom services, the social tariffs in *Table 1* offer a saving of £160 a year. With Ofcom now reporting that 380,000 households are currently taking a social tariff (8.3% of those eligible),¹⁹ we therefore estimate that operators are subsidising their provision by £62m annually. This is currently constrained by the still limited (but increasing) take-up, since these plans are available to more households than those currently taking them. If the adoption of social tariffs were to increase to say 50% of all eligible households, then the cost of providing these would rise to almost £345m per year.

¹⁹ Pricing trends for communications services in the UK, Ofcom, 2023

Methodology

Calculations

- Where fixed data usage information was unavailable, we have made an estimate based on the average growth rates of previous years.
- To calculate the price of 1GB of mobile data over time, we divided the average monthly cost of a mobile service (in real terms, excluding handset cost), based on average use across all mobile users, by average data consumption. Where any information was unavailable, we have made an estimate based on the average growth rates of previous years.
- To calculate the cost of a typical telecoms basket per month, we combined the average prices (CPI-adjusted) of a 30-100Mbps fixed broadband service and a SIM-only 1GB-10GB mobile data allowance.
- To create a 'value for money' figure, we divided average fixed broadband prices (CPI-adjusted) by data usage per capita.
- To present UK households' weekly expenditure on telecoms services, we have stripped out postal services, telephone and telefax equipment, and internet subscription fees (i.e. streaming services) from the overall value for 'communication'.
- In presenting contributions of different categories of goods and services to the UK inflation rate, we have removed 'rounding effects' from our calculations.
- To forecast a hypothetical rise in daily telecoms spending, we adjusted the cost of an average bundle of telecoms services by total industry investment figures passed on at the same per consumer rate as capex is to be passed on by Thames Water to its customers via P24 bill increases.
- In producing *Table 1*, we prioritised the least expensive social tariff from the UK's largest operators, as well as select tariffs from providers present in specific regional areas of the UK. *Table 1* is therefore not an

exhaustive list of all social tariffs available on the market as of November 2023.

- To calculate the total contribution of telecoms operators, we added the estimated value of contributions towards social tariffs to the estimated value of additional cost of living support measures.
- To estimate the contributions from operators in providing social tariffs, we calculated the difference between the average price of social tariffs listed in *Table 1* and the average retail price of the same quality service or the cheapest contract when the equivalent was not available. This was then multiplied by the take-up of social tariffs (380,000 as of December 2023) and then multiplied by 12 to give an annual contribution.
- In calculating the £290m of support across 20 measures, we considered the following:
 - BT/EE: Partnerships with Home-Start UK and JustEat; free Apple services with the Essentials Plan; NHS discounts; fixed prices for certain customers; and the Stay Connected offering;
 - Three: Data Bank contribution; Reconnected scheme; zero-rating websites; and support for businesses;
 - Virgin Media O2: Greggs Hardship Fund; Data Bank contribution; Community Calling scheme; zero-rating websites; no roaming charges; Hubbub Tech Fund; fixed prices for certain customers; and free service upgrades; and
 - Vodafone: NHS discounts; everyone.connected campaign; and support for businesses.

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